



Experience patients telling their stories.

Scan the marked images with the Xtend app to watch the videos.



Annual Report 2019



FLORA



Experience Adeline telling her story.

Scan the image with the Xtend app to watch the video.

Every day

Developing cures for patients—as a science-driven organisation we strive towards converting today's knowledge into tomorrow's therapies.

We are pushing boundaries.

Millions of people, like Adeline, have hepatitis B and we are developing medicines to help them.





Everywhere

Bringing our products to patients—we are committed to bringing our medicines and tests rapidly and sustainably to those who need them.

We are open to new ideas.

Working in collaboration with healthcare systems and our partners is key to resolving critical access barriers to therapies.





Everyone

Benefiting people in need—motivated and skilled employees collaborate across cultures and locations to develop life-saving products.

We share one purpose.

An abiding dedication to high quality ensures that doctors have the backing of pioneering science to treat their patients.

*Doing
now
what
patients
need next*

We believe it's urgent to deliver medical solutions right now—even as we develop innovations for the future. We are passionate about transforming patients' lives. We are courageous in both decision and action. And we believe that good business means a better world.

That is why we come to work each day. We commit ourselves to scientific rigour, unassailable ethics, and access to medical innovations for all. We do this today to build a better tomorrow.

We are proud of who we are, what we do, and how we do it. We are many, working as one across functions, across companies, and across the world.

We are Roche.



“I feel that I have been able to strengthen the patient’s position as a stakeholder.”

Ike de Rooij-van Haaren, Consultant, Oman

I moved to Basel five years ago with my husband and three sons. Just a few months later I was diagnosed with HER2-positive breast cancer. Fortunately, I received timely treatment with two of Roche’s breast cancer medicines in my native Holland. For that, I had to leave my young boys and husband behind here in what was a new place for them.

I made up my mind while still undergoing treatment that I wanted to give something back to Roche. The company had kindly allowed me to participate in a study of one of its medicines and this inspired me greatly. I mentioned it to a friend who worked at Roche and he came back to me with some details about a project aimed at putting a patient in one of the brand teams to see what effect that would have and if it would change the decision-making within the team.

I was nervous at first, but decided to take the plunge. I realised that I just had to be myself and share my experiences. It took a couple of meetings with the brand team to get used to each other. The team I got to work with was working on the same breast cancer medicine that I had been treated with. They were curious to hear my experience and therefore I felt confident to share my opinions. From the beginning I could see the impact of having the actual patient’s voice in the room. I was never interested in the

numbers and always asked what it meant for individual patients such as myself.

The project itself was meant to last three months. But the team realised they could benefit more from my journey and real-life experiences as a patient. Therefore, I signed a patient consultant contract and continued to work with Roche. It has been more than three years now.

I now live in the Middle East and this sometimes poses a logistical challenge. Technology helps, but I try to attend meetings in person when possible. I work with the broader HER2 franchise team these days and over the years have been involved in prelaunch, launch and postlaunch activities. My role is to give the patient perspective at any stage of the medicine’s life cycle. I am also a member of a committee set up by Roche, where, along with other patients, we review topics that teams request advice on, such as patient information materials and clinical trials.

I feel that I have been able to strengthen the patient’s position as a stakeholder. It has been difficult to engage with patients at times and this makes it hard to understand their real needs. Now, with efforts such as the one I am involved in, business teams are really looking at ways to give this important stakeholder a stronger voice in the work they do.



Experience Ike telling her story.

Scan the images with the Xtend app to watch the video.

Innovation—it's in our DNA

We have always worked across disciplines and geographies to drive scientific discovery and redefine what is possible to improve patients' lives.

We are working on understanding how diseases differ down to molecular level. So we can develop new tests and medicines that prevent, diagnose and treat diseases, and bring them to the patients who need them. With our combined strengths in diagnostics and pharmaceuticals, our personalised healthcare strategy aims to fit the right treatment to the right patient.

As the world's largest biotech company, we develop breakthrough medicines, improving the standard of care across oncology, immunology, infectious diseases, ophthalmology and neuroscience. We are

also the world leader in the *in vitro* diagnostics business. This track record allows us to build lasting and meaningful partnerships across the world with research academia and public healthcare institutions.

The founding families continue to hold the majority voting stake in the company. This stability allows for a tradition of sustainable thinking, so we can learn from setbacks and focus on lasting value for patients and society. We remain dedicated to the highest standards of quality, safety and integrity. Our legacy is based on respect for the individual as well as the communities and the world we live in.

Experience more about Roche.

Scan the world map with the Xtend app to watch the video.



Key figures

CHF 61,466 million

Group sales +9%*

CHF 22,479 million

Core operating profit +11%

CHF 9.00

Dividend

CHF 11,696 million

R&D core investments +6%

37 million patients

treated with Roche medicines

32 Roche medicines

on the WHO Model List of Essential Medicines

Highlights



Driving growth

With CHF 5.4 billion incremental sales, medicines launched since 2012 drive growth and rejuvenation of our product portfolio

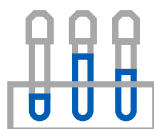
+ Read more on page 24



Treating rare cancer

Rozlytrek approved to treat rare form of lung cancer that occurs in 1–2% of patients only

+ Read more on page 35



Launching cobas pro

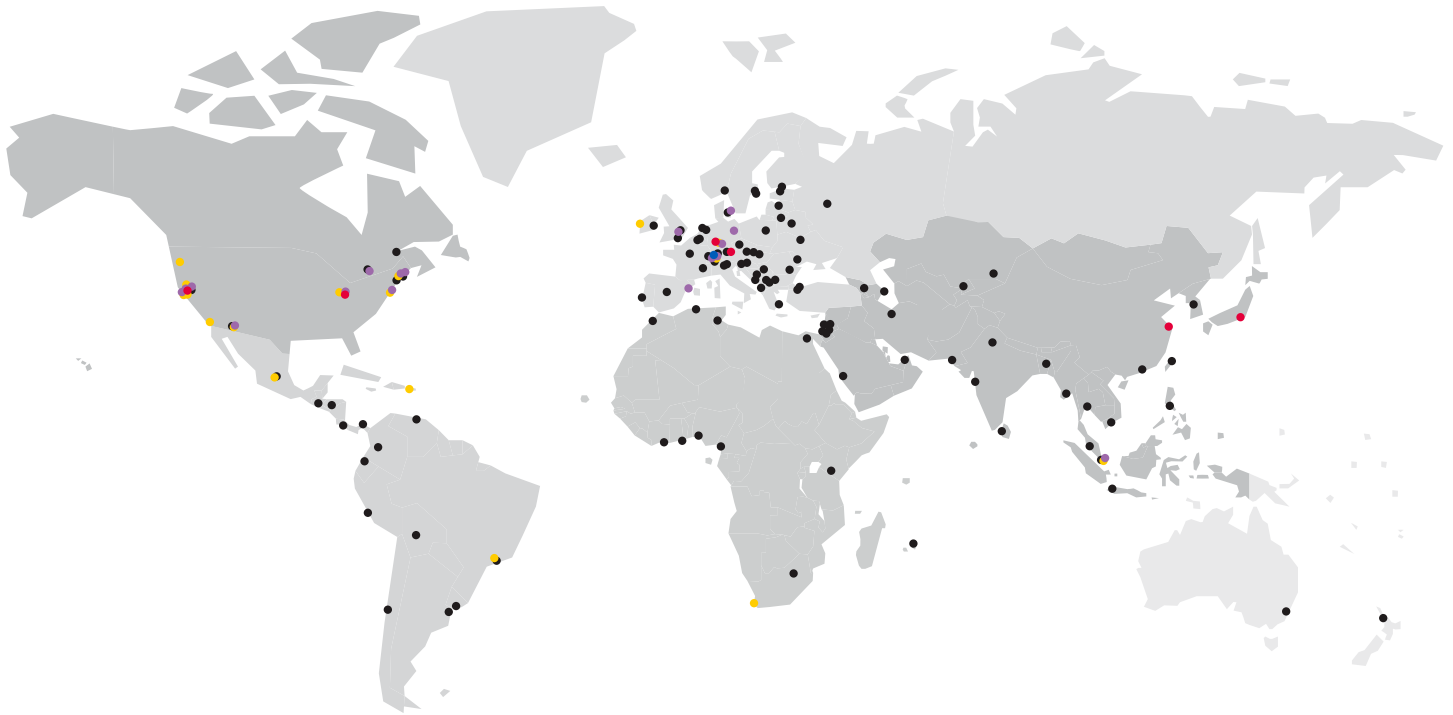
Next-generation integrated Serum Work Area solutions improve efficiency and shorten results delivery

+ Read more on page 26



Contributing to sustainability

Roche ranked amongst most sustainable healthcare companies in the Dow Jones Sustainability Indices



97,735
employees** worldwide

North America

26,176 employees

- Genentech, South San Francisco, US (●●●)
- Roche Diagnostics, Indianapolis, US (●●●)

Latin America

4,682 employees

Africa

1,258 employees

Europe

42,112 employees

- Basel, Kaiseraugst and Rotkreuz, Switzerland (●●●)
- Mannheim and Penzberg, Germany (●●●)

Asia

22,802 employees

- Chugai, Tokyo, Japan (●●●)
- Shanghai and Suzhou, China (●●●)

Australia/New Zealand

705 employees



29
research and development sites in
Pharmaceuticals and Diagnostics worldwide



23
manufacturing sites in Pharmaceuticals
and Diagnostics worldwide

- Roche Group headquarters
- Largest sites based on number of employees
- Research and development sites in Pharmaceuticals and Diagnostics

- Manufacturing sites in Pharmaceuticals and Diagnostics
- Sales sites in Pharmaceuticals and Diagnostics

* All growth rates in this report are at constant exchange rates (CER; average 2018). | ** Number of employees expressed in full-time equivalents, on 31.12.2019

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Our reporting approach

Roche is committed to transparent reporting and we endeavour to drive our economic, social and environmental performance with the same diligence as our financial performance.

Reporting scope and boundaries

Our financial and non-financial reporting consists of the Annual Report, the Finance Report and the online report. It contains the annual financial statements, consolidated financial statements and non-financial performance indicators. It covers all regions and divisions of the Roche Group from 1 January to 31 December 2019. The financial reporting scope is defined and outlined in our Finance Report, and there have been no significant changes in scope in 2019 compared to 2018.

GRI standards and materiality

We have followed the GRI G4 guidelines (Global Reporting Initiative) since 2014, and have transitioned to the GRI Standards in 2017. By using the GRI guidelines, we disclose the most critical impacts of our activities on the environment, society and the economy. In this respect, we conducted a first materiality analysis at the corporate level in 2014. In 2018/2019, we conducted a second global materiality assessment including expert interviews and feedback from more than 600 stakeholders. The results of this assessment are featured on pages 14 and 15 of this report and are also published on our website (see link on page 14).

Risk management

Our Risk Management Policy sets out Roche's approach to identifying, analysing, managing and reporting internal and external risks and opportunities. A consolidated Group Risk Report, which covers

all material risks and opportunities, is discussed annually with the Corporate Executive Committee and reviewed by the Audit Committee of the Board of Directors and by the Board of Directors. The effectiveness of the Group Risk Management Process is regularly monitored by the Group Risk Advisory team, and the overall process is reviewed externally when appropriate. Risk management is embedded at all levels of the Group. Our Pharmaceuticals and Diagnostics Divisions and global functions conduct a formal risk assessment process at least once a year and must develop mitigation plans for their most material risks.

✦ [Read more in 'Corporate Governance' on page 102](#)

We also identify long-term business sustainability trends with associated risks and opportunities on an annual basis and integrate these into our existing Group risk management process. Each year, emerging trends (including associated risks and opportunities) are identified from internal and external sources. Based on these findings the Corporate Sustainability Committee prioritises and selects the top business sustainability trends. Among those identified trends are technological transformation and rising cyber dependency.

UN Sustainable Development Goals

We support the United Nations Sustainable Development Goals (SDGs) within the sphere of our corporate business strategy. We contribute to

www

Report 2019:
ar19.roche.com
roche.com/ar19e.pdf
roche.com/fb19e.pdf

Risk management:
roche.com/risk-management



a number of the SDGs and are particularly pleased to see a dedicated goal on Health (SDG 3). This goal is closely connected with the achievement of universal health coverage, which goes hand in hand with better access to quality essential medicines and diagnostics. This fits in perfectly with our vision to improve and save lives. Since 2016, the SDGs have been an integral part of our annual reporting. Examples of our contribution to the UN goals are listed on our UN SDG webpage (see link on page 14).

External assurance

Our non-financial reporting has been verified by an independent third party. PricewaterhouseCoopers AG (PwC) focused on the materiality determination process, the design of the sustainability risks and opportunities determination process and on the figures in the areas of Safety, Security, Health and Environmental protection, people and contributions. Roche strengthened its control framework, review procedures and reporting aspects in terms of contributions to healthcare and patient organisations in 2019. For example, a new Roche directive was developed and communicated to the respective internal stakeholders. As a result, the figures related to our grants, donations and sponsorships to healthcare and patient organisations are subject to reasonable assurance performed by PwC (limited assurance procedures in prior years).

+ See 'Independent assurance report' on page 150

Business sustainability trends

Technological transformation

Digital evolution in the external world helps drive the technological transformation of Roche and this allows us to develop more effective and tailored solutions in healthcare and to create new markets. Our Digital Growth Network has the mandate to safeguard compliance and, at the same time, to accelerate and enable digital innovation across the organisation. The Roche Digital Registry provides a live database of digital channels in our ecosystem that helps in ensuring compliance, transparency and efficiency. In addition, the risks associated with technological transformation are assessed and managed through the Group Risk Management Process.

Rising cyber dependency

In an era where cybersecurity threats are constantly on the rise, we are committed to security enhancements and personal privacy protection. Roche initiated the Bug Bounty programme where we partner with the global hacker community to identify the most relevant security issues before they are exploited by non-authorized external users. In addition, the data privacy aspect is included in our Roche Supplier Code of Conduct to ensure proper use of confidential information by third parties.

Materiality assessment and stakeholder engagement

Engaging with our stakeholders is essential to build trust and an understanding of their expectations. By embedding their feedback in our strategy and our daily business, we are able to jointly address our common issues and develop long-term solutions.

In order to identify the topics that are particularly relevant to Roche, its stakeholders and society at large to deliver lasting shared value, we conducted an in-depth materiality assessment at corporate level among our key stakeholders in 2018/2019. This built on the first materiality analysis that was conducted in 2014 and added an external perspective, gaining critical insights into what is important to our stakeholders, and what they consider as emerging trends and topics.

Our approach

Our approach to materiality assessment is integrated—building on our Group Risk Management Process—and inclusive, being designed collaboratively with colleagues across multiple functions (Risk Advisory, Human Resources, Investor Relations, Compliance, Finance, Safety, Security, Health and Environmental Protection as well as Communications).

We took the outcomes of our Group Risk Management Process as a starting point to identify those key emerging trends of relevance to the Roche Group. We then conducted qualitative interviews with more than 30 experts (across broad stakeholder categories, including patient organisations, global

institutions, peers, suppliers, contract research organisations, universities and investors) and collected over 600 external and internal stakeholder views via an online survey to identify the most important and pressing issues that Roche should address in the next three to five years.

In a final step, we analysed the various insights and identified 19 material topics that stood out as highly relevant to us and to our key stakeholders. To properly address these topics, we have then aligned them with our current goals and are measuring performance through our defined set of indicators.

In addition, the materiality assessment has been shared internally with the functions in charge of managing respective topics. It has also informed discussion to define our new corporate goals, subsequent sustainability objectives and communications priorities that will be rolled out in 2020. Finally, the outcomes of the materiality assessment will be fed back into our 2020 Group Risk Management Process.

The process and the results of our materiality analysis have been endorsed by the Roche Corporate Sustainability Committee.

www











Materiality:
roche.com/materiality

Key performance indicators:
roche.com/performance

Our contribution to the UN SDGs:
roche.com/un-sdgs

Our 19 material topics

We are committed to delivering sustainable value to all stakeholders by addressing the following material topics:

Our commitment	Our performance	Our material topics	Supporting UN SDGs
<p><i>Innovating for patients</i> We are committed to developing medicines and diagnostics that significantly improve people's lives, and to delivering rapid, broad, sustainable patient access to our products.</p>	<ul style="list-style-type: none"> ▪ 63 million patients treated with Roche medicines ▪ 21 billion tests conducted with Roche Diagnostics products ▪ 31 BTDs (breakthrough therapy designation) awarded by the FDA since 2013 ▪ 32 Roche medicines on the WHO Model List of Essential Medicines 	<ul style="list-style-type: none"> ▪ Sustainable healthcare systems ▪ Availability of healthcare ▪ Affordability of healthcare ▪ Personalised healthcare ▪ Real-world data ▪ Patient centricity ▪ R&D efficiency ▪ Preparedness for aging society ▪ Product safety ▪ Product quality 	
<p><i>Being a trustworthy partner</i> We are committed to establishing mutually beneficial, long-term relationships with our partners.</p>	<ul style="list-style-type: none"> ▪ 128 new partnerships in Pharmaceuticals and Diagnostics ▪ #1 partner of choice according to third-party surveys ▪ 0 supplier with critical issue or discontinued based on audit results ▪ 8 grievances about human rights impacts filed, addressed and resolved through formal grievance mechanism 	<ul style="list-style-type: none"> ▪ Human rights ▪ Ethics and transparency ▪ Compliance ▪ Product safety ▪ Product quality ▪ Cybersecurity ▪ Data privacy ▪ Real-world data 	 
<p><i>Providing a great workplace</i> We are committed to providing a work environment where our employees are encouraged to build their careers and pursue their passions.</p>	<ul style="list-style-type: none"> ▪ 32% of women in key leadership roles ▪ 24% of key leaders with diverse work experience ▪ 68% employee engagement 	<ul style="list-style-type: none"> ▪ Talent attraction and retention ▪ Organisational agility ▪ Preparedness for aging society 	 
<p><i>Protecting the environment</i> We are committed to minimising our environmental impact in our operations and in the use of our products.</p>	<ul style="list-style-type: none"> ▪ 29% improvement in eco-balance since 2014 ▪ 12% decrease in energy consumption per employee since 2015 ▪ 11% decrease in general waste per employee since 2015 	<ul style="list-style-type: none"> ▪ Energy efficiency ▪ Long-term mindset 	  
<p><i>Delivering continued growth</i> We are committed to creating value continuously for our stakeholders and achieving sustainable, high profitability.</p>	<ul style="list-style-type: none"> ▪ +9%* in Group sales ▪ +11% in core operating profit ▪ 19% of sales invested in R&D 	<ul style="list-style-type: none"> ▪ Long-term mindset 	 

* All growth rates in this report are at constant exchange rates (CER; average 2018).

What we do

Our focus

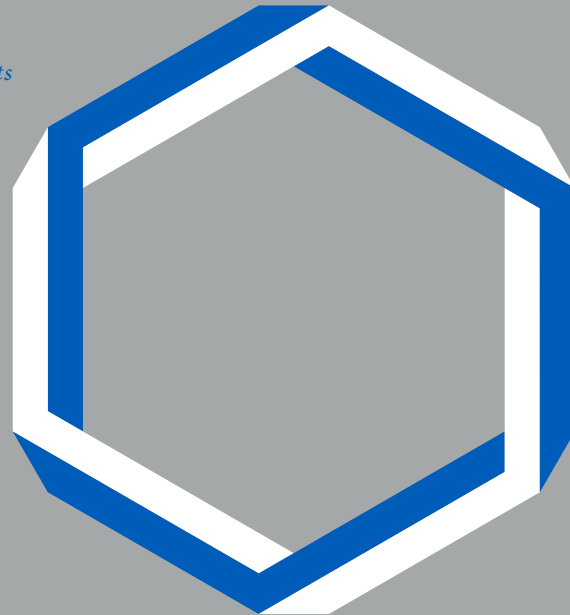
Fitting treatments to patients

Our distinctiveness

Excellence in science

Our delivery

Value for all stakeholders



How we do it

Our leadership

Inspiring outcomes that matter

Our ways of working

Agile and networked

Our set-up

Built for innovation

Our strategy

We focus on finding new medicines and diagnostics that help patients live longer, better lives and evolve the practice of medicine.

We are guided by our purpose:

Doing now what patients need next.

Our company has a more than 120-year history of advancing the field of medicine and bringing novel treatments and diagnostics to patients. The patient is and will remain at the core of what we do, the reason we come to work every day.

What we do

Our focus is on fitting treatments to patients: providing the right therapy for the group of people that respond best at the right time for the right value. With our in-house combination of Pharmaceuticals and Diagnostics, we are uniquely positioned to deliver personalised healthcare. We are developing our internal capabilities and building strategic partnerships ready for the next stage in personalised healthcare: to combine insights from multiple data sources with sophisticated analytics to drive more effective and efficient research and allow for better therapeutic decisions for patients. Access to our products is also a critical part of our strategy. Our detailed access plans are embedded in the business at a local level.

We will continue to concentrate our energies entirely on prescription medicines and *in vitro* diagnostics, rather than diversify into other sectors like generics, biosimilars or over-the-counter medicines.

In our pursuit of excellence in science, **our distinctiveness** rests on four key elements: an exceptionally broad and deep understanding of disease biology, the seamless integration of our

pharmaceuticals and diagnostics capabilities, a diversity of approaches to maximise innovation, and a long-term orientation.

Our delivery is to create value for all our stakeholders: being a partner of choice; bringing significant medical benefit for patients, doctors and payers; offering a great place to work for employees; delivering a sustainable positive contribution to society; and earning competitive returns for our investors.

How we do it

Ultimately, it takes people with integrity, courage and passion to make a difference for patients. It is our people who are proud to say: We are Roche.

Our leadership inspires outcomes that matter by embracing diversity and inclusion. Different backgrounds, perspectives and experiences, across the entire organisation, foster innovative solutions for the benefit of patients.

Our ways of working enable agile and networked responses to the ever-increasing pace of change by balancing the needs for stability, speed and flexibility.

Our set-up is built for innovation. Our autonomous research and development centres and alliances with more than 200 external partners foster a diversity of scientific approaches and agility. Our global geographical scale and reach enables us to attract talent in the leading global science clusters and to bring our diagnostics and medicines quickly to people who need them.

Dear Shareholders,

In 2019, we continued to make significant progress in our efforts to use outstanding scientific achievements to give people a better quality of life and help them lead healthy lives.

The demand for our recently launched medicines for multiple sclerosis (Ocrevus) and haemophilia (Hemlibra) was particularly high, and the same goes for our cancer immunotherapy Tecentriq. These three products were major contributors to the Roche Group's impressive sales growth of 9%** in 2019 to CHF 61.5 billion.

The approval of the targeted cancer treatment (Rozlytrek) with a genomic test enabled us to open up a new chapter in the development of personalised healthcare. Because this new medicine is effective against tumours that exhibit two relatively rare genetic changes, accurate pre-treatment diagnosis is essential, which is where one of Roche's biggest core competencies really comes into its own. Our ability to combine diagnostic procedures, data from clinical practice and medicines brings us closer to our goal of finding personalised treatment options for as many patients as possible and eventually offering even more effective treatment options. By doing so we alleviate people's symptoms and, in the best case, help them make a full recovery from their disease.

We intend to use our partnership-based approach to help resolve the challenges facing the healthcare system. Not only does this mean partnering research laboratories, patient organisations and biotech companies, but also the authorities. For example, I signed a framework agreement with the Croatian government in 2019 with a view to providing personalised cancer treatment for the approximately 25,000 people in the country diagnosed with the disease annually. Globally, Roche is working with many other partners to deliver better care to patients.

Progress was made not only in oncology, but also in other therapeutic areas. We were thus able to submit dossiers for two new medicines in the second half of the year: risdiplam in the hereditary disorder spinal muscular atrophy, and satralizumab for a specific disease of the central nervous system. Both of these new active ingredients bring hope to people with rare, severely debilitating diseases. For risdiplam, the US Food and Drug Administration (FDA) granted priority review and for satralizumab breakthrough therapy designation.



Gene therapies are particularly promising for a number of rare diseases because they directly address the genetic cause of such conditions. We therefore intend to bolster our presence substantially in this area, expanding our portfolio of therapeutic active ingredients through our acquisition of the US gene therapy company Spark Therapeutics.


However, innovation and life-improving medicines come at a price. In his interview on pages 20 and 21, Severin Schwan, CEO Roche Group, discusses both the added value that these new treatments offer patients and their potential for generating economic benefits for the healthcare system overall.

Despite the progress in medicine, the global demand for state-of-the-art diagnostics and personalised treatments remains huge. We therefore invested CHF 11.7 billion in research and development last year and intend to maintain this record level of investment for the industry. It is gratifying to note that the FDA was sufficiently persuaded by the clinical benefits of four more Roche medicines to award them breakthrough therapy designations in 2019, bringing the total to 31 since 2013. This achievement is an expression not least of the value that our new products represent for patients and society.

Roche's innovativeness is also reflected in its net income (under IFRS), which rose by a substantial 32% to CHF 14.1 billion. In view of this strong business performance, we will be proposing a dividend of CHF 9.00 per share and non-voting equity security at the Annual General Meeting on 17 March 2020. Subject to your approval, this will be the 33rd consecutive dividend increase.

Thanks to successful new launches and a first-class development portfolio, we are confident that Roche will continue on its growth trajectory despite some of our important medicines going off patent.

I would like to thank our partners for their trust and cooperation and the 97,735 Roche Group employees for their tireless commitment to patient wellbeing. And I offer you, our shareholders, my heartfelt thanks for the trust you have placed in us and your affinity with our company.



Dr Christoph Franz
Chairman of the Board of Directors

Roche Board of Directors on 31 December 2019. Paul Bulcke (1954) B, E, G | Prof. Sir John Bell (1952) E, G | Dr Christoph Franz (1960) Chairman, C, D*, E, G | Anita Hauser (1969) A, E, G | Bernard Poussot (1952) C, E, G | Dr Andreas Oeri (1949) Representative of the shareholder group with pooled voting rights, A*, E, G | André Hoffmann (1958) Vice-Chairman, Representative of the shareholder group with pooled voting rights, A, C*, D, E, G | Dr Severin Schwan (1967) F | Dr Claudia Suessmuth Dyckerhoff (1967) A, B, E, G | Julie Brown (1962) B*, E, G | Prof. Dr Richard P. Lifton (1953) C, E, G | Prof. Dr Hans Clevers (1957) B, E, G

A Corporate Governance and Sustainability Committee | B Audit Committee | C Remuneration Committee | D Chairman's/Nomination Committee | E Non-executive director | F Executive director | G Independent member of the Board of Directors | * Committee chairperson | ** All growth rates in this report are at constant exchange rates (CER; average 2018).



“The most important thing is that such medicines exist at all.”

Severin Schwan, CEO Roche Group, talks about the blessings of new medicines, their prices and emotional moments in his work.

Perhaps you have heard about baby Pia, a nine-month-old girl from Belgium with spinal muscular atrophy (SMA). Her mother financed her treatment with extremely expensive gene therapy via crowd funding. What would we say to the world if something like that happened with a Roche medicine?

First, I think the commitment shown by Pia’s mother is wonderful. And the most important thing is that medicines that can help her daughter exist at all. I remember very well spending time with the Swiss patients’ organisation for SMA a few years ago. At that time, there were absolutely no options for SMA and many of the parents lost their children at a very young age. When you see how far we have come—two drugs to treat SMA are already on the market and ours is coming soon—then it is a huge blessing for families.

A blessing if those affected have access to the medicines ...

Yes, the question of access is crucial. First and foremost, this requires a functioning insurance system to which we all make our regular contributions so that medical care can be guaranteed for the patients affected in such unfortunate cases. In developed countries, this is more a question of social solidarity

than affordability. In Switzerland, people spend more on alcohol and tobacco than on medicines.

However, is charging millions for gene therapy justifiable?

Gene therapy is a new field. Unlike conventional therapies, the treatment targets the roots of the disorder and remedies the cause—for a lifetime in the best case—with a single injection. With the current billing procedures, a huge sum is due in one fell swoop. What we need here is new financing solutions. I firmly believe we need some form of risk sharing between health insurers and pharmaceutical companies. The health insurers would pay for treatment over several years, but only in those cases and only for as long as the medicine is proven to be effective. This way, the financial expenditure would be linked more closely to the benefits of the therapy and patients would have guaranteed access.

What contribution is Roche making to keep medicines affordable?

If you look at surveys in the United States today, most people believe that medicines make up 80% of health costs, when it is actually 13%. It is a similar



story in Switzerland. Many people assume that health insurance contributions are rising because of medicines, but medicines actually make up a far lower percentage of the overall costs today than they did ten years ago. Simply reducing prices would certainly not be in the patients' interests because hardly any company would take on the considerable financial risk in order to keep investing in new medicines. Therefore, our most important contribution is that we are continuing to invest in research and development, and taking risks to develop new and better drugs in the first place.

What about people in emerging and developing countries who simply cannot afford our medicines?

We have achieved pioneering work in the field of differential pricing. This means that we tailor prices to the purchasing power in the country in question. Using this model, it has been possible to expand access to vital cancer drugs massively in China, for example. But there are also countries where the infrastructure is completely lacking, where there are hardly any hospitals, doctors or laboratories. In these countries, our thinking goes beyond medicines and we work with local partners to lay the foundations for reasonably functioning basic healthcare. I am constantly impressed with what our employees achieve in this field.

The theme for this year's Annual Report is 'The patient at the centre'. What does this mean for you personally?

For me, it is the benchmark for everything we do. For every decision, we have to ask ourselves what will benefit patients most in the long run.

When you talk to patients, what do you hear most frequently?

Above all, gratitude. When talking to patients, many of whom are only alive because Roche has developed particular drugs, it is predominantly gratitude. That gives me added motivation.

You are a rational person. What moments in your work also affect you emotionally?

It might be an e-mail from an acquaintance who has been treated successfully with one of our medicines ...

Like the letter from a patient who thanked you for her life ...

Yes, that patient was treated with our cancer drug Alecensa. I only received that letter on behalf of all Roche employees, so I think we can all be proud of what we are accomplishing with our work.

Roche Corporate Executive Committee on 31 December 2019. Dr James H. Sabry* (1958), Global Head Pharma Partnering | Dr William Pao* (1967), Head Roche Pharma Research & Early Development (pRED) | Dr Alan Hippe (1967), Chief Financial and IT Officer | Cristina A. Wilbur (1967), Head Group Human Resources | Dr Severin Schwan (1967), CEO Roche Group | Bill Anderson (1966), CEO Roche Pharmaceuticals | Dr Gottlieb A. Keller (1954), General Counsel | Dr Michael D. Varney* (1958), Head Genentech Research & Early Development (gRED) | Barbara Schädler* (1966), Head Group Communications | Dr Thomas Schinecker (1975), CEO Roche Diagnostics | * Member of the Enlarged Corporate Executive Committee





Sustainable Development Goal

8 DECENT WORK AND ECONOMIC GROWTH





Business performance

New products drive the performance of the Roche Group.

We are dedicated to long-term success.

New product approvals and a strong flow of positive data from our clinical studies demonstrate the high quality of our pipeline.

Very strong results for the Roche Group

A significant increase of the number of people treated and new products are the basis of our strong performance in 2019.

In 2019, Group sales rose 9%* to CHF 61.5 billion and core EPS grew 13%, ahead of sales. The core operating profit increased by 11%, reflecting the strong underlying business performance. The IFRS net income increased 32%, due to impact of lower impairments of intangible assets in 2019 compared to 2018.

The continued strong uptake of our new medicines and successful product launches in new disease areas provide important new treatment options for more people with severe diseases or chronic conditions. As a result, sales in the Pharmaceuticals Division increased by 11% to CHF 48.5 billion. Key growth drivers were the multiple sclerosis medicine Ocrevus, the new haemophilia medicine Hemlibra and cancer medicines Tecentriq and Perjeta. The strong uptake of medicines introduced since 2012 generated CHF 5.4 billion in growth, more than offsetting the impact of the competition from biosimilars for MabThera/Rituxan and Herceptin in Europe, Japan (decline combined CHF 1.2 billion) and MabThera/Rituxan, Herceptin and Avastin in the US (estimated decline CHF 0.3 billion).

In the US, sales increased by 13%, led by Ocrevus, Hemlibra and Tecentriq. Ocrevus sales were driven by demand from both new and returning patients. The first biosimilar versions of MabThera/Rituxan, Herceptin and Avastin were launched in the market later in the year.

In Europe, sales stabilised as the strong demand for new medicines, including Ocrevus, Perjeta, Tecentriq, Alecensa and Hemlibra was able to offset the impact

of the lower sales of Herceptin (-43%) and MabThera/Rituxan (-33%).

Growth in Japan (+9%) was also driven by recently launched products, despite considerable competition from biosimilars.

In the International region, sales grew 15%, mainly driven by a significant increase in the number of patients benefiting from Roche cancer drugs in China with strong sales of Herceptin, Avastin and MabThera/Rituxan.

Diagnostics Division sales increased by 3% to CHF 12.9 billion. The business area Centralised and Point of Care Solutions (+3%) was the main contributor, with growth driven by the immunodiagnostics business. Growth was reported in Asia-Pacific (+6%), Latin America (+12%), EMEA¹ (+2%). In North America, sales were stable.

Pharmaceuticals: key drug approvals

In 2019, the US FDA granted additional approvals for medicines that are already commercially available and for two new cancer therapies:

- Tecentriq combination therapy for initial treatment of metastatic non-squamous non-small cell lung cancer (NSCLC)
- Tecentriq combination therapy for extensive-stage small cell lung cancer (ES-SCLC)
- Tecentriq combination therapy for triple-negative breast cancer and companion diagnostic test
- Herceptin Hylecta for subcutaneous injection for the treatment of breast cancer

- Kadcyla for the adjuvant treatment of HER2-positive early breast cancer
- New cancer medicines: Rozlytrek for lung cancer with a specific gene mutation and solid tumours carrying a certain gene fusion as well as Polivy for previously treated aggressive lymphoma.

The authorities in the EU approved:

- Hemlibra for people with severe haemophilia A without factor VIII inhibitors;
- Tecentriq combination therapies:
 - for the initial treatment of a form of lung cancer;
 - for a certain type of breast cancer;
 - for the initial treatment of NSCLC;
 - for small cell lung cancer.

In Japan, Rozlytrek was approved for the treatment of NTRK-positive tumours.

Diagnostics: next-generation systems and tests

The FDA cleared the cobas pro integrated solutions, a new generation of Serum Work Area (clinical chemistry and immunochemistry) laboratory solution designed to optimise laboratory operations. With the cobas pro integrated solutions, laboratories are now able to run tests faster on less equipment, automate manual tasks and deliver results more quickly to aid treatment decisions.

The FDA approved the Ventana PD-L1 (SP142) Assay as the first companion diagnostic test to help identify triple-negative breast cancer (TNBC) patients eligible for treatment with Tecentriq plus chemotherapy.

Roche launched the Ventana HER2 Dual ISH DNA Probe Cocktail companion diagnostic test for breast and gastric cancer patients eligible for targeted therapy. HER2—human epidermal growth factor receptor 2—is an important biomarker in breast and gastric cancers.



A quality expert at a Roche production unit conducts one of the multiple checks of our medicines to ensure that all respective production criteria are met.

The Global Access Program was expanded beyond HIV, to include tests for *Mycobacterium tuberculosis* (MTB), hepatitis B and C (HBV and HCV), and human papillomavirus (HPV) for low- and middle-income country programmes where the disease burden is the highest. The expansion of the Global Access Program highlights Roche's commitment towards making cost-effective resources more easily available for many people and contributing to the elimination of diseases in the regions with the greatest need.

Outlook for 2020

Sales are expected to grow in the low- to mid-single digit range, at constant exchange rates. Core earnings per share are targeted to grow broadly in line with sales, at constant exchange rates. Roche expects to increase its dividend in Swiss francs further.

Immunodiagnosics driving divisional performance

Integrated solutions and a broad test portfolio support precise and fast treatment decisions, thus benefiting the patient.

The Diagnostics Division continued to increase sales with growth of 3%* to CHF 12.9 billion.

Centralised and Point of Care Solutions. With an increase in sales of 3%, this business area was the major contributor to the divisional performance. Growth was primarily driven by the immunodiagnosics business (+6%), due to instrument launches and the ongoing rollouts, mainly in China, the US and South Korea. Sales growth was partially offset by a decline in coagulation monitoring in North America.

Molecular Diagnostics. Overall sales increased 6%, with 6% growth in the underlying molecular business. Growth was driven by blood screening as well as by the sequencing business. Regional growth was led by Asia-Pacific (+16%) mainly in China, and EMEA (+6%).

Tissue Diagnostics. Sales were stable, with higher sales of advanced staining reagents offset by lower

instrument sales due to shipment delays. Regionally, the decline in sales was led by North America (-6%). Asia-Pacific sales increased by 14%, with China being the main growth market.

Diabetes Care. Sales increased by 1%, driven by North America (+15%), sales growth mainly came from the Accu-Chek Guide product line.

Through our instruments and solutions, the Roche Diagnostics business is improving the standard of patient care. This means extending the clinical use of current tests and developing new algorithms, and it means investing in breakthrough clinical studies and digital solutions for clinical decision support.

Setting new standards in precision medicine

Roche Diagnostics maintained its industry-leading position by continuing to bring to market advanced and integrated solutions in diagnostic testing, laboratory efficiency, clinical decision support and diabetes management.

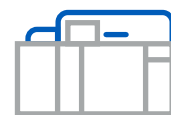
The integrated diagnostic solutions we provide are designed to meet the challenges of today even as we anticipate the needs of tomorrow. They also simplify the complexity that laboratory professionals and healthcare organisations face every day, helping to improve patient outcomes in a rapidly changing healthcare environment.

cobas pro

shortens delivery time of results to physicians and patients across therapeutic areas to support clinical decision-making.



Top-selling product portfolios in 2019 (CHF millions)



4,400 +6%
cobas
Immunodiagnosics



1,821 +1%
cobas
Clinical chemistry



856 +1%
Ventana
Advanced staining



357 +7%
cobas
Blood screening



1,918 +1%
Accu-Chek
Diabetes Care

The cobas 6800/8800 systems and tests help to speed up treatment decisions and reduce the spread of infectious diseases that cause deaths worldwide.

In 2019, we significantly expanded our range of assays for the Integrated Core Lab with several launches and approvals. Our broad portfolio—the industry's most comprehensive—enables clinical decision-making and personalised healthcare.

In May, the FDA granted 510(k) clearance for the cobas TV/MG test for use on our cobas 6800/8800 systems. The addition of the cobas TV/MG test to the testing menu provides the flexibility to process up to four sexually transmitted infections from one patient sample: *Chlamydia trachomatis* (CT), *Neisseria gonorrhoeae* (NG), *Trichomonas vaginalis* (TV) and *Mycoplasma genitalium* (MG).

Also in May, Roche launched new tests for the cobas 6800/8800 systems to help speed up treatment and reduce the spread of tuberculosis, the leading cause of infectious disease deaths worldwide. The launch of the cobas MTB and cobas MAI tests in countries accepting the CE-mark accelerated tuberculosis diagnosis and treatment by detecting antimicrobial resistance. The high sensitivity of the cobas MTB test enables the increased detection of tuberculosis in challenging smear-negative samples. A complete mycobacteria test menu provides the flexibility to detect a combination of tuberculosis, drug-resistant tuberculosis and non-tuberculous mycobacteria infections from a single patient sample.

* All growth rates in this report are at constant exchange rates (CER; average 2018).

In the same month, we launched the Ventana ROS1 (SP384) Rabbit Monoclonal Primary Antibody globally, the first and only *in vitro* diagnostic ROS1 immunohistochemistry (IHC) assay. The test detects the presence of ROS1 protein in tissue and may be useful in identifying ROS1-positive cancer cases. Guidelines from the College of American Pathologists and the National Comprehensive Cancer Network recommend ROS1 testing for confirmed lung adenocarcinoma cases. ROS1 is also being studied in a number of clinical trials in other cancer types.

Improving lab efficiency, quality control and information sharing are key benefits of our Integrated Core Lab and, in April, we released cobas infinity 3.0, our proven global lab software solution. The new features of the cobas infinity lab software solutions—already installed in more than 60 countries—help laboratories integrate a wide range of processes from ordering diagnostic tests to actual test results. And with the new cobas mobile solution, we offer to customers a modern tablet solution to interact with their instrument and boost efficiency and convenience further using mobile apps such as cobas mobicheck 2.0, cobas screen share, User Assistance and Roche DiaLog. The cobas mobile solution will be continuously enhanced and extended to meet current and future customer demands.

And in September, the FDA cleared the cobas pro integrated solutions, a new generation of Serum Work Area solutions; it had already been launched in January in countries accepting the CE mark. To improve efficiency, it allows for up to 2,200 tests per hour with three synchronised modules working in parallel. The cobas pro shortens delivery time of results to physicians and patients across therapeutic areas to support clinical decision-making.

We also had important approvals for companion diagnostics. In March, the Ventana PD-L1 (SP142) Assay gained FDA approval as the first companion diagnostic to identify triple-negative breast cancer patients eligible for treatment with Tecentriq and Abraxane (Celgene); the assay was launched in CE markets in August. The Ventana PD-L1 (SP142) Assay was developed to enhance the visual contrast of tumour-infiltrating immune cell staining; in triple-negative breast cancer, PD-L1 is primarily expressed on these cells rather than on the tumour cells themselves. This assay is the primary diagnostic assay for the Tecentriq clinical development programme (for more on Tecentriq, see page 34).

In April, we launched the Ventana HER2 Dual ISH DNA Probe Cocktail companion diagnostic test in CE-IVD countries for breast and gastric cancer patients eligible for targeted therapy. HER2 is an important biomarker found in breast and gastric cancers and the new assay helps drive personalised healthcare by quickly delivering critical information on treatment options.

In September, the FDA approved the cobas Babesia test for use on the cobas 6800/8800 systems for individual blood donation testing. The use of whole blood is an important innovation because the Babesia parasite lives in red blood cells and cannot be detected in traditional plasma or serum samples. The approval of Roche's first whole-blood assay helps healthcare professionals diminish potential risks of infection from transfused blood products. Whole-blood testing paves the way for an even safer blood supply by exposing previously undetectable red blood cell-based pathogens like Babesia.



Experience the advantages of modern diagnosis.

Scan the images with the Xtend app to watch the video.

Immunocompromised transplant patients can benefit from the cobas EBV and BKV tests, also launched in September for countries accepting the CE mark. With these new tests, run on the cobas 6800/8800 systems, healthcare professionals can now determine which transplant patients are at risk of further complications caused by reactivation of the Epstein-Barr (EBV) or BK viruses.

Digital transformation gains momentum

Our approach to data and healthcare digitalisation extends well beyond technology. Automation, digitalisation and integration are taking diagnostics beyond the lab and beyond what would have been possible just a few years ago.

Systems, tests and software solutions—our Integrated Core Lab helps laboratories to improve their efficiency, quality controls and information sharing and thereby supports physicians and patients in treatment decisions.



In January, we launched the uPath enterprise software for digital pathology, offering a new standard of personalisation for pathology workflows. The uPath enterprise software enhances user experience by drastically decreasing image-rendering times, integrating automated image analysis and improving efficiency through an improved workflow for sharing cases between pathologists. The uPath launch follows the 2018 release of the Ventana DP 200 digital slide scanner.

Our digital tools help convert vast amounts of healthcare data into actionable insights. The Navify Clinical Decision Support portfolio continues to grow and strengthen. In March, we announced the CE mark for the Navify Mutation Profiler, clinical software for annotation, interpretation and clinical reporting on next-generation sequencing (NGS) tests. We have launched both the Navify Mutation Profiler and the Navify Therapy Matcher, an optional clinical support aid that helps clinicians by linking clinically actionable mutations with relevant therapy options.

In May, Roche and GE Healthcare launched the Navify Tumor Board 2.0, the first collaboration product of this partnership. Incorporating medical image viewing and storage capabilities with other patient data, it enables tumour boards to have a more comprehensive view of each patient.

In October, we released Navify Guidelines, a new app for the Navify Decision Support portfolio. The app embeds the latest National Comprehensive Cancer Network Clinical Practice Guidelines in Oncology (NCCN Guidelines), covering the four most common cancers within the Navify Tumor

Board. When opening a patient case, the app identifies the appropriate guidelines based on the patient's cancer type. Clinicians can then select the intended pathway, easily click through the digitised decision tree or flowchart and personalise individual steps for a specific patient. The pathway is accessible to all tumour board participants and can be exported to an EMR (electronic medical record) system, sent to patients or submitted for reimbursement approval by payers.

The Roche and GE Healthcare partnership exemplifies our collaborative approach of combining complementary expertise to advance patient care. Our partnerships are playing a key role in driving the future of precision medicine by creating a comprehensive data-driven healthcare ecosystem.

Improving infectious disease testing access

The Global Access Program has had a major positive impact on diagnosing, treating and helping to reduce the spread of HIV in low- and middle-income countries. The positive impact of our HIV diagnostics continues to grow; in January, we added two new sample types for utilisation on the cobas 4800 system.

In July, we expanded this programme and it now includes molecular diagnostics for HIV-1 viral load, HIV-1 and HIV-2 early infant diagnosis, the cobas Plasma Separation Card, MTB and MTB-RIF/INH, hepatitis B and C, and human papillomavirus. All these assays run on the cobas 4800/6800/8800 platforms for various testing volume needs. See the 'Access' chapter for more information about Roche initiatives to increase access to life-saving diagnostics and medicines.



The cobas Plasma Separation Card supports the diagnosis of infections with several viruses and bacteria. This card has been designed to simplify blood collection, spanning from early infants to adults, and sample transportation.

Connections that count

Our Diabetes Care portfolio offers a collaborative, integrated and personalised approach that aims to determine the optimal therapy for each person with diabetes or at risk of developing the disease.

In March, we launched Accu-Chek Smart Pix Online in Spain and Portugal, with launches in other countries planned for 2020. As the successor to the Smart Pix software, it allows for the management of multiple patients within a single digital diabetes solution with open connectivity.

For non-insulin-dependent people with type 2 diabetes, the CE-marked Accu-Chek SugarView 2.0, which enables meter-free glucose monitoring, has been launched as a pilot project in Mexico, the Philippines and Nigeria. It is the first app that displays

the blood glucose range just by taking a picture of an Accu-Chek Active strip with a smartphone.

In February, we expanded the collaboration agreement with Senseonics for the distribution of the Eversense XL insertable continuous glucose monitoring (CGM) sensor in 17 additional markets in Europe, Latin America and the Asia-Pacific region. And in June we marked the placement of the 10,000th Eversense XL sensor. Working with the mySugr mobile diabetes management app, Eversense XL can measure glucose values for up to 180 days.

The tubeless Accu-Chek Solo micropump system, now fully integrated in the Accu-Chek portfolio, has been launched in nine markets: Argentina, Australia, Austria, Italy, Kuwait, Poland, Spain, Switzerland and the United Kingdom.



“Not all women and their babies have this good fortune.”

Maria Schoedl, Roche, Germany

I work in Roche Diagnostics in Penzberg and preeclampsia is one of the focus areas of my work. It is fate, probably even ironic, that shortly after the birth of my daughter, who is now seven, I was diagnosed with the severe form of this condition. Well actually, I diagnosed myself given my understanding of preeclampsia from work. The doctors at the medium-sized perinatal centre I was in did not suspect anything until my condition turned very critical.

Fortunately, my daughter was delivered by caesarean before I began to display any serious symptoms. And so she escaped unscathed. I was lucky too, as I could so easily have suffered a brain haemorrhage or even liver failure. By that stage I had severe eclampsia and these are common outcomes. Not all women and their babies have this good fortune.

On the day my daughter was delivered, I remember that my blood pressure spiked to very high levels. The doctors, however, were not that concerned and put it down to the C-section. Later that evening things started spiralling out of control as I began to have serious visual disturbances and could hardly see. I still managed to express my suspicion and told the doctor that I could be suffering from a serious form of preeclampsia before I lost consciousness and started to have seizures. That was when the doctors got really worried. They also had to rule out other complications like a cerebral bleed.

It might have been a different story if the diagnostic tests or markers had already been available that afternoon when my blood pressure first shot up. A preeclampsia diagnosis could have been made much earlier and the necessary steps could have been taken to avoid the onset of the disease.

At that time, I was leading a large clinical trial validating the two diagnostic tests for the short-term prediction of preeclampsia. The benefit of these measures was that women suspected of having the disorder can be tested when they arrived at the clinic. By applying specific criteria, it is a helpful tool to identify patients who are at high risk of developing the disease and who need to be monitored more closely. It also enables clinicians to rule out preeclampsia in women who otherwise showed some symptoms of the condition.

My husband and I knew that we wanted to have another child. I was acutely aware that having developed preeclampsia during my first pregnancy meant that I was a high-risk patient but was reassured by the fact that better tests were now available. It was an immense relief, especially as during my second pregnancy I went to a specialised university hospital where they already tested these markers. I actually benefited from the new Roche tests we had developed. Happily, my son was born without any complications five years ago.

Continued demand for new medicines

An increasing number of patients can benefit from innovations based on Roche's legacy medicines and in new disease areas.

The uptake of our newly introduced medicines continues to be very strong, contributing to almost all the growth. Sales in the Pharmaceuticals Division increased by 11% to CHF 48.5 billion.

New medicines—key growth drivers

Ocrevus (first approved in 2017; CHF 3.7 billion, +57%*). For the treatment of both the relapsing (RMS) and primary progressive (PPMS) forms of multiple sclerosis (MS). More than 150,000 people have been treated with Ocrevus globally, in clinical-trial and real-world settings; data continue to show a consistent and favourable benefit-risk profile. The strong demand for this treatment in both indications has continued. In addition to sales increases in the US, growth was supported by launches in international markets.

Perjeta (first approved in 2012; CHF 3.5 billion, +29%). As therapy for HER2-positive breast cancer. Sales grew strongly in all regions. The increased patient demand for Perjeta for adjuvant early breast cancer therapy supports its continued strong growth.

Tecentriq (first approved in 2016; CHF 1.9 billion, +143%). Approved either alone or in combination with targeted therapies and/or chemotherapies in various forms of non-small cell (NSCLC) and small cell lung cancer, certain types of metastatic urothelial cancer, and in PD-L1-positive metastatic triple-negative

breast cancer. Strong sales growth was reported by all regions. In the US, the new indications for extensive-stage small cell lung cancer and triple-negative breast cancer drove sales growth.

Kadcyla (first approved in 2013; CHF 1.4 billion, +45%). For treating HER2-positive breast cancer. The increased demand for Kadcyla was driven by the US and the International region, supported by its use in treating patients with residual disease after surgery.

Hemlibra (first approved in 2017; CHF 1.4 billion, >500%). For treating people with haemophilia A with factor VIII inhibitors. It is also approved to treat people with haemophilia A without factor VIII inhibitors. Hemlibra is the only prophylactic treatment that can be administered subcutaneously and with multiple dosing options (once weekly, once every two weeks or once every four weeks). The uptake is very strong in the US, Japan and Europe.

Esbriet (first approved in 2014; CHF 1.1 billion, +9%). For idiopathic pulmonary fibrosis. Sales continued to expand, driven by growth in Europe and the US.

Alecensa (first approved in 2015; CHF 876 million, +38%). To treat ALK-positive lung cancer. Alecensa showed continued strong sales growth across all regions, with Europe and the International region being the main drivers.



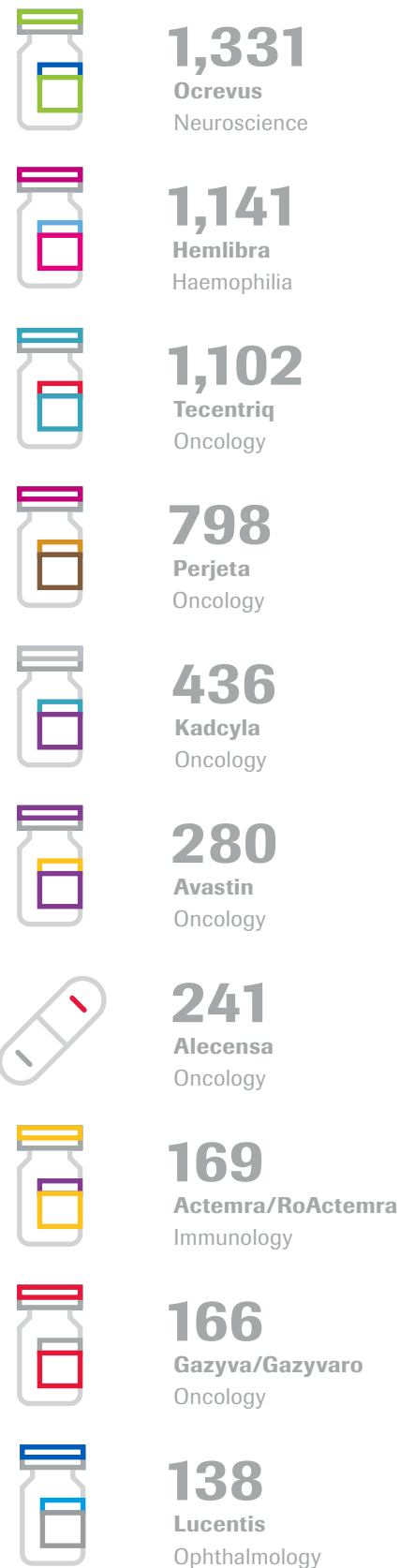
By running the most stringent controls for our medicines, we ensure that products provided to patients meet all the respective requirements.

Gazyva/Gazyvaro (first approved in 2013; CHF 552 million, +43%). For chronic lymphocytic leukaemia (CLL), rituximab-refractory follicular lymphoma and previously untreated advanced follicular lymphoma. Sales expanded in all regions.

Polivy (first approved in 2019; CHF 51 million). Part of a combination therapy for the treatment of adults with relapsed or refractory diffuse large B-cell lymphoma who have received at least two prior therapies. FDA granted accelerated approval.

Rozlytrek (first approved in 2019; CHF 7 million). For lung cancer with a specific gene mutation and solid tumours carrying a certain gene fusion. Rozlytrek received approvals in the US and in Japan.

Incremental sales in 2019 (CHF millions)



* All growth rates in this report are at constant exchange rates (CER; average 2018).

Experience Andy telling his story.



Scan here with the Xtend app to watch the video.

New treatment options for patients

The speed at which Roche brings new medicines to physicians and their patients is accelerating. We launched two medicines in 2019, making it 15 since 2012, and are preparing for the launch of another two in 2020. The number of drug candidates in late-stage clinical development has increased by 50% over the past three years.

Ocrevus—reducing risk of disease progression

Longer-term data from the phase III open-label extension studies Opera I, Opera II and Oratorio showed that patients who had been treated with Ocrevus continuously for six years or more had a reduced risk of disability progression in relapsing MS and primary progressive MS. These results suggest that earlier treatment with Ocrevus, administered twice yearly, reduced the risk of disability progression and this effect was sustained over time.

Tecentriq—entering new cancer areas

Tecentriq is a first-in-class medicine to treat extensive-stage small cell lung cancer (ES-SCLC) and metastatic triple-negative breast cancer (TNBC). In 2019, Tecentriq was approved in additional indications across multiple tumour types.

In the US, Tecentriq combination therapy was approved for the initial treatment of ES-SCLC. The FDA granted accelerated approval to Tecentriq plus nab-paclitaxel for the treatment of metastatic PD-L1-positive TNBC, and also approved Tecentriq combination therapy for initial treatment of metastatic non-squamous NSCLC with no EGFR or ALK genomic tumour aberrations.

In the EU, Tecentriq received four additional approvals: for patients with unresectable locally advanced or metastatic TNBC whose tumours have

PD-L1 expression ($\geq 1\%$) and who have not received prior chemotherapy for metastatic disease; for the initial treatment of adults with ES-SCLC; for initial therapy of adults with metastatic non-squamous NSCLC without EGFR-mutant or ALK-positive NSCLC; for a combination therapy for the first-line treatment of adults with metastatic non-squamous NSCLC. In people with EGFR-mutant or ALK-positive NSCLC, Tecentriq combination treatment is indicated only after the failure of appropriate targeted therapies.

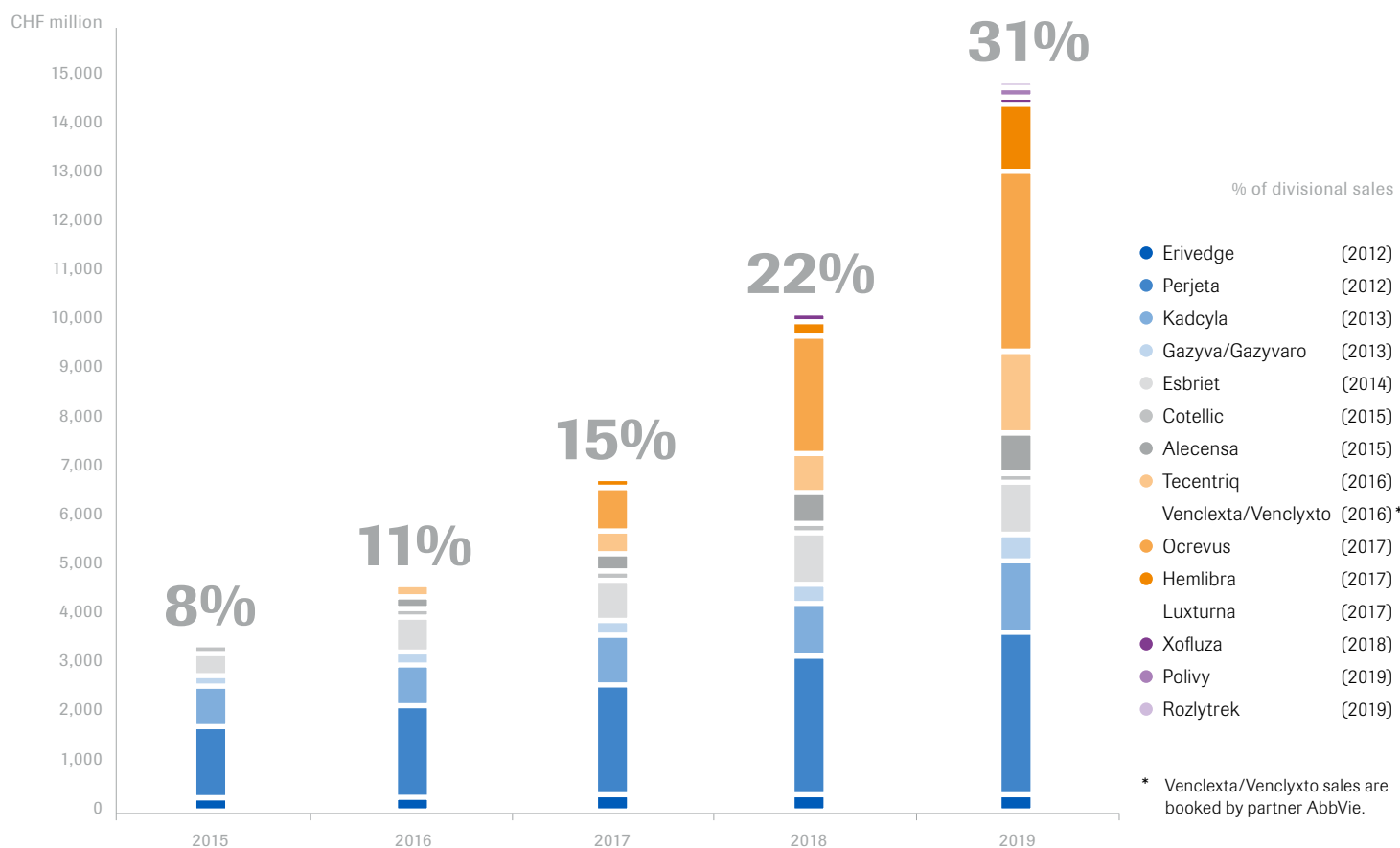
The phase III IMbrave150 study, evaluating Tecentriq in combination with Avastin as a treatment for people with unresectable hepatocellular carcinoma (HCC), who have not received prior systemic therapy, met both of its co-primary endpoints, demonstrating statistically significant and clinically meaningful improvements in overall survival and progression-free survival compared with standard-of-care sorafenib. This study represents the first improvement in overall survival for people with unresectable HCC, compared with the current standard of care, in more than a decade.

Kadcyla—important option in breast cancer

The FDA approved Kadcyla for the adjuvant (after surgery) treatment of people with HER2-positive early breast cancer who have residual invasive disease after neoadjuvant (before surgery) treatment. In the EU, Kadcyla was approved for treatment after surgery of HER2-positive early breast cancer.

Hemlibra—for all age groups

Hemlibra was approved in the EU for the routine prophylaxis of bleeding episodes in people with severe haemophilia A (congenital factor VIII deficiency, FVIII $< 1\%$) without factor VIII inhibitors. Hemlibra can be used in all age groups.



The percentage of sales contribution of medicines launched since 2012 increased steadily.

Gazyva/Gazyvaro—BTD in lupus nephritis

The FDA granted breakthrough therapy designation (BTD) to Gazyva/Gazyvaro for adults with lupus nephritis. In the phase II clinical study Nobility, Gazyva/Gazyvaro met both primary and key secondary endpoints. Lupus nephritis is a severe and potentially life-threatening disorder of the kidneys. A phase III programme has been initiated.

Gazyva/Gazyvaro—CLL and SLL

The FDA approved Venclexta/Venclyxto in combination with Gazyva/Gazyvaro for the treatment of previously untreated chronic lymphocytic leukaemia (CLL) or small lymphocytic lymphoma (SLL).

Polivy—accelerated approval

The FDA granted accelerated approval to Polivy in combination with bendamustine plus MabThera/Rituxan for the treatment of adults with relapsed or refractory diffuse large B-cell lymphoma who have

received at least two prior therapies. Continued approval for this indication may be contingent upon the verification and description of the clinical benefit in a confirmatory trial.

Rozlytrek—for rare forms of lung cancer

This new medicine was approved for the treatment of, metastatic NSCLC: in Japan (NTRK+) and in the US (ROS1+/NTRK+). The FDA granted accelerated approval to Rozlytrek for the treatment of adult and paediatric patients 12 years of age and older with solid tumours that have a neurotrophic tyrosine receptor kinase (NTRK) gene fusion without a known acquired resistance mutation.

Cotellic—breakthrough therapy designation

The FDA also granted BTD for Cotellic in histiocytic neoplasms which do not harbour the BRAF V600 mutation. This was based on a phase II study in adults with histiocytosis of any mutational status demonstrating a high overall response rate of 89%.

Next-generation medicines

We are continuing to drive treatment in oncology, immunology, ophthalmology, neuroscience, infectious diseases and rare diseases with our strong in-house pipeline. At the end of 2019, there were 72 new molecular entities in the clinical pipeline of our Pharmaceuticals Division. A number of these compounds are next-generation products based on very successful Roche legacy medicines. At the same time, we are entering other disease areas where scientific progress enables us to make meaningful improvements for patients.

In oncology, new medicines follow on from Roche's strong legacy in this disease area, including **Gazyva/Gazyvaro**, **Venclexta/Venclyxto**, recently approved **Polivy** (US, polatuzumab vedotin), as well as late-stage development compounds, including **mosunetuzumab** and **CD20-TCB**. Mosunetuzumab and CD20-TCB are two novel bispecific antibodies under investigation in blood cancer for relapsed/refractory non-Hodgkin lymphoma. Both drug candidates have demonstrated compelling early data and significantly advanced our expertise in developing antibodies to treat blood diseases.

In HER2-positive cancer, **Perjeta**, **Kadcyla** and **subcutaneous Herceptin** are key medicines in fighting breast cancer and follow on from the success seen with Herceptin. The phase III FeDeriCa study met its primary endpoint. The new investigational fixed-dose combination of Perjeta and Herceptin, administered by subcutaneous injection in combination with intravenous chemotherapy, demonstrated non-inferior levels of Perjeta in the blood (pharmacokinetics) compared to standard intravenous infusion of Perjeta plus Herceptin and chemotherapy in people with HER2-positive early breast cancer. This method of drug administration significantly reduces the time spent receiving treatment.

Vision loss is a major global health problem and our late-stage pipeline includes projects in neovascular age-related macular degeneration (nAMD), diabetic macular oedema (DME), diabetic retinopathy and retinal vein occlusion. **Faricimab**, the first bispecific antibody designed specifically for the eye, is in phase III trials for DME and nAMD. It simultaneously targets two key drivers in the development and progression of both diseases. PDS, a small, refillable device about the size of a grain of rice, and the first-ever continuous delivery system with a biologic medicine in nAMD, is currently being investigated in a phase III study.

In infectious diseases, **Xofluza** is a first-in-class, one-dose oral antiviral medicine against influenza. Xofluza is currently approved in several countries for the treatment of influenza in otherwise healthy people. In October 2019, Xofluza became the first and only antiviral medicine approved by the FDA specifically for patients at high risk of developing serious complications from influenza.

Entering new disease areas

The successful launches of **Ocrevus** for the treatment of two forms of multiple sclerosis and **Hemlibra** for forms of haemophilia mark Roche's entry in disease areas that had previously not been our focus. Similarly, our late-stage development pipeline covers compounds for several conditions of the central nervous system, including spinal muscular atrophy (SMA), neuromyelitis optica spectrum disorder (NMOSD), autism, Huntington's disease and Alzheimer's disease.

Risdiplam has the potential to be the first oral therapy for people with SMA, too many of whom remain untreated. Data from the dose-finding part 1 of the pivotal Firefish trial show that infants with type 1



Roche is successfully entering new disease areas, providing important new treatments for people with severe conditions, including multiple sclerosis and haemophilia. Our development pipeline also covers ailments of the central nervous system, inflammatory bowel disease and several rare diseases.

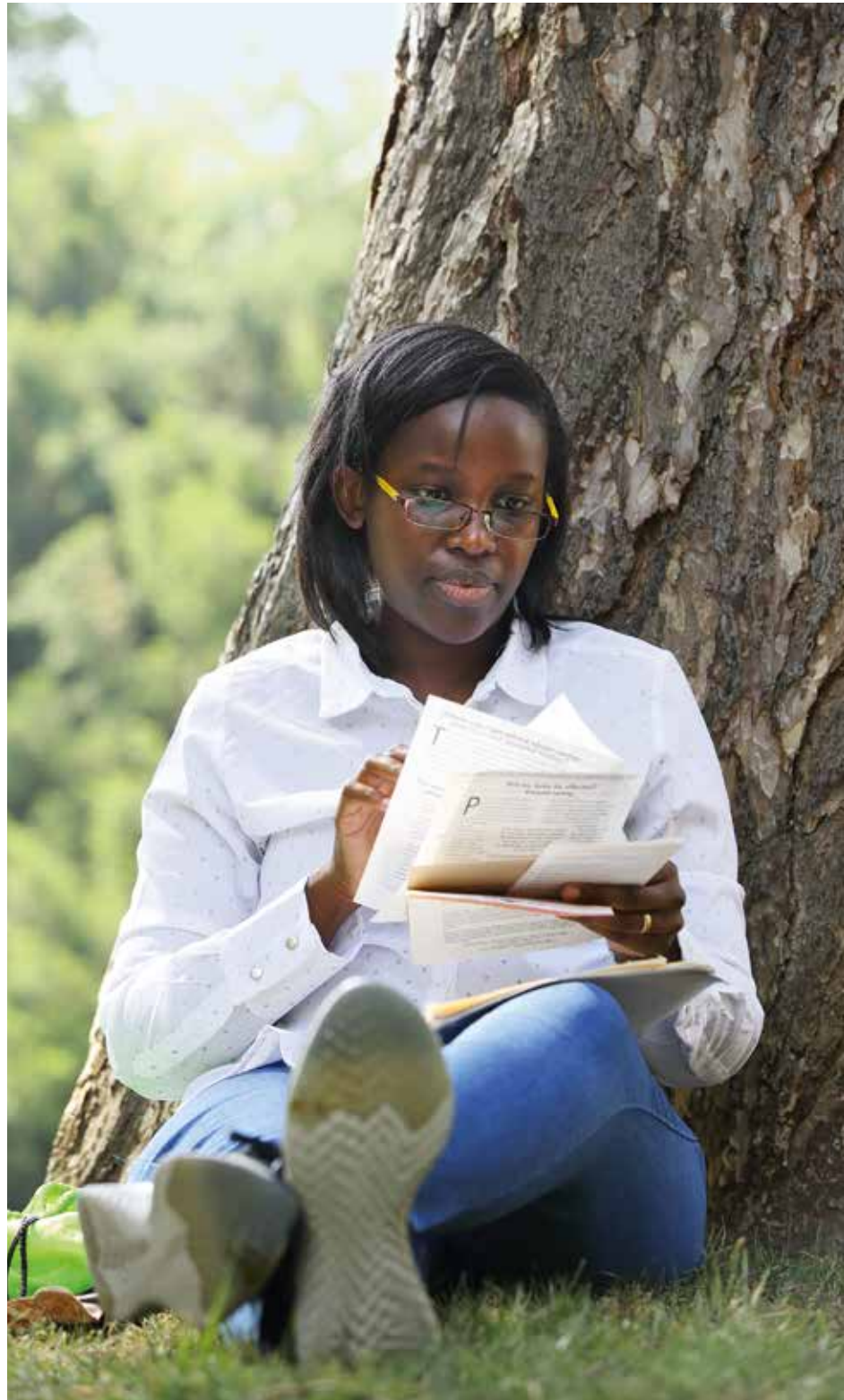
SMA achieved key motor milestones after one year of treatment with the investigational molecule. The pivotal second part of the Sunfish study evaluating risdiplam in people aged 2–25 years with type 2 or 3 SMA met its primary endpoint of change from baseline in the Motor Function Measure 32 scale after one year of treatment with risdiplam, compared to placebo. The FDA granted priority review for risdiplam for SMA.

Satralizumab is undergoing regulatory review in many countries for NMOSD, a rare, debilitating central nervous system disease. Data from the phase III SAKuraStar and SAKuraSky studies suggest that satralizumab could be an efficacious treatment option, administered subcutaneously every four weeks, for patients across a broad NMOSD patient

population, whether given as a monotherapy or in combination with baseline immunosuppressant therapy. The FDA granted breakthrough therapy designation for satralizumab.

For **etrolizumab**, eight large phase III studies are ongoing in Crohn's disease and ulcerative colitis, two main forms of inflammatory bowel disease, for which there is currently no cure.

Roche has a comprehensive clinical development programme investigating the dosing, safety profile and potential clinical benefit of **RG6042** in people with Huntington's disease. This programme includes the pivotal phase III Generation HD1 study of RG6042, the world's first and largest huntingtin-lowering study.



“Someone, somewhere, is going through what I went through years ago.”

Angela Kiraba, Roche, South Africa

I remember crying at work once. This happened in an auditorium in Budapest, Hungary. In February 2017, when I was listening to a senior manager from Roche’s Global Medical Affairs department. Three words jumped out from his slide—Duchenne muscular dystrophy (DMD). My brothers had both died of this rare genetic disorder at the age of 14.

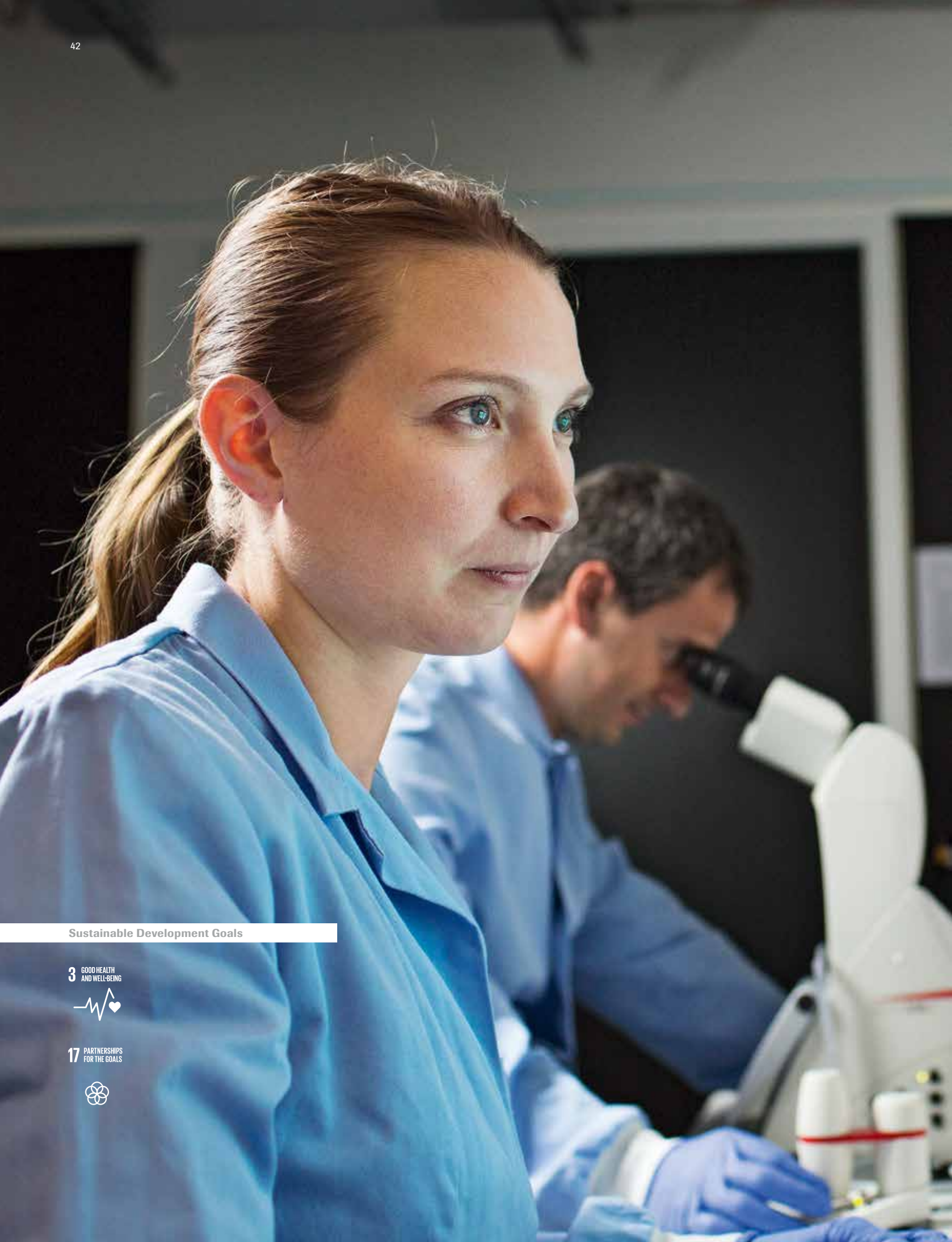
What a blessing I thought it was that Roche is involved in DMD research. It was divine intervention that I was working for Medical Affairs in Roche South Africa at the same time. My thoughts went back to when my two older brothers, born in 1975 and 1978, both started displaying signs of progressive muscle weakening and walking on their toes at the age of about three. I was still living in my native Kenya in those days.

My father was neither understanding nor empathetic. He distanced himself from us. It was all left to my mother, who struggled through the healthcare system, trying to find out what was wrong with her sons. She saw all kinds of specialists before she was able to get through to a top neurologist and an orthopaedic surgeon in Nairobi. They finally made the DMD diagnosis. But information was scarce. With no Internet in those days, my mother did most of her research by reading newspapers and meeting people. It was through one of these contacts that she was able to reach out to the Muscular Dystrophy Group

of Great Britain and Northern Ireland and began to correspond with Professor A. J. Buller. He empathised with her situation, explained the condition to her and was very honest about the treatment options, or lack thereof, and the prognosis. All of this was done by post!

From orthopaedic procedures that didn’t help to leg braces that aided with mobility a bit, my brothers got all the support they could from my mother. Back at home, things were only getting bleaker and there was no peace. Our neighbours did not understand the disease and most people said we were cursed and avoided us. My brothers continued to deteriorate and lose weight. The eldest passed away in November 1989. One week after we buried him, my mother took me and my other brother out of our father’s house. My second brother then died in July 1992.

I was barely ten years old and remember standing over his grave and taking a vow to become a doctor. In 2008, I graduated with a Bachelor of Medicine and a Bachelor of Surgery. I worked in clinical practice for a few years after that before joining Roche in 2014. I now carry with me the optimism that we will find a treatment for DMD and imagine the kind of hope my brothers would have had if they were here right now. I am reminded every day that someone, somewhere, is going through what I went through years ago.



Sustainable Development Goals



Science and innovation

Our ability to capture what makes each patient unique has improved significantly and is now paving the way for the next stage of personalised healthcare.

We convert knowledge into therapies.

The combined power of advanced imaging technology, artificial intelligence and large databases allows new insights into diseases.

Material topics covered in this chapter

Patient centricity
 R&D efficiency
 Personalised healthcare
 Real-world data
 Preparedness for aging society

Patient benefit at the centre

The data age in healthcare is rapidly becoming a reality and is here to stay.

It is driven by continually improving our ability to digitally collect, aggregate, curate and make sense of vast quantities of diverse patient data. The massive generation of data does not add any value as such. It is the ‘translation’, or processing, of this data deluge into meaningful data on a scale that, with the help of sophisticated analytics, will ultimately help provide actionable and meaningful information across the continuum of care—for researchers, physicians and, most importantly, the individual patients with their unique characteristics.

To be successful in this field, it is indispensable to engage and create synergies with strong, innovative partners, while leveraging Roche’s own deep in-house expertise in diagnostics and pharmaceuticals. This will allow the company to achieve progress throughout the entire value chain, from the development to the delivery of a medicine and from facilitating discoveries in the lab and enhancing clinical trial design to accelerating the approval of targeted therapies for the benefit of patients.

Our ability to mine and analyse unprecedented quantities of data in new ways has matured to a point where it can now be used to support the development and delivery of the right treatment to the right patient at the right time. From interlinking genomic information with real-world data (eg, in oncology) to the use of wearables and sensors that enable a much more granular view of a person’s disease course including a greater ability to measure clinical change (eg, in neuroscience), we are leveraging an array of powerful partnerships and new technologies to seize these opportunities. With our pioneering in-house

expertise in pharmaceuticals and diagnostics, Roche is at the forefront of this effort to fulfil the promise of truly personalised healthcare (PHC).

New insights from patient data to inform and advance research and development

Today’s ability to glean new insights by connecting diverse datasets from a sizeable number of patients digitally can reveal differences between them that would not have been possible otherwise. This information can be used to develop novel treatments, make clinical trials more efficient and optimise clinical decision-making.

Linking genomic profiles with real-world data to attain deeper knowledge

Two newer developments are helping to advance the field of personalised medicine further. The first is comprehensive genomic profiling which can reveal as yet unknown genetic anomalies or mutational patterns driving a tumour’s growth. The second involves the power of large quantities of curated medical data, such as therapy outcome data, captured from the electronic health records of numerous patients. The next frontier will be reached by integrating these two sets of data, namely genomic information and real-world clinical outcomes.

This is exactly what Foundation Medicine, focusing on the genetic profiling of cancer, and Flatiron Health, curating electronic medical records of cancer patients, decided to accomplish jointly, starting back in 2016. Having acquired these two companies in 2018, Roche strongly supports this effort. The continuously



Digitalisation in healthcare is continually improving our ability to digitally collect, curate and make sense of vast quantities of diverse patient data. The 'translation' of this data will ultimately help provide actionable and meaningful information for researchers, physicians and, most importantly, individual patients.

updated, de-identified data includes patient outcomes data from Flatiron's network of oncology clinics, linked with comprehensive genomic profiling insights from Foundation Medicine's database. This rapidly growing 'clinico-genomic database' (CGDB) already contains more than 50,000 linked profiles, spanning many tumour types. It is expected to become a key asset in advancing the development of cancer therapeutics and in optimising the design and execution of clinical trials.

On 9 April 2019, the Journal of the American Medical Association (JAMA) published the validation of this CGDB, acknowledging that real-world clinico-genomic data obtained during the course of routine patient care can yield scientifically and clinically meaningful insights. In the corresponding study, more than 4,000 patients with non-small cell lung cancer (NSCLC) from the CGDB were investigated in an effort to understand how their genomic profiles correlated

with clinical outcomes. The study revealed a strong link between the tumour mutational burden (TMB) and the response to cancer immunotherapy. For example, patients who had a high TMB lived almost twice as long as those who had a low or intermediate TMB when treated with anti-PD-1/PD-L1 immunotherapies.

One current use of the CGDB involves leveraging its data to decide whether a biomarker (such as TMB) is prognostic across a wide range of tumour types, an insight that may be important when considering additional development opportunities for a molecule. There are also plans to use this database as a data source for an external (or virtual) control arm in tumour-agnostic settings where conducting a randomised, placebo-controlled trial that includes both an active (experimental) and a traditional control arm would be difficult. (See also the example of Rozlytrek, page 37.)

Leveraging real-world data to prioritise clinical development, better design trials and determine patient response

At Roche, we are committed to developing medicines for patients with the highest level of unmet medical needs. Part of the process is to understand the current outcome of patients whose disease is similar. One way of doing this is to look at the real-world electronic health records of patients.

This is exactly what Roche did when exploring a specific target in lung cancer, which includes two distinct populations with different tumour mutations. By looking at the Flatiron Health anonymous electronic health records of tens of thousands of lung cancer patients on standard-of-care medication, Roche discovered that patients with one of the tumour mutations had a worse prognosis and higher mortality than the other. Based on this data, the project team decided to prioritise the development of molecules that target the lung cancer mutation population with the greatest unmet medical need.

Going forward, real-world data will increasingly be used as a building block to help develop the best molecules for the most ‘under-served’ patient populations.

Examples of targeted therapy in ophthalmology and oncology

Advanced imaging technology, new scientific insights, groundbreaking technologies and discovery platforms are driving the development of novel, highly personalised therapies, but also the identification of more conclusive clinical endpoints that can be game changing for patients. In this segment, after summarising some of the exciting diagnostic and therapeutic innovations taking place in the field of ophthalmology R&D at Roche, we will examine a new example from our discovery and development efforts in oncology.

Opening up new vistas in ophthalmology

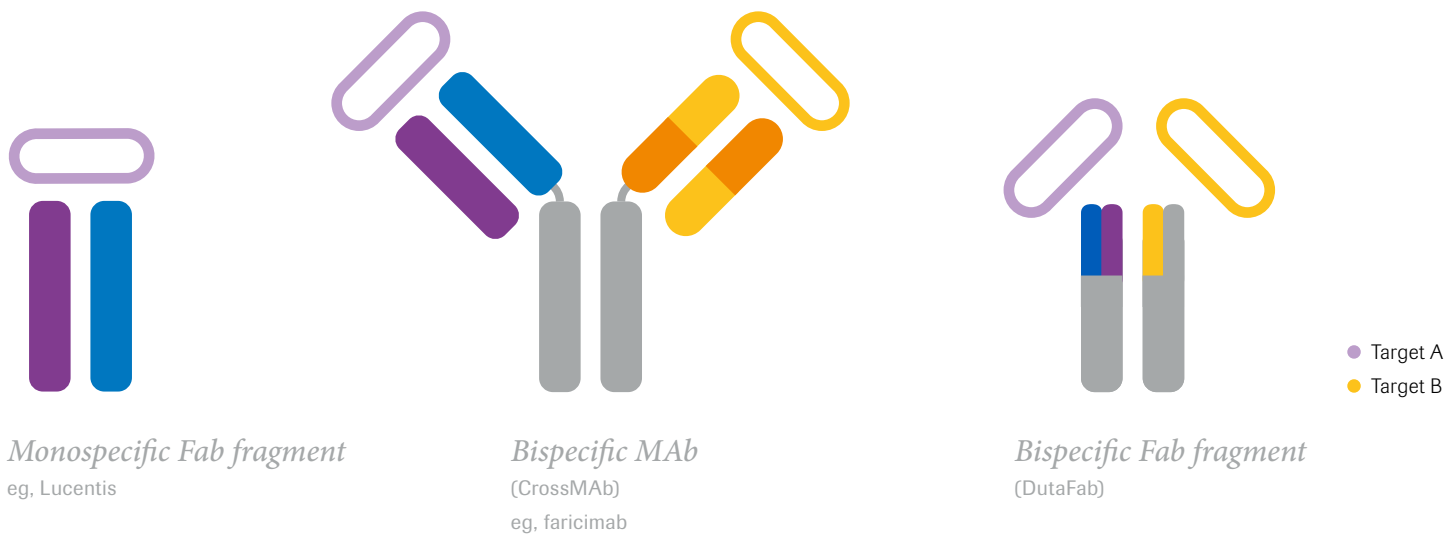
Roche’s focus in ophthalmology is on the development of transformational therapies for patients with a major unmet medical need who run the risk of developing potentially blinding retinal disease, such as neovascular age-related macular degeneration (nAMD), diabetic retinopathy (DR) and diabetic macular oedema (DME).

With the rapidly growing aging and diabetic populations, the sheer number of individuals with serious eye diseases that often result in grave visual impairment and blindness is increasing around the world. While anti-VEGF molecules have revolutionised the treatment of many patients with retinal diseases, a significant proportion of them have shown only partial improvement in their vision or have diseases that do not benefit from this approach.

Sustainable Development Goal



At Roche, we aim to create safe, effective new medicines and diagnostic tests that help people live longer, healthier lives. We develop novel medicines in the therapeutic areas of oncology, immunology, infectious diseases, ophthalmology and diseases of the central nervous system. Our Pharmaceuticals and Diagnostics Divisions work together on R&D projects, sharing our research facilities, technologies and developments, and benefiting jointly from our innovations.



New bispecific format (DutaFab)—further improving the standard of care: Bispecific antibodies combine two or more antigen-recognising elements into a single construct, able to bind two or more targets. This accounts for the fact that more than one pathway is often at the root of the disease.

Our PHC approach means we may be able to predict more effectively how patients will respond to treatment before enrolling them in trials. This will translate into leaner and more efficient clinical trials that require fewer patients and ultimately bring solutions to patients in a shorter amount of time.

In addition, Roche has a strong pipeline of investigational molecules in ophthalmology, in both the early and late stages of clinical development; some engineered using highly innovative antibody technologies.

The most advanced investigational medicine in the pipeline is faricimab, the first-ever bispecific antibody to enter pivotal clinical trials in ophthalmology (for DME and nAMD). It was developed using Roche's innovative CrossMAb technology. The next generation of bispecific antibodies, developed on the DutaFab technology platform, entered the clinical development programme for intravitreal nAMD and DME testing in April 2019. The platform allows for the generation of small, extremely stable, highly potent bispecific antibodies at two independent binding sites. These properties increase the durability of the ocular target

engagement and may lead to less frequent dosing and improved long-term efficacy compared to the standard of care.

In further support of our ophthalmology programme, Roche entered into a three-year multi-party collaboration agreement in September 2019 to establish INSIGHT: The Health Data Research Hub for Eye Health in the UK. INSIGHT brings Roche together with the NHS/HDR-UK, university hospitals, non-governmental organisations and technology companies to establish data hubs across the UK to accelerate research for new medicines, therapies and technologies that support improved diagnosis and treatment. This hub will gather anonymised NHS patient data from across the UK and combine it with unparalleled high-order retinal imaging, initially focusing on diabetes, age-related macular degeneration (AMD) and dementia. INSIGHT will provide the data gathered and certain services (such as rapid-response real-world evidence and AI tools and systems) to users from both industry and academia. This fundamental and transformational collaboration reflects Roche's commitment towards establishing a strong network among many stakeholders and playing an active role in shaping the future of healthcare.

Highly personalised cell therapies for cancer are an area of focus for Roche

Genentech's first foray into the field of cell therapy was made public in January 2019 with the announcement of a collaboration agreement with Adaptive Biotechnologies, the world leader in sequencing and functional profiling of T-cell receptors, to develop, manufacture and commercialise T-cell therapies targeting neoantigens. Long the subject of pioneering research at Genentech, neoantigens are proteins on the surface of cancer cells generated by tumour-specific mutations. They are not present in the patient's healthy cells and differ from patient to patient. Because they are clearly distinguishable from normal cellular proteins, these neoantigens can be recognised as foreign by the T cells of a person's immune system. For this reason, they are considered a tumour's weak spot, or 'Achilles heel', which means they are accessible to therapeutic intervention.

While T cells are produced naturally by the immune system, they can also be artificially engineered to accurately recognise these neoantigens. Adaptive Biotechnologies is responsible for developing innovative technologies that allow high throughput analysis. Beyond their proprietary T-cell sequencing and neoantigen-matching technologies, Genentech will have access to Adaptive Biotechnologies' extensive library of more than 30 billion neoantigen-targeting T-cell receptors.

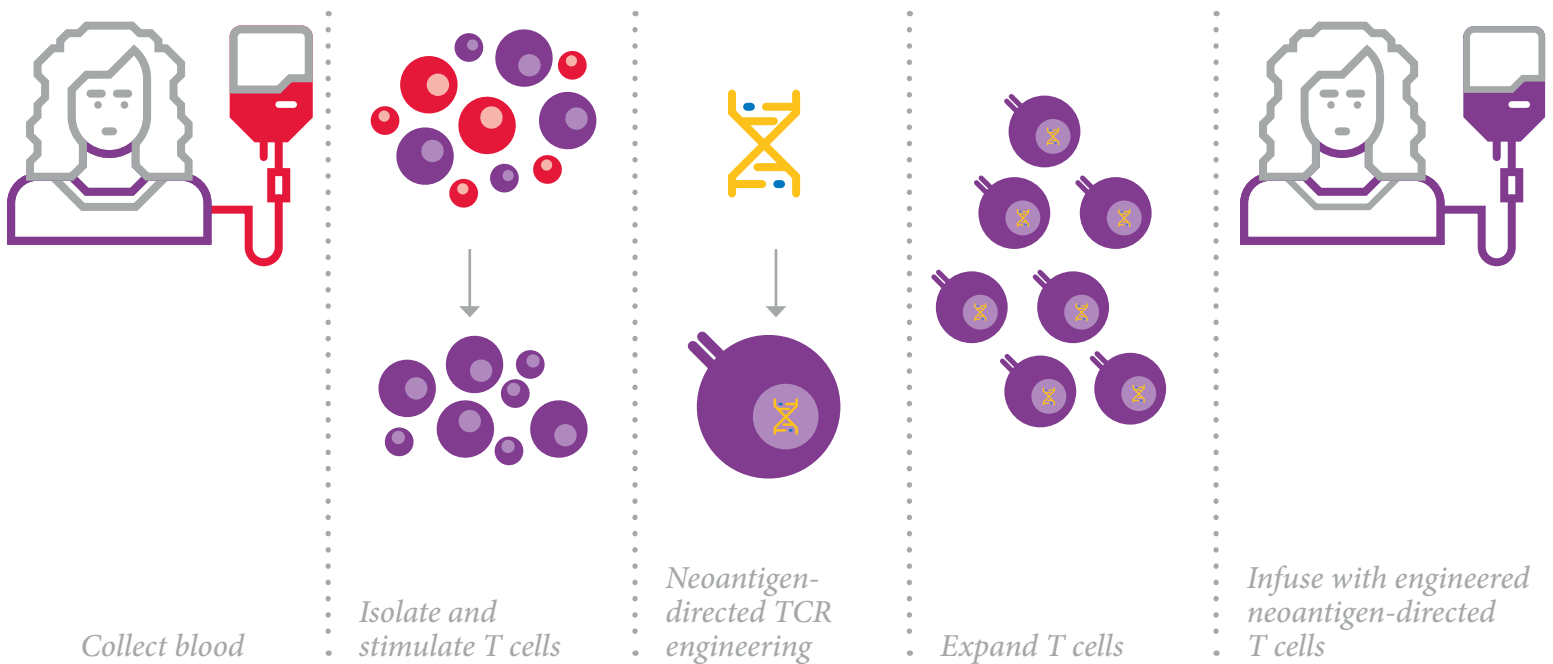
Adaptive Biotechnologies will utilise its discovery platform to identify the optimal T-cell receptors to target each patient's individual neoantigen 'signature' the most effectively. On that basis, Genentech will then design and manufacture a personalised cellular medicine for each patient. This entails reshaping the immune system by engineering the individual's own T cells, or T cells derived from stem cells, with receptors that recognise the cancer's neoantigens

with clear precision. The goal is to harness the vast majority of therapeutically relevant, patient-specific neoantigens to advance the next generation of cellular therapies in a broad range of solid tumours. The ultimate vision is to effectively target a patient's tumour cells at the individual level, thereby paving the way for the development and delivery of a truly personalised cell therapy for every patient who needs it.

Neoantigen-directed T-cell treatments are a new form of cancer immunotherapy. It is the fourth distinct immunotherapeutic strategy pursued by Roche besides immunomodulators (such as checkpoint inhibitors), tumour-targeted bispecific antibodies and personalised cancer vaccines. An example of the latter is Genentech's collaboration with the German biotech company BioNTech, which analyses the genomic sequence of each individual patient's tumour to identify the most promising neoantigens to fight it. In the next step, they insert the genetic information encoding these neoantigens into mRNA—a messenger molecule that BioNTech has specifically optimised to provide that information to the immune system and activate it to combat the cancer. Such a personalised cancer vaccine could work with Genentech and Roche's checkpoint inhibitors to provide an effective personalised treatment option for patients. This combined approach is currently being tested in early clinical trials. Roche continues to explore cell therapy as a meaningful path of treatment for patients.

Innovating clinical trial design by harnessing the power of data

Meaningful data at scale from a real-world setting offer a tremendous opportunity to improve how we conduct clinical trials by making them leaner and more efficient. There are already realistic scenarios in which electronic health records can provide



The vision is to design and manufacture a personalised cellular medicine for each patient that effectively targets her or his tumour cells at an individual level. This will represent the development and delivery of a truly personalised cell therapy for every patient who needs it.

advantages over and above the classic control arm of randomised, placebo-controlled clinical trials. This is because real-world data (RWD) can be used to create an ‘external’ control arm that replaces the regular standard-of-care arm in conventional trials or when it is not possible to do a control arm, such as for rare diseases, and when recruitment takes much longer due to the low prevalence of the disease.

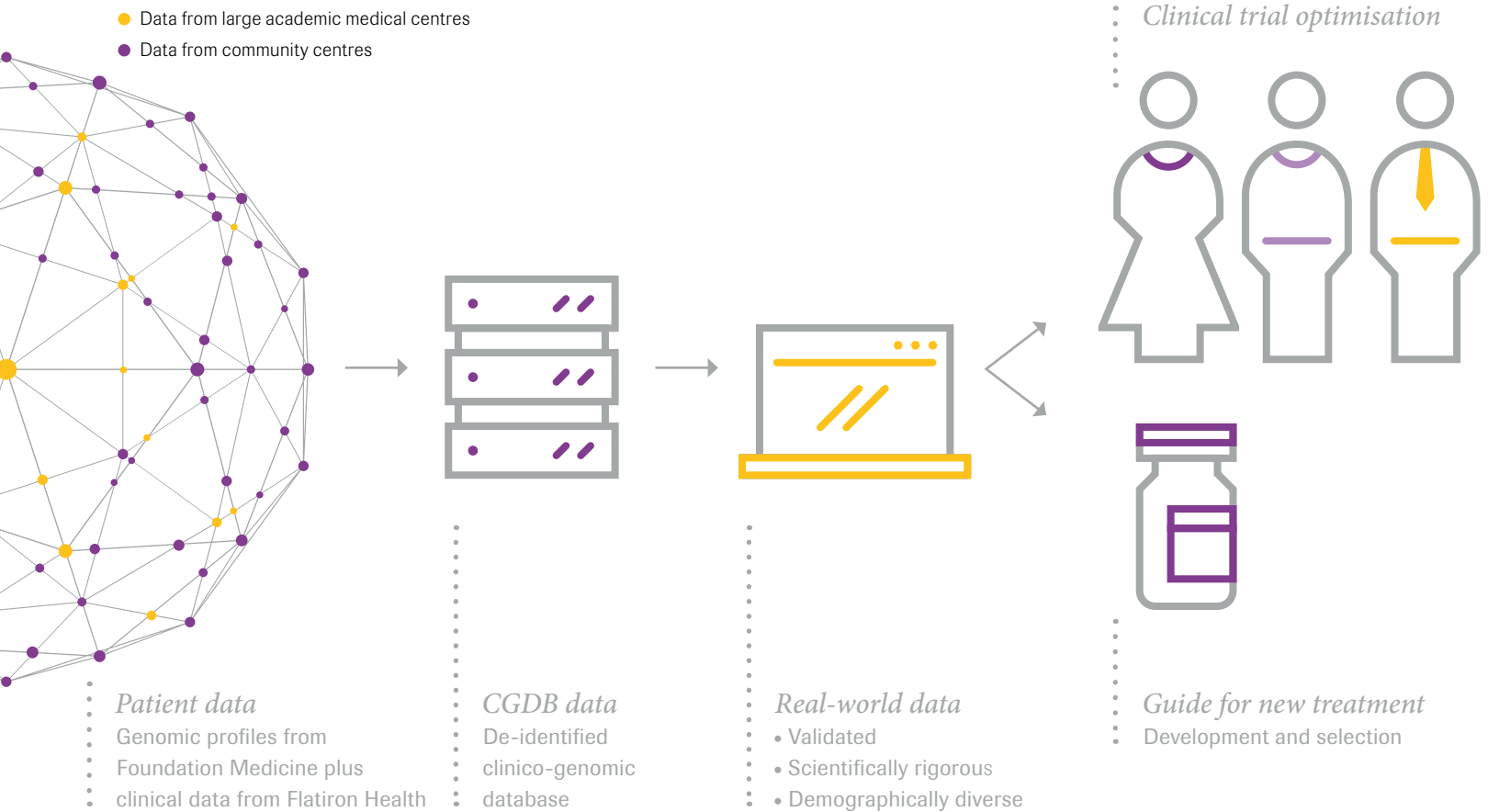
As a result, this enables more trial participants to receive the experimental medicine, which speeds up the recruitment process, lowers trial costs and enables all of the participants to be treated with a potentially more effective medicine than the historical standard.

Expediting a medicine’s path to approval with RWD

On 16 August 2019, the FDA approved Roche’s Rozlytrek for people with ROS1-positive, metastatic non-small cell lung cancer (NSCLC) and patients with NTRK gene fusion-positive solid tumours. Concerning NTRK, Rozlytrek is a tumour-agnostic medicine, meaning it was assessed and approved by health authorities based on a specific genetic driver of the disease. It is an oral, small-molecule medicine, a selective tyrosine kinase inhibitor designed to block ROS1 and NTRK activity, thus promoting the destruction of the corresponding cancer cells.

Rozlytrek could only be approved so swiftly because Roche was able to choose a highly innovative way of designing its registrational clinical trials. The main reason for Roche’s departure from the standard way of running clinical trials (comprising a control arm with standard-of-care medication and an active arm with the experimental medicine) is the fact that ROS1 positivity only occurs in 1–2% of NSCLC patients. As it is a rare form of cancer, finding enough patients to be enrolled in two different trial arms can be a daunting challenge. In addition, one of the main reasons for non-participation in clinical cancer trials is the fear of ending up in the placebo or standard-of-care arm.

Therefore, Roche decided to leverage the rich electronic health records that Flatiron has screened and collated from hundreds of thousands of cancer patients, before generating real-world comparator evidence from this data. This made it possible to create an external control arm, as it were, eliminating the need to enrol patients in a real or standard control arm. This led to increased trial efficiency, reducing delays, lowering costs and speeding this life-saving therapy to the market. Most importantly, using an external control ensures that more patients receive the active investigational medicine from the start, eliminating concerns about treatment assignment.



Electronic health records can provide advantages over and above the classic control arm of randomised, placebo-controlled clinical trials. Real-world data allow the creation of an 'external' control arm in conditions that require the replacement of the regular standard-of-care arm.

In order to generate comparative evidence for the 53 ROS1-positive patients to receive Rozlytrek, Roche started with more than two million patients on the Flatiron database, who were screened for specific forms of lung cancer and for ROS1 positivity. In the end, 69 patients were included in the analysis, who were matched with the 53 patients in the Rozlytrek arm. The study design and data was of interest to the regulatory bodies and allowed us to file for approval early with one health authority without needing a comparative study.

Remotely measuring the quality of sleep in a rare genetic disease

For neurological conditions, it is very difficult to find relevant biomarkers or identify meaningful endpoints that would allow clinicians to assess the therapeutic efficacy of new investigational medicines confidently. In a number of neuromuscular and neurodevelopmental conditions, finding meaningful

measures of change (eg, mobility) is a big challenge. Without such well-defined baseline measures, however, evaluating treatment progress in a clinical trial setting becomes virtually impossible.

This is also the case with Angelman syndrome, a neurodevelopmental disorder with no disease-modifying therapies available. It is a rare genetic disease, affecting approximately one in 12,000 to 20,000 individuals. This devastating disease usually manifests in early childhood (at around one year of age) and the main symptoms are severe intellectual disability (lack of verbal skills), balance and movement problems, seizures and sleep impairment.

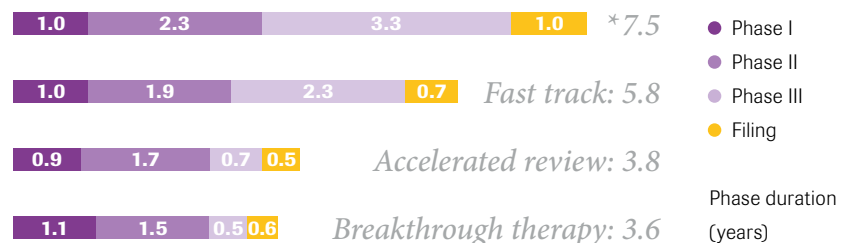
Before carrying out an early-stage clinical trial on an investigational new drug for the treatment of Angelman syndrome, Roche is trying to understand the heavily disturbed sleeping patterns of Angelman patients better by longitudinally capturing the

syndrome's phenotypic features in a number of affected young people. By placing sleeping mats with integrated sensors under their mattresses, subtle changes in their movement, heartbeat and breathing rate can be measured continually. This data about sleep quality will be complemented by actigraphic (via a device placed on the wrist) information, sleep staging ('rapid-eye movement' [REM], non-REM, etc.) and polysomnography once or twice a year either in the hospital or during a home visit by a nurse, to take various readings, such as eye movement and heart function. The purpose of these tests is to develop an algorithm based on these rich datasets.

This should help answer questions such as: Which measures of sleep disruption are relevant? How can corresponding changes be quantified? And how can potential improvements be evaluated and validated in a meaningful way in light of the well-defined baseline measures? The ability to measure sleep is also relevant for many neurological conditions. Therefore, understanding sleep by taking remote digital measurements should help with other neurological conditions as well, not just Angelman syndrome.

Navigating complexity by teaming up with partners

Personalised healthcare can only become a reality if all the stakeholders in the healthcare system work together in new ways, making sure that the digital transformation, powered by data, will yield better patient outcomes in different disease areas and indications. In order to expedite integrated, individualised healthcare solutions, Roche is building a network of targeted partnerships and collaborations. Without strong partners with complementary skill sets and unique technological assets, the complexity of the challenges that need to be tackled all the way from the laboratory bench to the doctor's surgery cannot be tackled successfully.



Innovative approaches in R&D and expedited review procedures make new medicines available for patients much earlier. (* Normal procedure)

Discerning relevant patterns in medical records of MS patients

Healthcare in general is highly fragmented, with lots of potentially relevant information about a patient widely scattered, in multiple formats and registries, and from many different sources. It is very hard for patients to access their own medical records in a holistic and meaningful way.

It was this insight that led to the creation of PicnicHealth in 2014. This digital healthcare company helps patients collect and manage their medical records comprehensively, from blood tests to X-rays. The patients are the owners of their entire medical history as documented by these records. With PicnicHealth collecting and managing their electronic health records, its users enjoy full control over their health data. Furthermore, compiling all these records from thousands of patients in a structured manner opens up enormous opportunities for research in important new ways.

Roche's partnership with PicnicHealth, launched in 2018, is designed to do exactly that, namely aggregate and curate valuable patient data and broaden the scientific insight. The centrepiece of Roche's collaboration with PicnicHealth is FlywheelMS, an

observational study that will combine retrospective (the past seven years) and prospective (up to five years going forward) electronic health records of 2,000 people living with multiple sclerosis (MS) into a single database. Nearly 1,200 participants have enrolled in the study. The health records will contain X-rays, lab values, MRI images and blood tests, but also information on comorbidities and therapeutic history.

The result will be a large dataset that can be analysed to facilitate a more granular understanding of how MS patients across the US are treated, how the disease is experienced by patients and what the different therapeutic outcomes are. While the first goal is to understand the disease better, the ultimate aim is to create better treatments tailored to the individual needs of patients.

In multiple sclerosis, large datasets of curated patient data can support a deeper understanding of how these patients are treated, how the disease is experienced by patients and what the different therapeutic outcomes are. The aim is to create better treatments tailored to the individual needs of patients.



Working with startups to bring disease management to a new level

Diagnostics play a leading role in both disease prevention and management, and helps face the increasingly complex healthcare challenges. This is evident as *in vitro* diagnostics influence approximately two thirds of all clinical decision-making, despite accounting for only about 2% of the total healthcare spending.

With evolving digital technologies and the advent of digital health, Roche saw the opportunity to expand its diagnostics portfolio to include new digital solutions, thus complementing, and sometimes challenging, its traditional innovation approach. This is why Roche decided to seek new ways of cooperating with startups which bring complementary strengths to the table such as out-of-the-box thinking, breakthrough technologies and novel digital tools.

Therefore, Roche took the decision to initiate and sponsor Startup Creasphere, which was launched in 2018. Since then, it has developed into the largest hub for digital health innovation in Europe. By the end of 2019, almost 30 startups had participated in one of the 12-week Creasphere accelerator programmes (referred to as 'batches'), working on pilot projects together with Roche. The aim is to develop digital health solutions that challenge and optimise clinical practices, improve data analytics and help patients on their individual journeys.

Clinical artificial intelligence to identify people at high risk for CRC

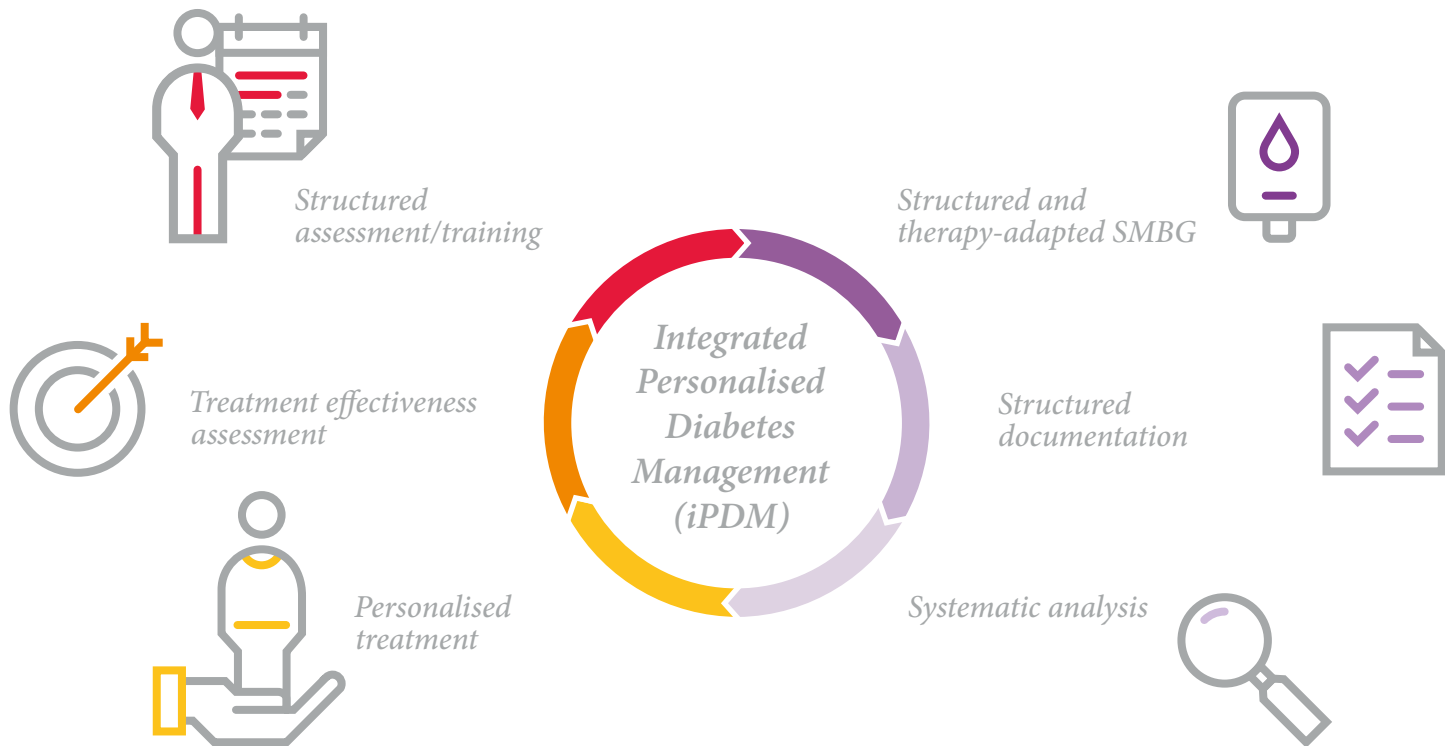
Colorectal cancer (CRC) is the second leading cause of cancer death with more than 860,000 deaths worldwide in 2018. Whilst treatment options have improved over the last decades, screening tools have stagnated, with colonoscopy being the gold standard. One of the key diagnostic challenges for

CRC is to improve the screening rate, which is currently lower than 40% in most developed countries. Another challenge is to detect tumours early, even at a precancerous stage, and direct patients to an appropriate medical follow-up. In order to better address this specific unmet medical need within CRC, Roche is piloting a machine learning-based clinical algorithm at Medilab in Salzburg, Austria. The algorithms developed by Medial EarlySign, Israel, are risk assessment tools which identify high-risk individuals for CRC based on the standard laboratory test parameters of a complete blood count plus patient age and gender. It addresses the non-compliant population for screening when patients are still asymptomatic, and acts as a safety net for those people. A positive result should be followed by further evaluation based on the clinical judgement of the care provider. The pilot, once completed, will provide Roche with its first experience of the application of machine learning-based clinical algorithms in the private lab environment.

Diabetes: creating an open ecosystem for value-based care

Diabetes is a chronic disease with one of the highest prevalence rates worldwide (around 500 million people are affected), displaying staggering growth rates in many countries (especially in Africa, South East Asia, the Middle East and Latin America).

Roche is very active in this field and has been a pioneer in innovative diabetes technologies for more than 40 years. Under the brand Accu-Chek, it is the world leader in blood glucose monitoring with glucose meters, test strips and lancing devices. It offers an established portfolio of insulin delivery systems with insulin pumps and infusion sets. While the diagnosis and treatment of diabetes has made great strides in recent years, many people with diabetes are still failing to reach their therapeutic goals. This is



Significant improvements in HbA1c, higher patient and physician satisfaction rates and increased patient adherence when compared to control groups are the result of integrated Personalised Diabetes Management approaches. (SMBG: self-monitoring of blood glucose)

because diabetes is a highly complex condition that is difficult to control and manage, and many people are developing serious, diabetes-related health complications much earlier than would be the case with an individually tailored, optimal disease management approach.

In view of this complexity, an integrated Personalised Diabetes Management (iPDM) is necessary. In order to shape and advance the way diabetes care is provided in the future, Roche is creating a leading, open ecosystem for iPDM, and has already made significant progress. A broad range of partners, experts and solution providers are contributing to Roche's open ecosystem, with the aim of broadening and accelerating access to better diabetes care around the globe. The key words in this context are connection and integration: integrating relevant data and connecting devices but also technologies and analytics in this one system.

One recent example of Roche's commitment to driving iPDM is the distribution of the long-term insertable Eversense Continuous Glucose Monitoring (CGM) system from Senseonics. This is a partnership that the two companies announced in late 2018 and

extended in early 2019 to include numerous countries. The integration of this CGM data into mySugr, Roche's world-leading mobile diabetes management application, since May 2019 is an important step.

Therefore, the strategy is to create the leading open ecosystem of personalised diabetes management solutions that are embedded in a fully connected data and analytics platform with a view to offering outcome-based, easy-to-handle care solutions that support healthcare professionals and bring true relief to people with diabetes.

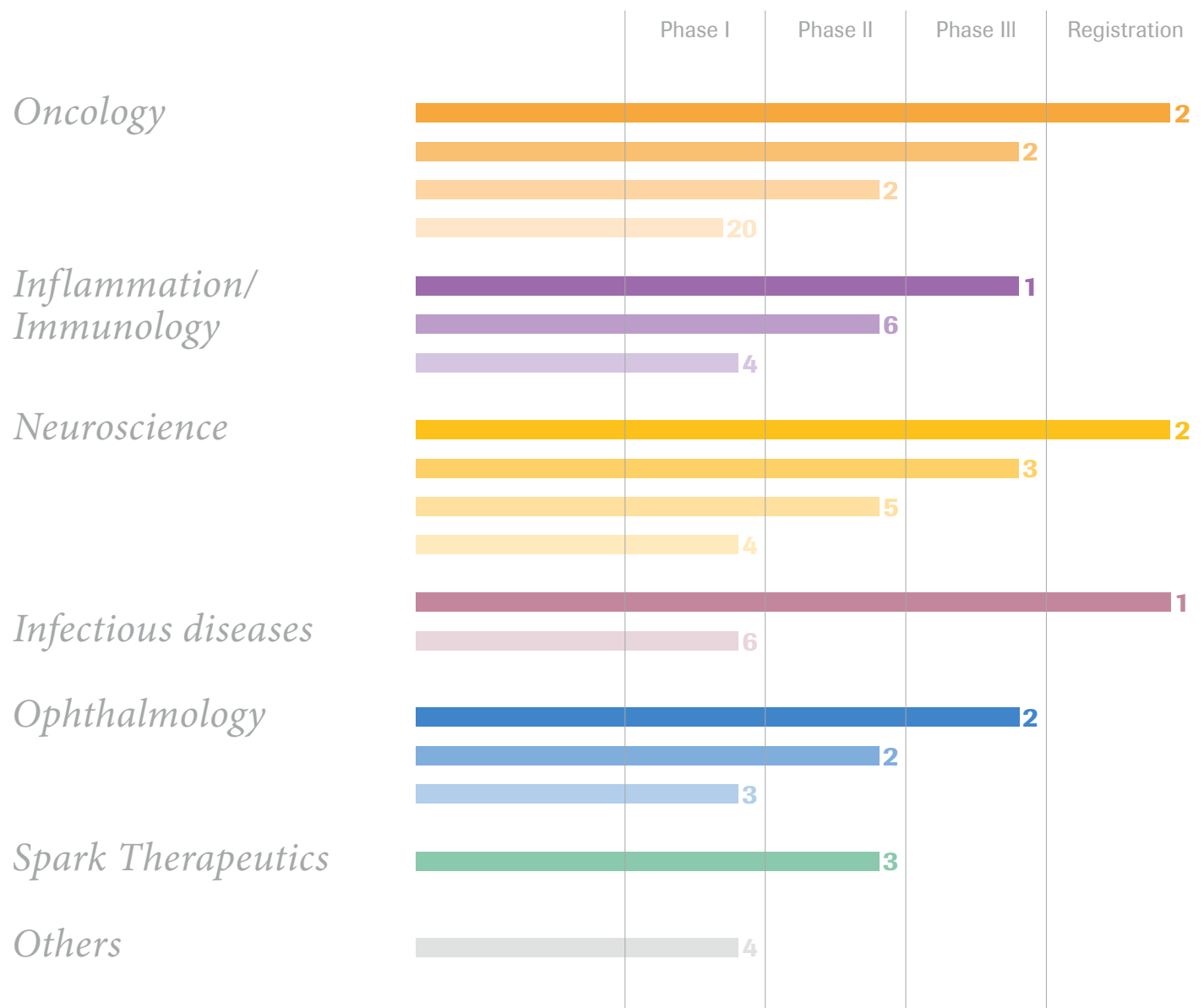
Importance of intellectual property for innovation

In 2019, again Roche invested almost a fifth of its annual sales in R&D. This follows on investments of a similar ratio in previous years to provide new therapies, diagnostic tests and services to people in need. These investments are also the basis for our long-term commercial success.

In order to allow for this continued investment, patents and other intellectual property rights provide time-limited exclusivity for innovations. The disclosure of inventions in patents fosters the development of new and improved therapies.

Pharmaceuticals clinical pipeline

31 FDA breakthrough therapy designations granted since 2013.



Our pipeline of 72 new molecular entities covers a broad range of diseases, and highly innovative technologies are applied to create and produce the active molecules.



“I am a child in a wheelchair, but I am not ill.”

Victoria, school student, Switzerland

I am nine years old and go to school in my village in Switzerland. At school I have a personal assistant who helps me with everything I cannot do such as changing my shoes, taking off my coat or gloves, giving me my books or helping me write when I get very tired. I live with spinal muscular atrophy (SMA). I am in a wheelchair.

I enjoy school a lot and my favourite subjects are German, maths and music. When my classmates go out for sports, I go for my physiotherapy sessions. I have good friends at school; one of them is also in a wheelchair. She has SMA, too, and is a few years older than me. But we have a lot of fun when we are together. My younger sister Sophia is four years old. She just started kindergarten this year. She does not have SMA. I like to see her running and I am not jealous of her. We form a great team at home. I usually give her instructions and she helps me do what I want. We also have Maja, our cat, at home. She is shy but I spent a lot of time taming her. Now she comes close to my hands and I can pet her.

I live with SMA which results in me not having enough strength to walk or do some other things. I will get weaker as I grow older. I am not really afraid of the future, but it is a strange feeling. My parents explained what SMA is to me. But I know it myself because I live with it every day. When I need to play with something and cannot reach it, that is

annoying. Sometimes, I think it would be nice if I could walk. I am a child in a wheelchair, but I am not ill.

What bothers me more is that I am always dependent on help. This means that I am always having to wait for support. In addition to the personal assistant at school, I have other helpers who come in once or twice a month to help me with showering and brushing my teeth while I am still a child. This will help me to deal with different people around me when I grow up. But I get the most help from my parents, my sister and my grandparents.

Earlier this year I had an operation for scoliosis. Now I have two titanium rods in my back. On top of all the other appointments that I have on a weekly basis, I now also have to go to the doctor every three months to grow a few millimetres. He extends the rods with a magnet a little bit each time. I was afraid at first, but soon learnt that it did not hurt.

Children with SMA like me will never be running around like other kids. But I hope that we will be able to move our arms around more. I don't think there is a cure, but scientists could try and produce a medicine that stabilises us. For those like me, who can still move a little, this is already an improvement. Companies should make medicines that help children and adults live a good and joyful life.



Experience Victoria telling her story.

Scan the images with the Xtend app to watch the video.



Sustainable Development Goals

1 NO POVERTY



3 GOOD HEALTH AND WELL-BEING



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



17 PARTNERSHIPS FOR THE GOALS



Access to healthcare

*Our innovations are meaningless if they are
out of reach to those in need.*

We want to ensure sustainable access.

This picture stems from the photo competition 'Faces of hope', initiated by Roche Pakistan. Amateur and professional photographers captured emotions of people recovering from a disease and those who care for them.

Material topics covered in this chapter

Sustainable healthcare systems

Availability of healthcare

Affordability of healthcare

Partnerships—the basis for success

In order to tackle complex access challenges successfully, collaboration with multiple stakeholders is essential.

At Roche, patients are at the heart of everything we do. We are acutely aware that, no matter how innovative and effective a medicine may be, it is meaningless if those who need it are unable to access it. That is why we are committed to facilitating rapid, broad, sustainable access to our innovations, on a global scale.

In order to tackle this complex challenge successfully, it is essential to collaborate with a range of stakeholders and focus on the root causes of access barriers. Roche teams working on improving access do so in close collaboration with healthcare systems, government agencies, patient advocacy groups, and other organisations.

Although affordability can be a barrier to accessing treatment, once we look into the root causes behind the lack of access to care, we often see that there are a number of different factors to consider. For instance, awareness of symptoms and screening or diagnostic and treatment capacity. These core barriers exist in various forms and degrees from one location to the next.

Throughout 2019, Roche continued to make progress on several ongoing access initiatives, embraced many new programmes and concentrated on facilitating access for the patients who need it most. Moreover, we are proud to have been acknowledged as the industry leader in the category ‘Strategy to

Improve Access to Drugs or Products’ by the 2019 Dow Jones Sustainability Indices in recognition of our efforts in this field.

Addressing affordability in the interest of patients

Through multiple programmes and approaches, we are working to ensure that successful treatment is not restricted by finances.

Roche works in close partnership with governments, healthcare systems and other decision-makers to adjust costs and help make sure that medicines are affordable on a sustainable basis.

These adjustments are based on multiple criteria, including a country’s GDP (Gross Domestic Product) or PPP (Purchasing Power Parity) and its per capita public healthcare expenditure. This calculation also considers a country’s position on the Human Development Index that was created by the United Nations Development Programme to emphasise that ‘people and their capabilities should be the ultimate criteria for assessing the development of a country, not economic growth alone’.¹

Patient support programmes

Access to cancer medicines in Pakistan—the Unmol Programme

Named after the Urdu word for ‘precious’, the Unmol Programme offers a sustainable financial solution for cancer patients in Pakistan, where the average



New diagnostic tests and next-generation medicines represent options for unmet needs and they have the potential to increase the number of patients requiring support in accessing these therapies.

income per capita is as low as USD 1,629 per year, healthcare only makes up 2.8% of the GDP and patients must pay for treatment out of their own pocket.

Some of Roche's most well-known cancer medicines are included in this programme. The Pakistan Federal Government covers 50% of the cost of treatment for the neediest patients, with Roche Pakistan providing the remainder of the treatment free of charge. By the end of 2019, the programme had benefited approximately 8,650 patients.

The Genentech Patient Foundation

US-based Genentech, a member of the Roche Group, is committed to ensuring that Americans have

access to its medicines irrespective of their ability to pay. Over the last 20 years, Genentech has helped more than two million patients access medicines.

The Genentech Patient Foundation provides its medicines for free to people who meet certain financial criteria and do not have insurance, whose insurance will not cover a Genentech medicine and who cannot afford our medicine. Every year, the foundation provides much-needed medication to more than 60,000 patients free of charge.

As we add innovations to our portfolio, the number of patients who need help accessing these medicines is likely to increase, and we plan to expand our programmes accordingly.

¹ United Nations Development Programme: <http://hdr.undp.org/en/content/human-development-index-hdi>



Roche supports the Global Access Program since 2014 with the aim of significantly increasing the availability of HIV testing and supporting efforts to fight AIDS. In 2019, this successful programme was extended to tackle additional infectious diseases.

Structured donation programmes

We are committed to working with partners across the healthcare sector to find solutions that will be sustainable for all. One example is our efforts to address gaps in care and provide consistent and predictable access to treatment for people with haemophilia A.

Roche has joined the European Haemophilia Consortium (EHC) Partners Programme, which focuses on sustainably improving access and quality of care for haemophilia A and B in EHC partner countries in Europe and Central Asia.

Moreover, in February 2019 Roche joined the World Federation of Hemophilia's (WFH) Humanitarian Aid Program, a landmark initiative leading the efforts to remedy the lack of access to care and treatment for people with hereditary bleeding disorders in

developing countries. Roche's participation in the WFH Humanitarian Aid Program consists of a donation of Hemlibra and funding to support the WFH Program's integrated care development training. Our donation will substantially increase access by providing prophylactic treatment to as many as 1,000 people with haemophilia A over five years in countries where there is little or no treatment available.

Improving access to diagnostic tests

Limited access to diagnostic resources leads to the spread of preventable diseases and the loss of life. In developing countries, lack of screening, early detection and resources to prevent transmission are the leading causes of deaths from infectious diseases.

The Global Access Program was established in 2014 to increase access to diagnostic testing in line with

the UNAIDS 90-90-90 goal. The aim is that by 2020, 90% of all people living with HIV will know their disease status, 90% of all those diagnosed with the HIV infection will receive sustained antiretroviral therapy, and 90% of all those receiving antiretroviral therapy will have viral suppression.

Working in collaboration with global partners, the programme has been highly successful in providing access to testing, training healthcare workers and boosting the capacity of the healthcare system.

In 2019, Roche expanded the programme to include tests for tuberculosis, hepatitis B and C and human papillomavirus (HPV), the leading cause of cervical cancer. This involved collaborating with the Clinton Health Access Initiative and the Foundation for Innovative New Diagnostics, and others.

The expansion of the Global Access Program is aimed at helping the WHO meet its disease elimination targets for hepatitis, cervical cancer and tuberculosis.

Increasing outcome certainty for healthcare systems

When we clearly understand the clinical, financial and other outcomes of a treatment, we can equip healthcare systems in such a way as to facilitate fully informed decisions about the most effective ways to allocate resources. Our process of developing outcome-based agreements with payers results in flexible pricing systems.

One successful example is the Cancer Immunotherapy (CIT) Framework in Belgium. Roche is working with the Belgian Minister of Health and other partners to help patients access effective immunotherapy treatments almost one year earlier than would otherwise be possible under a standard reimbursement

procedure. Prior to the CIT Framework, approximately 500 patients had access to immunotherapy. With the new framework, an estimated 10,000 patients will have access over a three-year period.

Roche works with payers to devise financial arrangements rooted in the actual outcomes that medicines deliver—the differences they make in the day-to-day lives of patients.

We combine the results of clinical trials with real-world evidence, which includes quality of life, the socio-economic impact and much more. This combined information helps payers allocate resources according to the actual overall benefit a treatment provides, rather than spending money where they hope it will have the most impact.

By linking payment agreements to outcomes, we can better ensure that scarce healthcare resources are directed to treatments that are most effective.

For example, in 2019, Roche supported three local studies to generate data for Avastin first-line treatment of lung cancer in China. Avastin received technical approval from the Chinese National Medical Products Administration, providing over 70,000 Chinese patients with access.

20 times

as many patients will have access to cancer immunotherapy in Belgium thanks to collaborative efforts.

Meeting patient needs in low- and middle-income countries

Patients in low- and middle-income countries face a range of barriers to receiving vital medical care in a timely manner, including:

- Disease awareness—does the patient know they have contracted the illness?
- Timely diagnosis—has a diagnosis been made early enough for treatment to be effective?
- Funding challenges—are resources available to enable the patient to receive treatment?

The World Health Organization and the World Bank estimate that half of the global population—an estimated 3.5 billion people—do not have access to essential health services. Additionally, the Access to Medicine Foundation estimates that two billion people do not have access to essential medicines. As a partner to these and other organisations, Roche is committed to addressing access challenges through a range of programmes.

Access Accelerated initiative

Non-communicable diseases (NCDs) are the fastest growing diseases in low- and middle-income countries and cause extensive economic and social hardships.

This collaboration among more than 20 healthcare and pharmaceutical companies from Europe, Japan and North America works towards a future where anyone living with an NCD has access to high-quality treatment and care. This mission is aligned with United Nations Sustainable Development Goals 3.4 and 3.8, which focus on NCDs and universal health coverage.

In 2018, the initiative issued ‘Access Accelerated in Action: Key Learnings in Program Design and Implementation’, a report outlining principles for good programme design and highlighting examples of their successful implementation. In 2019, Roche launched a partnership with Boston University to develop projects that build upon the metrics framework provided in the report. These projects will be reported to the Boston University Access Observatory, a publicly available database covering public-private industry partnerships that aim to improve access to preventive and treatment services in low- and middle-income countries.

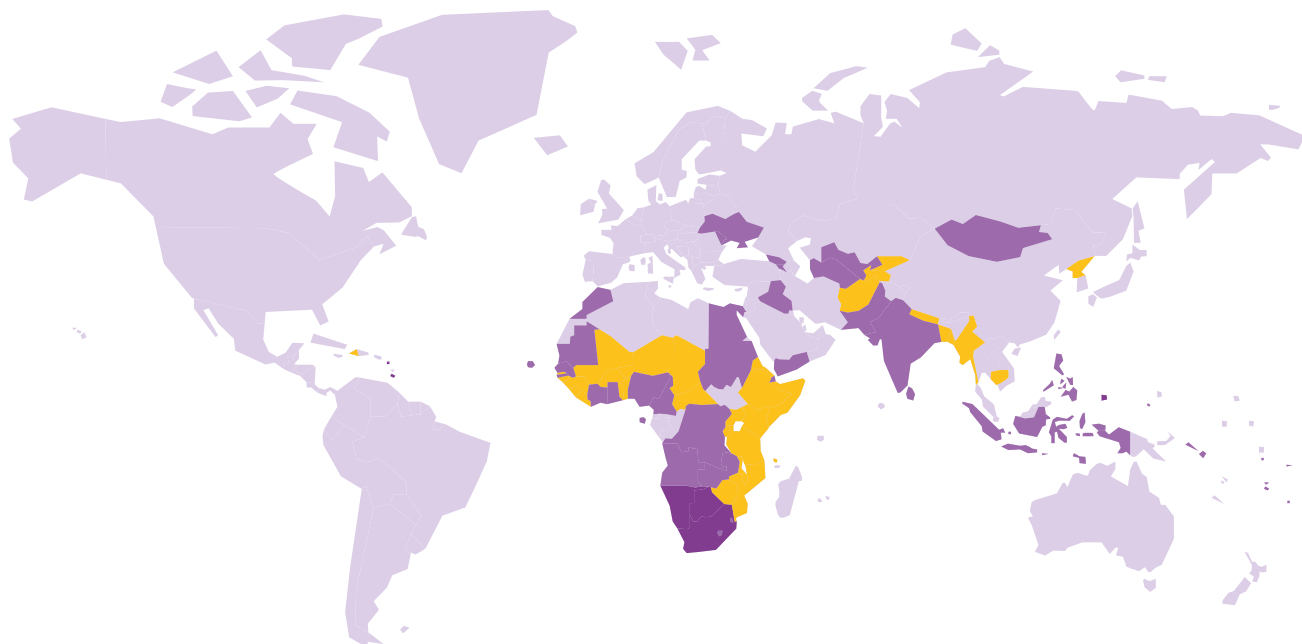
City Cancer Challenge (C/Can) 2025

This multi-sector initiative supports cities in the design, planning and implementation of cancer treatment solutions to reduce premature deaths from NCDs by 25% by 2025.

Specifically, the project is advancing city-based oncology in Asunción (Paraguay), Cali (Colombia), Kumasi (Ghana) and Yangon (Myanmar). These cities serve a combined population of more than 25 million.

Initial efforts have already been effective. In Cali, for example, the C/Can needs assessment led to the allocation of USD 20 million for diagnostic equipment. And in Asunción it resulted in the adoption of a national cancer law.

Roche is the leading industry partner in the plans to expand the C/Can initiative to include 20 cities by 2020 with a view to developing and launching



In more than 80 low- to middle-income countries the Global Access Program supports efforts to fight infectious diseases.

- Low-income countries
- Lower middle-income countries
- Upper middle-income countries

a C/Can model that can be upscaled globally. Kigali (Rwanda), Porto Alegre (Brazil) and Tbilisi (Georgia) became the first cities to take part in the next phase, while León (Mexico) and Greater Petaling (Malaysia) recently joined the C/Can programme.

As of late 2019, C/Can serves 43.5 million people, has engaged with 1,286 healthcare professionals, mobilised over 50 local organisations and is currently involving 757 patients in the needs assessment process in the current cities.

In each city, C/Can works with civil society and patient organisations to ensure that the patient voice

and perspective is part of the needs assessment process. Through focus group discussions and patient-focused events, we gather information from patients on their experience of cancer care services in the city, and specifically what the greatest barriers and challenges have been for them in accessing quality cancer care services.

Needs assessments are generating data that can be used to develop evidence-based cancer policies. As of January 2019, more than 1,100 data points from assessments were being collected and stored, providing capacity for real-time analysis and reporting.



“We had to improve the supply chain that was resulting in cost markups and putting modern cancer therapies out of reach.”

Ladi Hameed, Roche, Nigeria

The best medicine can be of little worth to patients if it does not reach them on time. Imagine, if you have to pay every cent of your healthcare costs and you make less than a dollar a day. This was the reality for many in Nigeria. One of the primary reasons for this was a broken or suboptimal supply chain which sometimes led to cost markups of between 40% and 700%. Some of our leading physicians even told us that they were reluctant to prescribe these medicines because they were out of reach of most patients.

We were one of the first Roche affiliates in sub-Saharan Africa to take action. One of the main problems we faced was having multiple distribution levels. In Nigeria we would go from a main distributor to a sub-distributor to several sub-distributors before finally getting to the end user in the hospital. We had to improve the supply chain, which was driving up costs and putting modern cancer therapies out of reach.

First of all, each individual throughout this complex distribution chain would add markups of 5%–10% on the cost of these medicines. Secondly, there was concern about the quality of the products because often the cold chain was a weak link. The third major problem: The drugs were not imported directly by us, but by the distributor on our behalf, which kept pushing up the costs. That meant we had no control. Any currency fluctuation would immediately be

transferred to the patients, who were paying out of their own pockets. At one stage, they were paying a difference of between USD 200 and 500 every month for well-known breast cancer and blood cancer medicines.

One of the major changes we made involved our business model. Roche Products Nigeria went from being a pure marketing services company to a buy-and-sell operation, meaning we could bring in the medicines ourselves. We took on the risk of forex fluctuations upon ourselves. Importantly, we could supply the crucial medicines to the hospital pharmacies directly without constantly affecting the prices. With this step we removed several layers of markups and that brought an almost 50% reduction in the price of some of the medicines immediately.

That having been achieved, we at Roche Nigeria were empowered to approach the state and federal governments and open discussions on reimbursement and how to make sure patients were receiving the therapies their doctors thought were best for them. As a start, some state governments agreed to cover the treatment costs for 20 breast cancer patients. We discussed with the federal government to create a fund for critical illnesses. The number of patients who could access Roche’s modern medicines rose from 105 in 2016 to 232 in 2017 before almost doubling to 431 in 2018.



Sustainable Development Goals



Our people

Working together supports what we can collectively and sustainably create.

We make an impact on society.

Building 1 in Basel, Switzerland, provides a layout with café-style tables for informal meetings.

Material topics covered in this chapter

Talent attraction and retention

Organisational agility

Patient centricity

Working together to help patients

Working for Roche gives us the opportunity to enhance the early diagnosis of diseases and improve the health of patients.

With this clear and meaningful purpose, our people come to work each day with passion, energy and creativity, all focused on making truly differentiated contributions.

The Roche culture serves as a common foundation for who we are and defines us as a company. It embodies the values people expect of each other in the workplace—courage, integrity and passion—and sets high standards and expectations for and from our people around the globe.

Employee engagement and feedback provide strong indicators of how a company culture is being lived in reality. Roche has conducted periodic Global Employee Opinion Surveys (GEOS) since 2011. In 2019, we introduced a new engagement tool in partnership with Glint. 86% of all Roche employees participated, and the results below refer to all employees who took the survey. We asked employees a fundamental question: “How happy are you working at Roche?” 83% of employees responded that they were happy. Moreover, 89% of employees believe that the work they accomplish at Roche has a positive impact on society.

These numbers are impressively high and, coupled with a high degree of confidence in Roche’s future prospects, serve as a sound basis for the ongoing work on our transformation to render our processes simpler and more focused. In addition, 81% of people working at Roche share the opinion that the company offers a

healthy workplace and 75% feel that the company has a genuine interest in their wellbeing.

Working together means more than sharing common values. It also means seeking out and valuing each other’s diversity and working together to achieve an even greater impact. In the survey, 84% of employees said that they were treated with respect and dignity. This is a testament to what has been part of the Roche culture for over 120 years—a deep focus on and commitment to our people.

Preparing people and the organisation for the future

Our employees believe that Roche has a great culture and take our purpose to heart—*Doing now what patients need next*. This foundation is vital to how we think, prepare, leverage opportunities and confront challenges with even greater confidence, creativity and focus.

Our new People Practices, which were introduced two years ago and have been embedded across the organisation, are an important element of this solid foundation. The focus on more agile goal-setting and frequent, meaningful conversations between employees and their managers has enabled Roche to adapt more nimbly to the fast-paced changes and rapidly arising opportunities, including digitalisation. These enhanced capabilities will enable us to bring groundbreaking diagnostics and medicines to more patients faster.



Finding innovative solutions for medical needs is at the heart of what we do. Our ideas and research help save lives.

Kinesis: shift mindsets of leaders

Ensuring that our new approach to leadership is the very best it can be is an important part of Roche's readiness for the future and ensuring we remain a highly attractive employer. To this end, we introduced Kinesis nearly three years ago. This leadership development programme is designed to shift mindsets and introduce tangible approaches that will help transform Roche to a more agile organisation. Kinesis consists of two parts. The first part is a programme designed to offer leaders deep insights into their own behavioural patterns. 780 senior leaders, including

general managers, functional heads, and scientific and technical leaders, have participated since 2017. The second part encourages leaders to apply the insights from the first part more profoundly in their area of the company, supported by an internal, self-organised Agility Working Group. More than 8,000 employees, nominated by the senior leaders, have taken part in at least one of these programmes. In 2019, 145 senior leaders participated in the next level of Kinesis, called Synergy, which focuses on sustaining Roche's transformation and operating in a highly networked, dynamic setting.

Impacting healthcare with leadership development

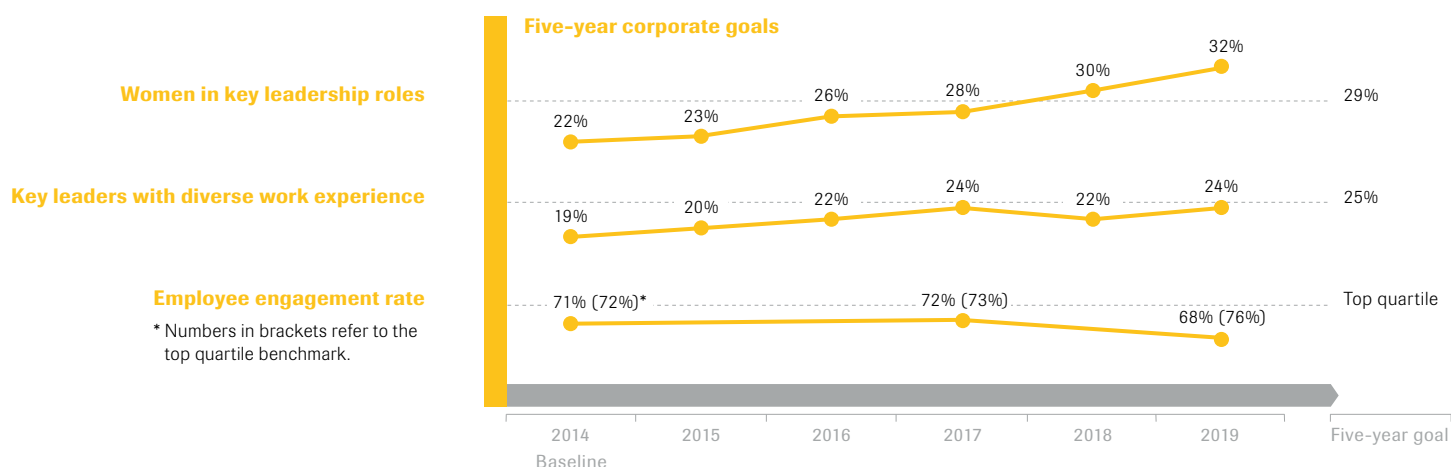
The NJIA (Kiswahili for 'path') leadership development programme is yet another way in which we are preparing leaders for more agile ways of working in an increasingly unpredictable environment. The programme, which is run in collaboration with NGOs and governmental institutions in Tanzania, was launched in 2015 with the goal of tackling the cervical cancer burden in the country's Kagera region through leadership development. Thanks to NJIA's

success there, with the number of cervical cancer screenings increasing threefold compared to other regions, and the positive feedback from participants and partners, the programme is now being introduced in India.

Change and a new environment require us to learn every day. Employees must have access to learning tools that offer the right content, in the right format, at the right time. The introduction of Cornerstone,

Studies show that nowadays we spend less than 45% of our working day at our desk.





our global learning system, in September 2019 has paved the way for a new approach to learning. Starting with essential training, in the long term the system offers modern learning techniques and makes it easy for people to know what kind of training is relevant at a certain time. The evolving learning strategy is also supported by the piloting of LinkedIn Learning and Humu at Roche in 2019. These platforms will provide thousands of online learning resources for employees. The results of the pilot projects will help us explore further scaling potential across the organisation for 2020.

Personalised professional journeys

One element of these efforts to adopt a new mindset and adapt to changing employee needs is focused on career development. A company that operates with increased agility and flatter hierarchies also requires new approaches to career development. In 2019, a new, more personalised career philosophy was introduced across Roche focusing on what each individual requires to lead a fulfilled professional life while working towards the common purpose of improving healthcare. What this entails can vary, depending on the particular phase in the person's life and career, as well as on their unique interests and capabilities. One approach might include gaining experience in another department or location at Roche via specific projects or a particular development programme. No matter how each individual decides to move forward, all of our career journeys at Roche require a healthy dose of curiosity and self-awareness, and a hunger to keep learning every single day.

Five-year corporate goals

The five-year corporate goals (2015–2019) include three goals as indicators of a great place to work:

Roche has conducted periodic Global Employee Opinion Surveys (GEOS) since 2011. For the period 2015–2019, we set the goal to be in the top quartile of benchmark companies in terms of employee engagement. During the five-year period, the employee engagement was measured using methodology from AON Hewitt and, in the final year, also from Glint. With the change to Glint, we gain deeper insights through the extensive comments possible with each survey question and more frequent and targeted pulse-checks. Please see key results from the Glint survey on page 70.

Diversity and Inclusion are also part our overall corporate goals in two dimensions. Firstly, we have a goal to increase the number of women in key leadership positions by 30%, and, secondly, to increase the number of key position incumbents with experience in both developing and established regions by 30%. We achieved the five-year goal on gender diversity a year early, in 2018. On the key position incumbents with diverse experience, we made good progress in the first three years, although we fell short of meeting our overall target.

Working in new ways to advance healthcare

When employees can be their true selves at work, feel part of an empowered team with a shared purpose, and use their collective capabilities, expertise and creativity to find meaningful solutions, Roche is well positioned to achieve its mission of bringing new medicines and diagnostics to patients faster and better. This is at the heart of agility at Roche.

The ReImagineD transformation project, undertaken by the Pharma Product Development organisation, is a case in point. The goal was to bring medicines to patients faster by accelerating their development without compromising on quality.

Simplifying processes was considered key to this acceleration. Therefore, instead of the static decision

points with approval committees previously used in early development, the team decided to approach decisions on an 'as needed' basis, involving experts only when clearly required. This increased the sense of ownership and accountability of those working on different projects, as well as the quality and speed of decision-making. One example where the benefit of such an agile approach was seen was in the case of Tecentriq in triple-negative breast cancer, where the team filed for FDA approval in less than 12 weeks instead of the more usual 24.

Similarly, the life cycle teams that comprise a variety of experts and decide upon the future development of a product began to work differently. Attendance is based on need, which frees up time for people who are not required for a specific topic under discussion. This makes the entire process more efficient and easier for people who often work in different countries and time zones.

This new way of working requires experts who have a holistic view, in addition to their deep expertise, and who are open about what they have learned from past failures. They are willing to share their experiences with others. This enables the broader community to learn quickly and build on past achievements, rather than 'reinventing the wheel' every time. It also empowers the team to potentially halt projects and devote their attention to priority initiatives.

Ensuring that Roche is a great place to work

A successful company that strives to be a place where talented people want to work must offer an inclusive and healthy work environment, good working conditions and effective methods of dealing with change and transformation.

Sustainable Development Goal



The United Nation's Sustainable Development Goal 3: "Ensure healthy lives and promote wellbeing for all at all ages" is also important in the workplace. Roche has been supporting this goal with a number of initiatives. The Live Well campaign, for example, which was held in September 2019, translated the theme 'Healthy Relationships' into local activities that fit the needs of Roche's own employees and the cultural setting. Across 122 different sites, the project included programmes devoted to healthy nutrition, psychological counselling or courses on resilience. The aim of the campaign was to raise awareness of the diverse Live Well events which take place throughout the year at each site.



Supporting gender parity is one way in which we are working to create a diverse and inclusive culture.

Resilience and the ability to maintain a balanced attitude towards work and new technologies are key. An essential element of a healthy sense of balance is the feeling of being respected for individuality and diversity, the ability to bring one's authentic self to work every day. This sense is strengthened when coupled with a feeling of belonging to a team that works towards a common purpose.

As part of its commitment to be the place to work and drive innovation, Roche is dedicated to supporting diversity and inclusion, and works in accordance with UN Sustainable Development Goal 5: "Achieve gender equality and empower all women and girls". Roche promoted equal opportunities and measured how many women reach leadership positions, a key step towards equality.

One concrete effort to continuously raise awareness around diversity and inclusion was the International Women's Day, which is celebrated worldwide in March. Thirty women's networks that exist at Roche engaged in dialogue with colleagues—irrespective of gender—on the topic of equality, diversity and inclusion.

The second Global Diversity and Inclusion Week, an additional milestone of Roche's commitment, took place in October 2019. The event included sessions covering mental health, inclusive leadership and more. All of the global sessions were conducted virtually, allowing all Roche employees to participate, no matter where they were located. The week brought together employees across Roche with the objective to emphasise the importance of diversity and inclusion to our future success.

Sustainable Development Goals

6 CLEAN WATER AND SANITATION



7 AFFORDABLE AND CLEAN ENERGY



13 CLIMATE ACTION





Environment

Roche seeks more sustainable technologies to minimise its impact on the environment.

We are acting now.

Photovoltaic array on a new car park building at our site in Kaiseraugst, Switzerland.

Material topics covered in this chapter

Energy efficiency

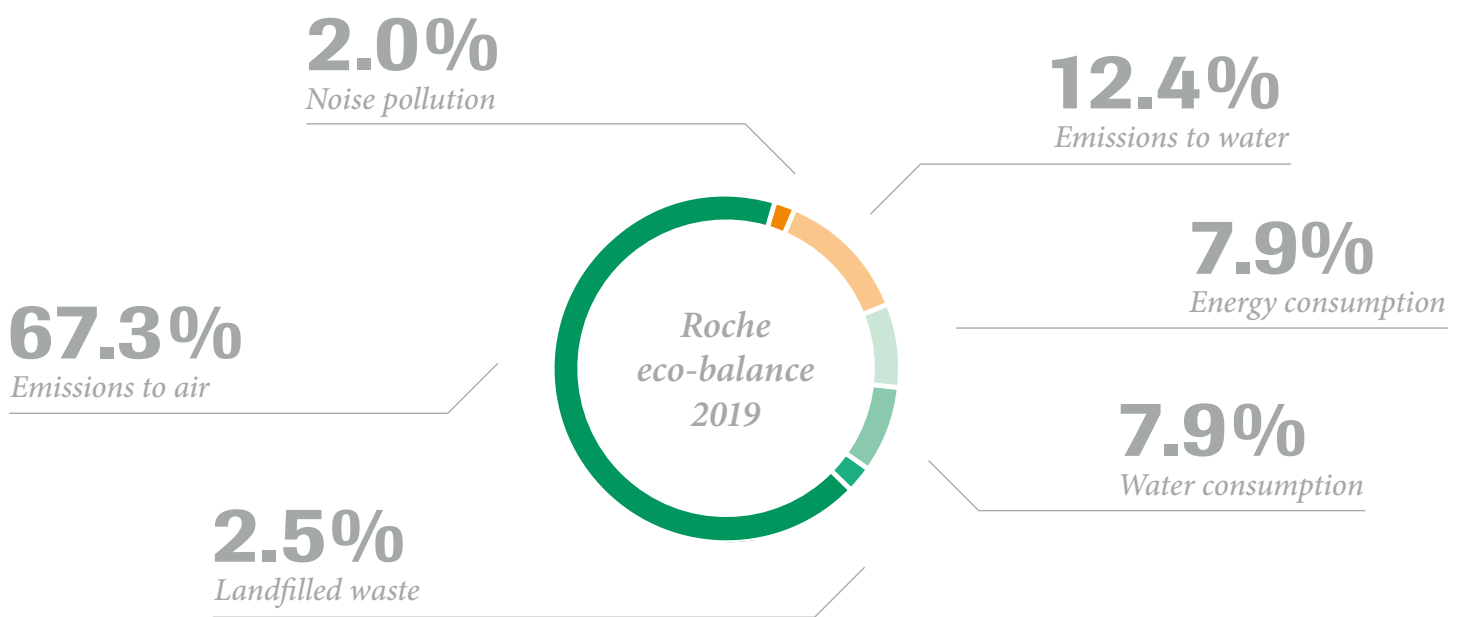
Long-term mindset

Minimising our impact on the ecosystem

We take responsibility and appropriate measures to address the most pressing environmental issues.

Our commitment to the environment is not just about reducing the amount of waste or using less energy, but also developing processes that will make our business more sustainable. Roche's process for mitigating any environmental risk is multi-disciplinary and focuses on prevention. It is a system which is proactive and reduces costs, increases efficiency and enhances competitiveness. The Group Safety, Security, Health and Environmental Protection (SHE) department's audit team, as well

as environmental specialists, inspect our facilities' environmental performance, the implementation of our environmental policy and their compliance with legal requirements and internal standards. We are committed to monitoring our performance continuously, and our aim is to cover at least 95% of each key performance indicator. By doing so, we ensure compliance with our high standards and objectives and guarantee that our processes and equipment are state of the art.





The solar power programmes of Genentech, a member of the Roche Group, make the organisation the largest corporate generator of solar energy in the San Francisco Bay Area.

We have developed a clear and defined process to minimise our environmental impact by setting and initiating action plans. From 2014 to 2019, Roche focused on reducing its environmental impact. We measure our total environmental impact using the eco-balance metric, which is a system of points allocated to ecologically relevant parameters.¹ From the consumption of energy and resources to the emission of by-products and waste from our business activities, the eco-balance considers many environmental parameters, the impact of which

we are striving to reduce in many ways. This metric provides us with a global view of how we are affecting the Earth's ecosystems and gives the local site management the freedom to develop appropriate strategies and objectives to curb their environmental impact. The Group's eco-balance goal was achieved in 2016. Product stewardship and sustainable construction are two long-term initiatives that have significantly contributed to the eco-balance and reduced our environmental impact.

¹ Developed by the Swiss Federal Office for the Environment; we are compliant with their latest guidelines.

Product stewardship

Our main contribution to society is to deliver innovative diagnostic tests and medicines that save and improve lives, but we also do more. We take responsibility, along with other stakeholders, to minimise the impact of our medicines and diagnostic products on safety, security, health and the environment throughout the entire product life cycle. This is the essence of product stewardship. It actively supports sustainability programmes, which are an important part of Roche's R&D activities and drug manufacturing. Here, the use of environmentally friendly chemicals and materials and innovative technologies help minimise Roche's ecological footprint.

The outcome of product stewardship improves Roche's eco-balance during the development, production, distribution and use phases of a product, and there are other benefits, too. To address this broader range of impacts and complement the eco-balance score, Roche has developed a Product Stewardship Performance

(PSP) tool. Starting in 2020 the new tool will enable development teams to score (and improve) product design and performance at each stage of the product life cycle, with respect to important business, sustainability and product stewardship objectives. Taken together, the eco-balance and product stewardship scores paint a more complete picture of Roche's global sustainability impact from both its operations and products, and highlights areas where we have opportunities to improve further.

Innovative product design

The Diabetes Care design and process engineers redesigned the blood glucose monitoring strips, meters and packaging completely to improve material efficiency and reduce waste. The new innovative strip architecture resulted in a strip size that is 60% smaller than the prior version and has fewer components overall. The new design has reduced polyester usage by approximately 1,000 tonnes per annum. Moreover, new packaging bundles and configurations have improved the pack density by 35–45%, allowing more products to be shipped on skids and in tertiary containers. This reduces the distribution cost and environmental impact. Other optimisations were achieved by reducing the thickness and weight of the cardboard and paper for product information, increasing the use of recycled corrugated distribution components to 100% and utilising packaging materials that are certified by the Forest Stewardship Council.

Innovative packaging design

Our cancer drugs, such as Herceptin and Avastin, come with elaborate packaging to protect the product and accommodate the product information (typically one vial and one insert per package). Clinics accumulate large numbers of vials, which need to be stored in coolers, and vast quantities of packaging waste, which needs to be disposed of. Starting with

Sustainable Development Goals

6 CLEAN WATER AND SANITATION



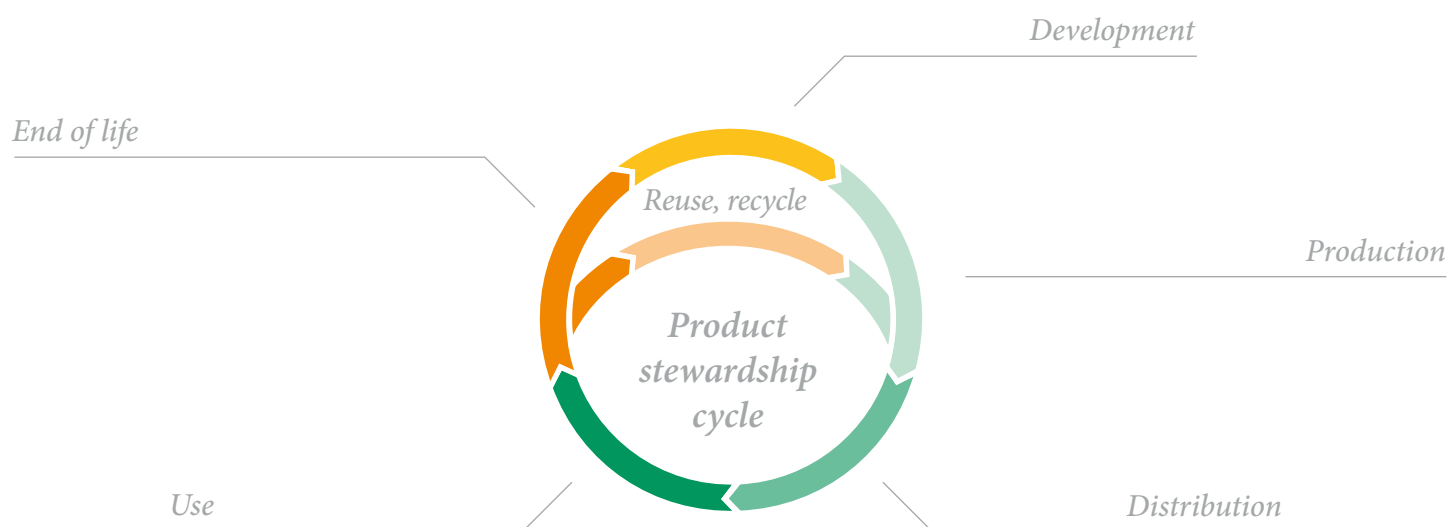
7 AFFORDABLE AND CLEAN ENERGY



13 CLIMATE ACTION



Roche's ECompetition gives employees the opportunity to submit ideas for environmental-protection activities. Suggestions for improving certain manufacturing processes have resulted in major cost savings, and other ideas, including measures to reduce energy consumption of air-conditioning systems, have proved useful at multiple sites. In the eighth edition of the competition in 2019, reducing energy consumption got the most interest as well as improving logistics both with respect to packaging and transportation concepts.



Product stewardship is the business process used for the management of products throughout their entire life cycle to ensure that our products are developed, produced, used and disposed of in a responsible manner.

the end user in mind, our Genentech engineers have developed a new generation of packaging known as GenPack, which comes in two sizes and can accommodate up to ten vials with a single insert in one package. Benefits for clinics include lower labour costs to put away the product, less packaging waste to manage and less consumption of packaging materials and inserts by Genentech. GenPack evolved from a winning idea submitted to an internal sustainability innovation competition.

Less waste in R&D

Scientific research is constantly evolving and when projects change or end, supplies and equipment languish on shelves and in cabinets. Once the storage space runs out, these items usually end up in the waste stream, which affects the eco-balance. To help reduce this waste and minimise the company's ecological footprint, Genentech hosts the annual Lab Supply Sidewalk Sale. Excess supplies and equipment are collected from laboratories across the South San Francisco campus for a one-day event, where all researchers can pick out the supplies they actually need. Any leftover supplies are donated to local schools. The programme has evolved over the years.

Researchers can donate excess supplies at any time, which are either directly repurposed within a centralised supply system or given to local schools through Genentech's partnership with BioLink Equipment Depot, a non-profit organisation dedicated to boosting scientific education with donated supplies and equipment. Since the programme started, we have actively diverted significant amounts of laboratory supply waste from landfill and positively impacted on local schools and their students.

Environmentally friendly medicines

MabThera/Rituxan, Avastin, Herceptin and Lucentis are monoclonal antibodies, which generated a large proportion of Roche's Group sales in 2019. They belong to a defined class of active pharmaceutical ingredients (APIs) exempt from the European Medicines Agency (EMA) guideline on environmental risk assessment. These products have a low excretion rate and are judged to present no significant risk to sewage works and surface waters. As such they are termed 'benign in nature' and constitute environmentally sustainable compounds. Nevertheless, all of our chemical products are subjected to a rigorous environmental risk assessment.

Sustainable construction

Roche is committed to creating a better workplace that benefits both the employee and the environment. Sustainable construction comprises structures, construction processes and occupancy processes that consider economic, environmental and sociocultural aspects throughout a building's life cycle. Employee productivity has been shown to increase in buildings offering more daylight, better views and better indoor air. Moreover, job seekers are increasingly paying attention to their new potential employer's stance on sustainability issues. Critical components of sustainable construction, such as reduced energy and water consumption and using renewable energy, are reflected in Roche's eco-balance. Since the turn of the millennium, Roche has been optimising its constructions to be energy-efficient with the aim of reducing greenhouse gas (GHG) emissions to zero by the middle of the century.

Roche has standardised sustainable construction in accordance with its own requirements and drawn up clear regulations to be implemented throughout Roche. A specially developed software tool makes it possible to carry out construction projects in compliance with

the relevant requirements. A building's entire performance can now be evaluated from the planning stage through to the end of its life cycle. Since 2006, guidelines and Group directives addressing energy conservation are in place and enforce a systematic approach towards improving the energy performance at all sites. They include energy efficiency standards for the design of new equipment, buildings and the optimisation of existing energy-consuming items.

Minimising energy use

To reduce operating energy consumption, the buildings are designed in such a way as to improve their energy performance. This also includes high-performance windows and extra insulation in walls, ceilings and doors. In addition, effective window placement can provide more natural light, reduce the need for electric lighting and minimise energy losses via the glass. In particular, highly efficient ventilation and air conditioning is instrumental to a building's energy performance. This approach is applied to new facilities across our global organisation. The newest office building in South San Francisco and production building in Mannheim were designed to provide optimal working conditions and operate on less energy than the standard. As a result, the buildings were awarded the LEED Gold certification and Platinum certificate, respectively, from the German Society for Sustainable Building.

LED lights, which are the lights of choice and 60% more efficient than high-efficiency fluorescent lamps, are fitted in Roche's buildings. This reduces operating expenses and waste, the results of which feed directly into the eco-balance, thereby minimising our ecological footprint. Another example of minimising energy use is the innovative façade on Building 1 in Basel. Triple thermal panes combined with a closed cavity of air and integrated sunscreens reduce glare and help insulate the interior from the heat and cold.

Sustainable Development Goal



At headquarters in Basel, our waste water is treated in a dedicated facility. However, antibiotics and buffer from biotech cannot be removed in such a way as to guarantee compliance with overall discharge permits for the river Rhine in all cases. A new approach was introduced that sends the waste water to a nano-filtration unit, thus concentrating the waste water and removing 70–99% of the critical components to comply with all permits.



Since 2010, a total of
1,672 projects
 have been completed, avoiding
 217,131 tonnes of CO₂ emissions. This
 has led to an estimated cost-saving of
 approximately CHF 51.7 million.

Sustainable energy sources

Building 1 in Basel is heated by energy recovered from manufacturing processes. Ground water, which remains at a constant temperature of 12 degrees Celsius, is used to cool the building in summer.

Approximately 30 Roche sites around the world source their electricity from either:

- Energy providers who generate electricity from water, solar or wind power.
- Solar panels installed on site. A solar panel system meets a percentage of the site's total electricity requirements. The rest comes from energy providers.

For example, the solar panel system in Suzhou, China, produces enough electricity from sunlight to cover almost 80% of the administrative building's energy needs, which is equivalent to power almost 500 private households for an entire year. Three of Roche's sites in California have successfully installed solar arrays within the last few years and, as of mid-2019, they had generated approximately 250,000 GJ of electricity, supplying about 50% of the site's electrical needs.

In both cases the electricity sourced is generated without emitting GHG, which has a positive impact on Roche's eco-balance.

Energy efficiency

Sensors at each workstation detect when someone is present and turn on the lights and ventilation automatically. There is a monitoring system for the whole building to track energy usage.

Energy efficiency might be one of the best-known factors in sustainable construction, but it is not the only one. Other issues are also critical, such as a circular economy—in other words, a production and consumption model in which existing materials and products are shared, leased, reused, repaired, refurbished and recycled for as long as possible.

For the most recent buildings at the Basel site, the rubble was broken down on site and mixed to form fresh concrete again. Around 40% of the concrete used is recycled. This reduces the amount of transport needed to dispose of the concrete waste and deliver new materials, and conserves natural resources (ie, gravel), which has a direct positive impact on Roche's ecological footprint.

Environmental performance data

Roche measures its environmental impact using the eco-balance metric. The key metrics of this method are eco-factors which measure the environmental impact of pollutant emissions or resource extraction activities in eco-points per unit of quantity. These points are added up and related to the total number of employees. This enables us to monitor our

environmental impact per employee, taking business growth into account. Our strategic goal was to reduce our eco-balance by 10% between 2014 and 2019; we reached our target in 2016. Since then, we have been aiming to reduce our footprint by a further 2% each year (see eco-balance performance below).



* FFE: Fossil Fuel Equivalent | ** Weighted by water stress | Changes in % related to 2014 and 2015, respectively

CO₂-equivalent emissions in tonnes

	2019	2018	2017	2016
Scope 1*				
Fuel combustion	282,184	284,890	291,850	319,538
Halogenated hydrocarbons	5,973	4,746	3,469	6,463
Scope 2** #	195,766	263,973	270,123	320,860
Scope 3***				
Business flights	201,522	195,530	203,814	209,660

* Scope 1: Direct emissions generated within own facilities | ** Scope 2: Indirect emissions from purchased energy |

*** Scope 3: Indirect emissions (not included in scope 2) in the value chain | # Market-based data

Eco-balance**Emissions into the air** in tonnes

	2019	2018	2017	2016
VOCs*	85	85	101	124
Particulates	13	20	20	21
Nitrogen oxides	133	201	232	219
Sulphur dioxide	4	5	7	6

* Volatile organic compounds

Halogenated hydrocarbons in tonnes*

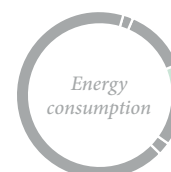
	2019	2018	2017	2016
Inventory	90.8	91.3	114.3	134.3
Consumed released	2.2	2.2	1.3	2.7

* Global inventory including Chugai, Genentech and Ventana

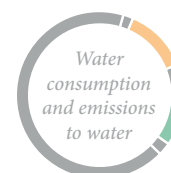
Energy consumption in terajoules

	2019	2018	2017	2016
Total (scope 1 and scope 2)	8,983	9,185	9,219	9,824
Energy (scope 1 and scope 2) consumption (GJ/employee)*	89	91	91	98

* Data collected by Group SHE | (GJ = gigajoule)

**Water usage and discharge**

	2019	2018	2017	2016
Water withdrawn (million m ³)	15.9	16.6	15.9	18.2
Water consumed (million m ³)	3.1	3.4	3.0	3.1
Organic matter discharged to waterways after treatment (t)	127	185	144	149
Heavy metals discharged to waterways after treatment (kg)	228	149	129	164

**Landfilled and incinerated waste** in tonnes

	2019	2018	2017	2016
General waste generated	10,500	11,183	12,478	12,498
Chemical waste generated	17,422	13,563	17,245	21,906
Contaminated soil	91,951	77,681	108,766	54,937
Construction waste	14,360	8,443	16,189	12,804





Sustainable Development Goals

1 NO POVERTY



6 CLEAN WATER AND SANITATION



12 RESPONSIBLE CONSUMPTION AND PRODUCTION



2 ZERO HUNGER



8 DECENT WORK AND ECONOMIC GROWTH



13 CLIMATE ACTION



3 GOOD HEALTH AND WELL-BEING



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



15 LIFE ON LAND



4 QUALITY EDUCATION



10 REDUCED INEQUALITIES



16 PEACE, JUSTICE AND STRONG INSTITUTIONS



5 GENDER EQUALITY



11 SUSTAINABLE CITIES AND COMMUNITIES



17 PARTNERSHIPS FOR THE GOALS





Community engagement

This works best when it is built on meaningful relationships and mutual trust. A philosophy we have been following for more than a century.

We deliver sustainable outcomes.

Working side by side in the aftermath of heavy earthquakes and floods in Nepal: Roche partners NGOs such as Habitat for Humanity to help rebuild communities.

Material topics covered in this chapter

Long-term mindset

Availability of healthcare

Strong partnerships for strong communities

In order to make a lasting impact, Roche liaises with local partners to assess needs and take possible action.

Whether it be a long-term commitment or an urgently needed response, we seek to achieve lasting improvements for society. Our main focus areas involve humanitarian and social efforts, community and environmental projects, science and education programmes, and the arts and contemporary culture.

Roche has a long history of philanthropic engagement. What began with supporting the International Committee of the Red Cross more than a hundred years ago has evolved into an impressive string of lasting partnerships. Accredited non-governmental organisations (NGOs) such as the World Wide Fund for Nature (WWF), UNICEF or Habitat for Humanity have all become our trusted partners.

Staying on track for many years to come

By selectively developing, supporting and implementing innovative solutions together with our local partners, our aim is for simple measures to bring about lasting improvements and make a sustainable impact on society. The two South African Phelophepa primary healthcare trains are a leading example of this. Roche and Transnet, the country's main freight logistics company, came together in 1994 to provide free primary healthcare to rural areas. Marking the 25th anniversary of the collaboration, Roche renewed its support as the initiative's main external sponsor in 2019.

Over the years, the mobile health clinic has come a long way, recalls Thabisile Makhaye, Phelophepa Operations Manager: "From humble beginnings with a three-coach train to a state-of-the-art primary healthcare facility on two trains, we are now able to

provide comprehensive services to communities which had little or no access to essential healthcare services before." Today, the 19-coach trains each have six clinics on board and are equipped with pharmacies and diagnostic tools for diabetes and cancer screenings, such as breast examinations, and cervical and prostate cancer checks. In 2019, the trains provided free primary healthcare services to more than 450,000 people across 70 rural communities.

Having grown up in a very remote area of South Africa herself, Thabisile knows the impact Phelophepa can have above and beyond the healthcare benefits: "The trains also boost the local economy, which is critical in areas with high unemployment rates. We are able to offer work on the trains in the communities where they stop, on top of the 40 permanent staff who live and work on the trains nine months of the year." The train also provides a platform for experiential learning for students from various disciplines studying in South Africa and beyond.

As one of the longest-running public-private partnerships in South Africa, Phelophepa speaks volumes about Roche's unwavering commitment to the country. The train has accompanied the nation on its journey of incredible change and potentially into an era that will bring universal healthcare. For these efforts Roche is seen as a respected partner, not only for Transnet, but also for the people of South Africa.

Delivering urgently needed help in a sustainable way

Due to climate change, there has been an increasing demand to respond to weather disasters. We primarily

support programmes that will benefit from an active, long-term commitment. After the initial emergency phase, we partner with local authorities and relief organisations to support sustainable rebuilding efforts. Roche also sponsors the development of training centres to help communities prepare against future threats.

In 2019, cyclone Idai hit Mozambique, Zimbabwe and Malawi as one of the worst tropical storms to affect Africa. In response, we were able to help via three of our NGO partners. We donated 20,000 mosquito nets, a vital and much-needed piece of equipment to prevent the transmission of malaria, to each country through our long-term partner UNICEF. In conjunction with the WWF, we are supporting the construction of two community disaster relief centres in Zimbabwe. We also provided funding to the NGO ActionAid through the Roger Federer Foundation to help rebuild 13 preschools in Malawi (see more in box). In addition, Roche Portugal granted funding to the Portuguese branch of the Red Cross, in support of people affected by the disaster in Mozambique. We also donated over 3,000 units of Bactrim, a Roche antibiotic, as part of the emergency disaster relief efforts there.

These most recent efforts build upon ongoing disaster relief commitments across Africa and Asia. For example, following the heavy rain and flooding that affected Kenya in 2018, we partnered WWF to help fund the construction of two disaster relief centres along the lower reaches of the Tana River. Following the severe 2017 floods in Nepal, we collaborated with Habitat for Humanity to build homes in safer areas and restore damaged housing. In 2019, 34 houses were completed and another 32 are almost ready. In addition, over 100 households benefited from disaster resilience training and more than 50 locals attended specialist masonry courses.



The journey continues: Thabisile Makhaye, Phelophepa Operations Manager, in front of the Roche Health Clinic coach, celebrating 25 years of a successful partnership with Roche.

Sustainable Development Goals

Since 2015, the Roche Employee Action and Charity Trust (Re&Act) has been partnering the Roger Federer Foundation (RFF) to support the local NGO ActionAid build four model preschools and 20 satellite preschools in Malawi. In March 2019, the country was devastated by cyclone Idai. While the preschools that Roche supported were not affected, we provided additional funding to rebuild 13 preschools that were damaged. “The rapid and unbureaucratic aid from Roche was extremely valuable and allowed us to resume the service as quickly as possible. Children should not miss out on their education,” commented Janine Händel, CEO of RFF.

2 ZERO HUNGER



13 CLIMATE ACTION



Believing in the power of education

Roche is dedicated to programmes that promote educational opportunities for young people around the world. By equipping them with academic know-how and essential soft skills, the initiatives prepare students to thrive as individuals and serve their communities.

In emerging markets, one of our major focal points is to fund education programmes that support talented students from poor and disadvantaged backgrounds. We engage in sustainable local projects to ensure that the students have strong employment prospects after their graduation.

Focus on disadvantaged youngsters

In India, we funded college and university scholarships for 19 students from Kiran Children's Village, some of whom had disabilities. Literally meaning 'ray of light', Kiran provides rehabilitation, education and vocational training, and shines a beacon of light into the lives of these disadvantaged youngsters. By attending university in Varanasi, the Roche-sponsored students have become the first generation from their village to go into higher education.

In 2019, 28 students who received scholarships from Roche graduated from the Maharishi Institute in Johannesburg and another 22 students are set to graduate in 2020. The institute is a non-profit organisation with the aim of educating a new generation of leaders for South Africa by providing funding for students looking to access education offered by its educational partners. With future employment prospects of about 95% for the graduates, Maharishi has proved highly successful and leaves a lasting impact not only on the students but also on their families and communities.

One of this year's graduates is Nkulumo Dlamini from Soweto, a township in Johannesburg. The youngest

son in the family, he was the first from his household to obtain a university degree. "The opportunity to get an education must not be underestimated. It is the key to everything," says the freshly-minted Bachelor of Business Administration. "With Roche as my main benefactor I was able to cover most of the expenses during my studies. My family would not have been able to bear such a financial burden. Now I am eager to work in marketing or business development and put what I have learned into practice."

In Latin America, we collaborate with Fundación Educación in Peru, Colombia, El Salvador and Guatemala. Launched in 2016, Roche provides four-year scholarships for talented young people from low-income families at leading colleges and universities. Much like our Indian and South African scholars, these students also have a great likelihood (around 95%) of finding employment in their respective countries.

Asked about one of the foundation's recipe for success, the president of Fundación Educación Ricardo Cordero is quick to answer: "Our programme is characterised by focus. We concentrate on finding the best talents in four countries and are active in only ten schools. Moreover, we focus our attention on what is most needed in the economies of the countries in question and solely sponsor economics and business administration students. Thanks to our highly motivated and dedicated team, we are able to offer truly tailor-made and highly sustainable programmes."

Giving back to the community

What also sets the scholarships apart from some other programmes is the 'compromiso de honor' principle: once the scholars have finished their studies, they are expected to repay the scholarship provided they have the financial means. While not a real contract, more a simple oath, most graduates are happy to do so.



A bright future ahead: The first batch of Roche-sponsored students from the Maharishi Institute in Johannesburg graduated in 2019.

“The foundation also fosters a very active alumni network,” says Ricardo. “This way we not only promote networking among our scholars and alumni but can also actively stay in contact with them. We want to know what happens to them after these four years of scholarship to see if it was worthwhile and adjust our programme if necessary.”

Roche initially provided scholarships for 34 students with the Fundación Educación. The first graduated in 2018, followed by another 11 in 2019 and the remainder will complete their studies in 2020. To ensure continuity, the company has already committed to another four years of sponsoring 35 scholars. Roche is therefore contributing to the foundation’s ongoing success story, which its president describes thus: “While the direct impact of scholarships on family and the community is obvious, it also has a rather invisible one: Very often former scholars serve as role models for younger students when they have made a

career or started an enterprise. Seeing our scholars succeed, we aim to continuously grow the programme, and thanks to Roche and other strategic partners we can gradually do so.”

Science and technology are at the core of our business. That is why we support international and local programmes to spark an interest in these disciplines among young people. In Europe, we have a number of science and education initiatives. We have been supporting Swiss Youth in Science for over 50 years and have been a founding sponsor of their International Swiss Talent Forum, a think tank for students from all over the world. Since the beginning of the ISTF, more than 600 highly talented young people from 30 different countries have participated in the programme. And in the US, Genentech runs Futurelab in cooperation with the local school district to inspire young students to explore careers in science, technology, engineering and mathematics.



Sustainable Development Goals

16 PEACE, JUSTICE AND STRONG INSTITUTIONS



17 PARTNERSHIPS FOR THE GOALS



Integrity in business

*Working with integrity is a professional
virtue asked of all employees.*

A matter of culture.

We ensure that manufacturing processes and finished products meet the strict regulatory requirements set by authorities.

Material topics covered in this chapter

Human rights

Ethics and transparency

Real-world data

Product quality

Patient centricity

Data privacy

Compliance

Respect for human rights

Our company influences what happens to our employees, the value chain, customers and local communities.

In the long run, we can only be successful as a business if we act with integrity, trust and respect in our everyday operations. This goes far beyond complying with mandatory requirements. It is about making a positive impact on society with our endeavours.¹ A subject of vital importance in our operations worldwide is human rights—a topic that we at Roche have fostered globally in our business.

As stated in our Code of Conduct, we support and respect human rights. We have implemented the UN Guiding Principles on Business and Human Rights building on the ‘Protect, Respect and Remedy’ framework developed by Harvard Professor John Ruggie. We are equally committed to the 10 UN Global Compact Principles, the Universal Declaration of Human Rights, and the Fundamental Labour Rights stipulated by the International Labour Organization’s Declaration on Fundamental Principles and Rights at Work.

Respect for human rights is often viewed as simply a matter of compliance. However, Roche takes it one step further. Our aim is not just to avoid harm but also deliver meaningful, positive outcomes for our stakeholders.

There are a number of recent examples of how Roche has worked with partners to embed human rights in its daily business. At our Pharmaceuticals site in Shanghai, China, for example, we run a financing programme for small and minority-owned innovative suppliers that are in need of funds. This fosters supplier diversity and gives us better access to innovation from these small, agile companies.

At our sites in Basel and Rotkreuz (Switzerland), and Penzberg (Germany), we collaborate with third parties that employ disabled people who are fully integrated in our day-to-day work and support us in our manufacturing and supply chain activities.

We also ask affiliates to talk about their human rights achievements as this provides more transparency in our corporate actions and strengthens the relationship with our stakeholders.

Jointly improving human rights standards

We have been working with the Pharmaceutical Supply Chain Initiative (PSCI) to revise its audit

Compliance

In 2019, 182 employees used the Roche Group SpeakUp Line, which is available in 53 languages in 103 countries. The Chief Compliance Officer received 543 reports of alleged violations of the Code of Conduct via the Business Ethics Incident Reporting system. Of these, 196 were unfounded, 241 were founded and 106 are still under investigation. As a result, 128 employment contracts and 13 agreements with business partners were terminated on grounds of unethical behaviour.

programme and create a more robust process for the identification of human rights violations.²

In 2018, we implemented a risk management programme designed to systematically identify, assess, mitigate and adequately manage the risk of human rights violations. This programme does not only apply to our operations, but also our value chain and business-related activities. We identified the four main human rights risk areas: data privacy, safety in the workplace, working conditions and employee representation. In 2019, we published guidelines (https://go.roche.com/due_diligence_process) which provide an overview on how to develop and implement an adequate due-diligence process, which helps identify and assess the potential impact and risks related to human rights in the Roche Group.

During our supplier sustainability assurance visits, the major findings in the area of working conditions included excessive overtime, unsatisfactory compensation for overtime, insufficient rest days per working week and the inadequate payment of social benefits. In 2019, we conducted 84 supplier sustainability assurance visits, resulting in 499 findings. Most of them were minor issues, such as the lack of a written safety or health policy for employees. Corrective action plans were implemented with all our suppliers.

Roche continued to assess and mitigate the risk of human rights violations using our enhanced human rights violation risk process to identify risks among our own suppliers' providers. We did not receive any reports of critical findings among the suppliers of our own suppliers.



We foster the inclusion of employees with disabilities.

Sustainable Development Goal

Roche's Global Procurement organisation has developed a method for identifying the risk of human rights violations in our global supply base. We perform site visits to make sure that suppliers who have been identified of being at risk protect human rights. In 2019, we had discovered 102 human rights and labour issues, none of them were critical. We did not find any evidence of child labour or modern slavery.



¹ See Philipp Aerni, Global business in local culture, Springer, 2018. | ² PSCI is a group of more than 30 pharmaceutical companies dedicated to establishing and promoting responsible corporate practice.

Managing safety and quality culture

In Roche’s philosophy of health and safety, our employees are our most valuable resource. Roche is committed to promoting a safe and healthy workplace and environment for all our employees and to establish and maintain safe working practices through proper procedures and direction. Safety is everyone’s responsibility. It rests with all levels of management and with each employee. As a result, our safety data have shown a further marked improvement compared with last year (see graph). However, despite our efforts an employee died during a company event. We profoundly regret this tragic accident, and again offer our sincere condolences to the victim’s family and friends.

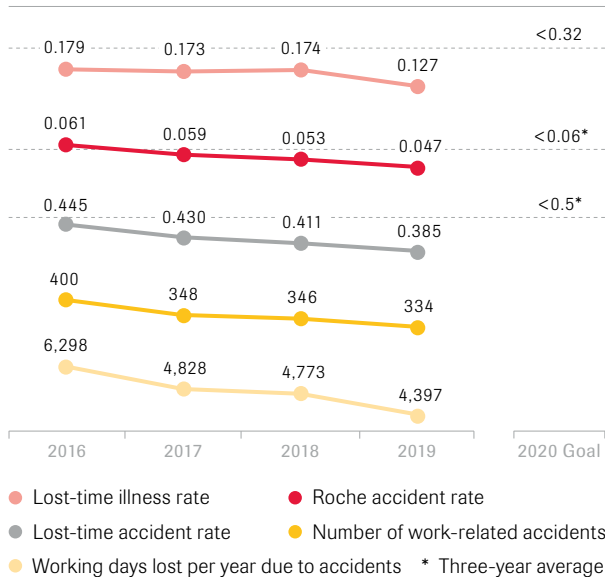
Monitoring mental health risks

Digitalisation, globalisation, substantial workloads and job insecurity are the new hallmarks of the modern workplace. These characteristics have been identified as the main source of work-related stress and potential mental strain which may affect employee health.

The key principle of Roche’s strategy to keep tabs on mental health risks involves three levels of prevention: primary, secondary and tertiary. One core element of the strategy is Roche’s health protection directive with a separate section dedicated to the primary prevention of mental health problems in the workplace. Primary prevention is designed to monitor the risk factors that cause stress. These may be related to work itself, the work environment or the social setting.

Secondary and tertiary prevention is organised according to local needs. The responsibility is with local Human Resources, Safety, Security, Health and Environment (SHE) officers, medical services or management, depending on how the site is organised. Secondary prevention measures are aimed at the personal capability to cope with stress. For example, time management courses or resilience training help the employees manage their individual stress levels. The aim of tertiary prevention is to minimise the impact of existing mental health problems through individual counselling.

Employee health and safety



Every Roche site must have a mental health strategy in place to tackle this issue. To drive this forward and aid its implementation, SHE at headquarters has developed a starter pack of guidelines and is also using social media to exchange experiences between the sites. Furthermore, two mental health workshops were held at the Roche sites in Mississauga (Canada) and Singapore in April and November 2019, respectively, attracting 70 participants from 40 sites in North America and the APAC region. The main focus of each workshop was the prevention of mental health problems. Groups of participants were given the opportunity to conduct a risk assessment on mock work situations. Mental health will continue to play an important role at Roche as we continue to offer an ever-improving healthy working environment for all our employees.

Quality engrained in our culture

The provision of high-quality products for every patient, every time represents the foundation of our approach to manufacturing operations. Quality is everyone's responsibility and we believe that our 'quality culture' is formed by the attitudes and actions of every single person in our global manufacturing community. We believe that the constant nurturing and development of our quality culture is our greatest priority as we seek to accelerate the delivery of medicines to our patients.

In 2019, we continued to do this by encouraging our people to look for opportunities to strengthen the quality aspects of our manufacturing environment. For example, a colleague based at our Kaiseraugst site in Switzerland proposed moving our quality assurance team from their own discrete area to operate at the manufacturing line, resulting in better integration with production operations. We have also made other simple and incremental changes, such as increasing the numbers of visual support boards on every shop floor, which help and support our people in fully understanding new processes.

2019 also saw our successful conclusion of the Manufacturing Quality Work Plan—a multi-year journey which succeeded in addressing over 250 technical improvements throughout our entire manufacturing network. For example, in the Corrective and Preventive Action System, we introduced a more disciplined review of performance metrics. We also improved our sample management in the Laboratory Control System.

The spirit of this initiative continues in 2020 via the Quality and Compliance Sustainability Plan, which will seek to reinforce the changes made and drive the search for further opportunities for improvement.



We focus on safeguarding high-quality supplies for patients.

Contributions to healthcare and patient organisations

We are dedicated to engaging in transparent dialogue with healthcare and patient organisations. In 2019, our grants and donations to patient organisations totalled CHF 33 million, those to healthcare organisations CHF 175 million, and our sponsorships of healthcare and patient organisations totalled CHF 97 million.

More details can be found on our website: roche.com/performance

Car safety

In Indianapolis, US, the safety and fleet teams joined forces to tackle driver safety. All new vehicles must be equipped with several safety features, such as forward collision warning with emergency braking or blind-spot detection functions. Car safety statistics show that added safety features can reduce the number of reported car crashes by approximately 40%. The teams are also looking to bring about a change in behaviour. Sales representatives whose driving is considered risky or even dangerous are monitored using a telemetric solution (monitors harsh acceleration, cornering or braking, speeding and wearing of seat belts). Furthermore, all drivers are required to attend an eight-hour training course entitled 'Behind the Wheel'. Although the programme is still in its infancy, Roche in Indianapolis has already recorded a drop in the number of car crashes: from 161 in 2015 to 143 in 2018.

Democratising health data

Data-driven healthcare has the potential to transform health systems, improve outcomes for patients and make healthcare more sustainable. To unlock the potential of health data, it needs to be made accessible and shared. Consequently, data privacy and protection is a legitimate concern. Therefore, it is important to strike a balance between protecting personal data and using data to benefit society. This balance and transparency is the foundation of a data-driven healthcare system that can be trusted by citizens and supported by different stakeholders.

Putting the patient at the centre

We continue to be a respected and a preferred partner for all those who trust us with their data. The protection and responsible use of personal data is reflected in our daily operations, anchored in the Roche Group Code of Conduct and endorsed in our position paper on Access to and Use of Real-World Data (RWD). Roche complies with all the applicable data privacy laws including the Swiss Data Protection Act and the European Union General Data Protection

Regulation (GDPR). Roche is building on the considerable data protection expertise it has gained over several decades while conducting thousands of clinical trials and involving millions of patients across the globe.

For instance, transparency and privacy are at the core of our partnership with PicnicHealth. The aim of this collaboration is to translate the valuable information captured in patients' individual medical records into data that is standardised for research purposes. It is a new approach to data sharing as the patients are provided with a service that allows them to access their aggregated medical records to support their care and consent to a research programme that is free of common barriers to research participation.

Harnessing the power of data

We are collaborating with leading companies in the field of genomics and RWD, such as Foundation Medicine and Flatiron Health, and building more strategic partnerships to develop new targeted diagnostics and therapies and to help improve decision-making along the patient journey. One example of such a strategic collaboration is with GE Healthcare. Together, we are combining complementary expertise in diagnostics to develop clinical decision support solutions in oncology and acute care, helping healthcare professionals navigate increasingly complex medical practice and make more confident decisions in a timely fashion.

Roche is also driving cross-sector collaboration between industry, academia and research organisations. The societal benefits of such collaborations are significant. People from diverse backgrounds come together, share ideas and high-quality data, and work on accelerating innovation in the area of healthcare.

Sustainable Development Goal



A cross-sector collaboration has been established with The Michael J. Fox Foundation for Parkinson's Research (MJFF). As of June 2019, Roche has been providing its digital biomarker platform for a study funded by MJFF and a cross-sector consortium. With the aid of a mobile tool, data on how Parkinson's disease affects the patient's life every day can be captured. The aim is to adopt a unified biomarker approach across the board in Parkinson's research and development.



Roughly 70%

*of citizens are willing to share health data for research if security and privacy are guaranteed.**

Advancing the regulatory framework

RWD allows regulators to make more informed decisions on the safety, efficacy and value of medicines and diagnostics.

Roche is working with authorities to understand how best to use RWD to support approvals of *in vitro* diagnostics and new medicines and regulate digital health products. For example, Roche and Flatiron Health are part of a cross-industry collaboration established by The Duke-Margolis Center for Health Policy in the US. The aim of the collaboration is to advance policy development related to the regulatory acceptability of RWD in the United States. In the FDA's Software Pre-Cert Pilot Program, Roche engages with other diagnostics and tech industry leaders to develop a novel digital health regulatory framework that speeds product access while maintaining safety and effectiveness.

Agencies such as the FDA ask the industry to put forward best-practice examples of where RWD is utilised for regulatory submissions. One such example is the influenza medicine Xofluza, where the FDA required additional toxicology studies. By using RWD from over three million Tamiflu patients, Roche was able to show that the repeated use of the medicine did not pose a risk. The data was accepted by the FDA and no additional safety studies had to be conducted. Consequently, RWD saved four crucial years of clinical development and Xofluza became available to US patients much faster.

RWD was also essential to the clinical development of Rozlytrek. In one of our studies, it was not feasible to include a comparator arm due to the rarity of the patient group's condition we were studying, so we developed an external control arm using Flatiron data from patients who underwent standard-of-care treatment. These comparative real-world data have been successfully used for our filing in Japan and are a great example of making research more efficient and providing a better option for participants faster.

Policy

When it comes to health data and other topics related to innovation, access or personalised healthcare, engaging with public policy stakeholders is a fundamental aspect of good public governance. We strive to strengthen stakeholders' understanding of—and trust in—our business. We are convinced that this constructive form of lobbying is in the interest of all parties involved and of society as a whole. Roche remains independent of any political affiliation. Where appropriate, Roche discloses contributions and signs up in transparency registers of public authorities. Further information can be found on our public policy webpage. In 2019, we spent CHF 9.6 million in Switzerland, which included payments to industry associations and various chambers of commerce, financial assistance for trade unions, and donations to political parties at cantonal and federal level. Donations to political parties were each in the low double-digit thousand range in Swiss francs, and together accounted for approximately 3% of the total contributions and donations.

* European Commission (2017), Results of the Public Consultation on transformation of health and care in the digital single market



“Patients want to be considered as partners when the decision is being made on how to use their data.”

Noga Leviner, PicnicHealth, USA

My company was born out of my own experiences as a patient after being diagnosed with Crohn’s disease. Everything in our healthcare system is extremely fragmented. My expectation from watching TV shows was that there would be one doctor who is in charge and knows everything that is going on. The reality is that no one is really in charge of your care. The only person who was actually there at every step, at every appointment, was me.

That inspired me to set up PicnicHealth in 2014. The app we developed is dedicated to compiling electronic health records and making them available to patients and the scientific community. Once authorised by the patient, the app works by collecting and managing all their available health records. We do whatever it takes to go and get those medical records. PicnicHealth then organises the data in a personal health record.

People are sensitive about how personal data is being used. Not everybody wants their personal data to be used outside of their own care but there is an overwhelming need for patients to be able to contribute to the bigger picture—for research and to improve care. The objection to the use of data we realised was mainly in connection with the non-transparent way in which it is done quite often. We found that when we were transparent with the patients, and got their consent, we received overwhelming support from

them. Patients want to be considered as partners when the decision is being made on how to use their data.

The data fundamentally belongs to the patient. We are setting up an infrastructure or processes that rely on the patients who are sometimes not even aware that their data is being used for research purposes. If we really want to have a system that is going to be here for the long run, we will need to make sure that there is patient consent. It is also the right thing to do. We will get the best outcomes from research if we avoid creating an antagonistic dynamic where patients feel that they are being tricked or that they do not fully understand how their data is being used.

Patients want research to happen. They also want better care for their diseases and new treatments. The big challenge is getting over the initial hurdle and discomfort that patients, actually all of us, have about big companies using our data. The ecosystem has somehow given rise to the feeling that you are not in control. To turn that around we need to engage with the patient as an equal partner.

It just makes no sense to generate so much data in the real world in order to understand diseases better, what works and what does not, only for no one to be able to use it because of transparency issues. That would be a travesty.

Material topic covered in this chapter

Compliance



Corporate Governance

A strong Board of Directors and highly skilled managers who act with integrity are essential for the well-functioning governance of Roche.

This report sets out the structures, processes and rules that Roche takes as the basis for good governance of the company.

Principles

Business activities with a focus on sustainable value creation and innovation, a management culture conforming to recognised standards of good corporate governance and a policy of transparent communication embody Roche's corporate governance principles, which build the basis for the successful implementation of Roche's commitment to serving all its stakeholders.

A strong Board of Directors, which represents the interests of the shareholders and all other stakeholders, and highly skilled managers who act with integrity are extremely important.

After having been recognised for ten consecutive years as the most sustainable company in the Pharmaceuticals index of the Dow Jones Sustainability Indices (DJSI), Roche ranked second in the 2019 DJSI. This is based on an in-depth analysis of economic, social and environmental performance. The DJSI serve as a benchmark for investors who integrate sustainability considerations into their portfolios. Sustainability is at the core of our business practices and this award reflects our commitment to running our business in a way that is ethical, responsible and creates long-term value for stakeholders.

This Corporate Governance Report sets out the structures, processes and rules which Roche takes as the basis for well-functioning corporate governance. In doing so, Roche complies with all relevant

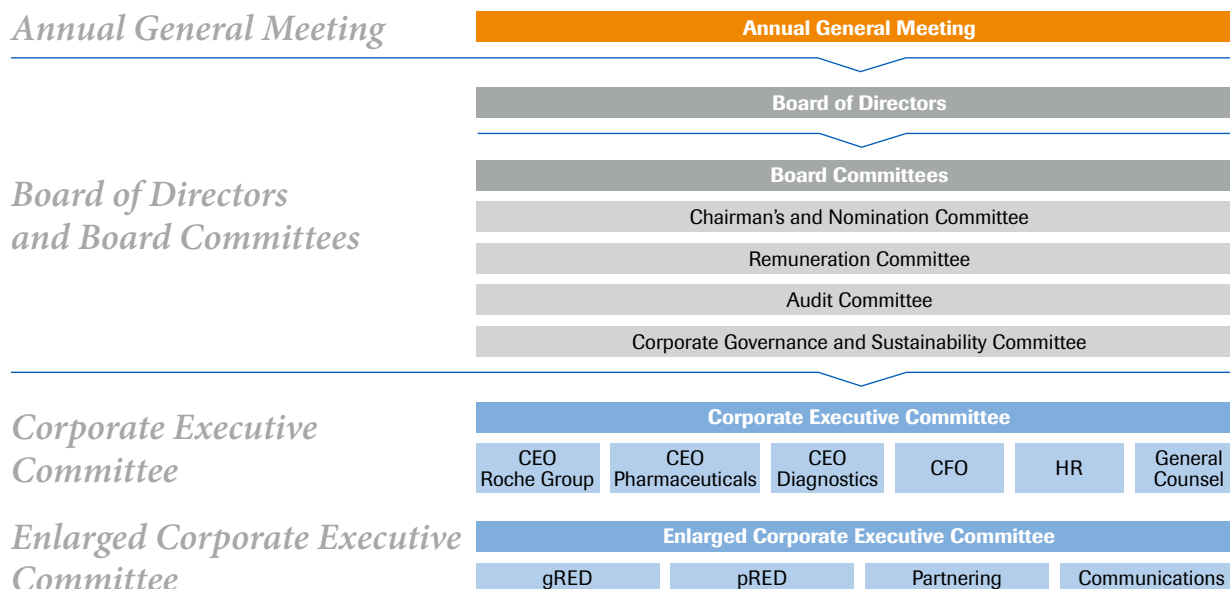
corporate governance requirements, in particular with all applicable laws, the Swiss Stock Exchange (SIX Swiss Exchange) directives and the Swiss Code of Best Practice for Corporate Governance promulgated by the Swiss business federation 'economiesuisse'.

The company's internal governance framework, particularly its Articles of Incorporation and Bylaws, embodies all the principles needed to ensure that the company's businesses are managed and supervised in a manner consistent with good corporate governance, including the necessary checks and balances.¹

The printed Annual Report contains selected links to the Roche website (<https://www.roche.com>). Readers are thus provided not only with a 'snapshot' of our company at the reporting date but are also directed to sources which they can consult at any time for up-to-date information about corporate governance at Roche. Whereas each annual report covers a single financial year ending 31 December, our website contains information of a more permanent nature, as well as the latest Roche news. The company's Articles of Incorporation, Bylaws and the curricula vitae of current and former (status as per end of term and as at the reporting date on 31 December of each year, at least of the last five years) members of the Board of Directors and the Corporate Executive Committee are published on our website.

For further details please refer to the following report.

¹ <https://www.roche.com/about/governance.htm>



Board of Directors

At the 101st Annual General Meeting (AGM) of Roche Holding Ltd, on 5 March 2019, shareholders re-elected Dr Christoph Franz as Chairman of the Board of Directors.

Furthermore, the AGM re-elected André Hoffmann, Prof. Sir John Bell, Julie Brown, Paul Bulcke, Anita Hauser, Prof. Dr Richard P. Lifton, Dr Andreas Oeri, Bernard Poussot, Dr Severin Schwan, Dr Claudia Suessmuth Dyckerhoff and Peter R. Voser and elected Prof. Dr Hans Clevers as an additional new member of the Board of Directors for a term of one year as provided by the Articles of Incorporation.

In addition, the AGM elected Dr Christoph Franz, André Hoffmann, Prof. Dr Richard P. Lifton, Bernard Poussot and Peter R. Voser as members of the Remuneration Committee.

At its organising meeting immediately following the AGM, the Board of Directors has determined the structure and composition of its remaining committees as shown on page 107 (see also pages 18 to 19 and page 111 'Board of Directors and Corporate Executive Committee').

Peter Voser, who served as a member of the Board of Directors of Roche Holding Ltd since 2011, stepped down as a member of the Board of Directors of Roche at the end of June 2019 due to his additional role as interim CEO of ABB.

On 17 March 2020, at the forthcoming AGM the Board of Directors nominates the Chairman and with the exception of Dr Andreas Oeri and Prof. Sir John Bell all remaining members of the Board of Directors for re-election. On 26 July 2018, Roche

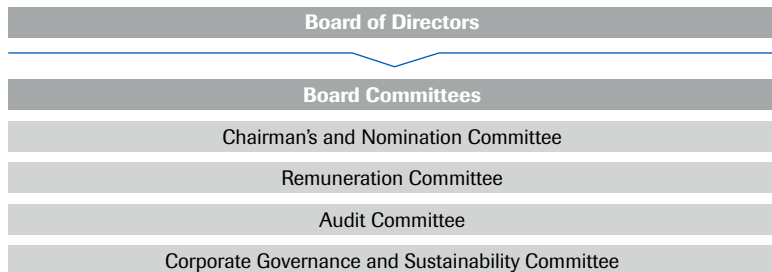
announced that Dr Andreas Oeri, after his 24-year term of office, had informed the Board of Directors that he will not stand for re-election as a member of the Board of Directors at the AGM 2020 and that Dr Jörg Duschmalé, a fifth-generation descendant of the founder of Roche, has confirmed his interest in standing for election as a member of the Board of Directors in 2020. Therefore, the Board of Directors proposes Dr Jörg Duschmalé, new representative of the shareholder group with pooled voting rights, for election to the Board of Directors at the 2020 AGM.

After 19 years of service on the Board, Prof. Sir John Bell has also decided not to stand for re-election to the Board of Directors at the AGM 2020. The Board of Directors proposes in addition Dr Patrick Frost, CEO of the Swiss Life Group, for election to the Board of Directors at the 2020 AGM.

Moreover, the Board of Directors nominates Dr Christoph Franz, André Hoffmann, Prof. Dr Richard P. Lifton and Bernard Poussot for re-election as members of the Remuneration Committee at the AGM in 2020.

Due to BDO AG's resignation in July 2019 as the independent proxy elected at the 2019 AGM with a view to ceasing the execution of mandates as independent proxy, pursuant to article 8 para. 6 of the 'Ordinance against excessive compensation at listed joint-stock companies' (VegüV) the Board of Directors appointed Testaris AG as a replacement independent proxy until the conclusion of the 2020 AGM. The Board of Directors nominates Testaris AG for election as independent proxy by the AGM in 2020 for the period from 2020 until the conclusion of the 2021 ordinary AGM of shareholders.

Board of Directors and Board Committees



Composition as at 31.12.2019	Name (year of birth)			First elected
Board of Directors	Dr Christoph Franz (1960)	C, D*, E, G	Chairman	2011
	André Hoffmann (1958) (representative of the shareholder group with pooled voting rights)	A, C*, D, E, G	Vice-Chairman	1996
	Dr Andreas Oeri (1949) (representative of the shareholder group with pooled voting rights)	A*, E, G		1996
	Prof. Sir John Bell (1952)	E, G		2001
	Julie Brown (1962)	B*, E, G		2016
	Paul Bulcke (1954)	B, E, G		2011
	Prof. Dr Hans Clevers (1957)	B, E, G		2019
	Anita Hauser (1969)	A, E, G		2017
	Prof. Dr Richard P. Lifton (1953)	C, E, G		2015
	Bernard Poussot (1952)	C, E, G		2015
	Dr Severin Schwan (1967)	F		2013
	Dr Claudia Suessmuth Dyckerhoff (1967)	A, B, E, G		2016
	Secretary to the Board of Directors	Dr Gottlieb A. Keller (1954)		
Honorary Chairman of the Board of Directors	Dr Fritz Gerber (1929)			

Curricula vitae (CVs) of members of the Board of Directors:

a) current members: https://www.roche.com/about/governance/board_of_directors.htm

b) former members (at least of the last five years): https://www.roche.com/about/governance/ec_bod_former.htm

c) information of CVs at the reporting date on 31 December of each year (at least of the last five years):

https://www.roche.com/about/governance/archiv_former_cvs.htm

A Corporate Governance and Sustainability Committee

D Chairman's/Nomination Committee

G Independent member of the Board of Directors

B Audit Committee

E Non-executive director

* Committee chairperson

C Remuneration Committee

F Executive director

Corporate Executive Committee

William (Bill) Anderson, former CEO of Genentech, was appointed CEO Roche Pharmaceuticals effective 1 January 2019, and as a new member of the Corporate Executive Committee is reporting to Dr Severin Schwan, CEO Roche Group. His predecessor Daniel O'Day, who stepped down from his role as CEO Roche Pharmaceuticals and member of the Corporate Executive Committee as of 31 December 2018, prior to assuming new responsibilities outside of Roche provided support to ensure a smooth transition of activities until the end of February.

Dr Michael Heuer, who assumed the *ad interim* leadership of Roche's Diagnostics Division and became a member of the Corporate Executive Committee effective 1 October 2018, retired as planned at the end of July 2019.

The Board of Directors has appointed Dr Thomas Schinecker, former Head of the Diagnostics business area Centralised and Point of Care Solutions, as CEO Roche Diagnostics and a member of the Corporate Executive Committee with effect from 1 August 2019.

Dr Stephan Feldhaus, Head of Group Communications and member of Roche's Enlarged Corporate Executive Committee, has decided to continue his career outside the company as of the end of September 2019. Barbara Schädler, former Head of Communications and Public Affairs at E.ON SE, succeeded him on 1 October 2019 as the Head of Group Communications and member of Roche's Enlarged Corporate Executive Committee reporting to the CEO Roche Group, Dr Severin Schwan.

Dr Gottlieb A. Keller, General Counsel, member of the Corporate Executive Committee and Secretary to the Board of Directors, will retire after 35 years with Roche at the end of March 2020. The Board of

Directors has appointed Claudia Böckstiegel, currently Head of Legal for the Diagnostics Division, to the position of General Counsel. She will join the Enlarged Corporate Executive Committee and report to Dr Severin Schwan as of 1 April 2020. In parallel, Dr Annette Luther, currently General Manager of Roche Diagnostics International Ltd, Rotkreuz, Switzerland, will become Secretary to the Board of Directors and report to Dr Christoph Franz.

Information on each member of the Corporate Executive Committee and of the Enlarged Corporate Executive Committee is listed below (see also pages 20 to 21 and page 111 'Board of Directors and Corporate Executive Committee').

Corporate Executive Committee

Corporate Executive Committee					
CEO Roche Group	CEO Pharmaceuticals	CEO Diagnostics	CFO	HR	General Counsel

Enlarged Corporate Executive Committee

Enlarged Corporate Executive Committee			
gRED	pRED	Partnering	Communications

Composition as at 31.12.2019	Name (year of birth)	Position	Since
Corporate Executive Committee	Dr Severin Schwan (1967)	CEO Roche Group	2008
	Bill Anderson (1966)	CEO Roche Pharmaceuticals	2019
	Dr Thomas Schinecker (1975)	CEO Roche Diagnostics	2019
	Dr Alan Hippe (1967)	Chief Financial and IT Officer	2011
	Cristina A. Wilbur (1967)	Head Group Human Resources	2016
	Dr Gottlieb A. Keller (1954)	General Counsel	2003
	Dr Michael D. Varney (1958)	Head Genentech Research & Early Development (gRED)	2015
Enlarged Corporate Executive Committee	Dr William Pao (1967)	Head Roche Pharma Research & Early Development (pRED)	2018
	Dr James H. Sabry (1958)	Global Head Pharma Partnering	2018
	Barbara Schädler (1962)	Head Group Communications	2019
Secretary to the Corporate Executive Committee	Per-Olof Attinger (1960)		
Statutory Auditors of Roche Holding Ltd	KPMG Klynveld Peat Marwick Goerdeler SA (reporting years 2004–2008)		
	KPMG AG (since 2009)		
	Auditor in charge: John A. Morris (2004–2010)		
	Ian Starkey (2011–2017)		
Chief Compliance Officer	Mark Baillache (as of business year 2018)		
	Dr Urs Jaisli (1956) (until 30 September 2019)		
	Pascale Schmidt (1973) (as of 1 October 2019)		

Curricula vitae (CVs) of the members of the Corporate Executive and the Enlarged Corporate Executive Committee:

a) current members: https://www.roche.com/about/governance/executive_committee.htm

b) former members (at least five years back): https://www.roche.com/about/governance/ec_bod_former.htm

c) information of CVs at the reporting date on 31 December of each year (at least of the last five years):

https://www.roche.com/about/governance/archiv_former_cvs.htm



Dr Andreas Oeri, Chairman of the Corporate Governance and Sustainability Committee, and André Hoffmann, Chairman of the Remuneration Committee.

Group structure and shareholders

Roche's operating businesses are organised into two divisions: Pharmaceuticals and Diagnostics. The Pharmaceuticals Division comprises the two business segments Roche Pharmaceuticals and Chugai, whereas Genentech as the former third segment has been

integrated into Roche Pharmaceuticals. The Diagnostics Division consists of the following four business areas: Centralised and Point of Care Solutions, Molecular Diagnostics, Tissue Diagnostics and Diabetes Care.

Pharmaceuticals

Roche Pharmaceuticals (incl. Genentech)

Chugai

Diagnostics

Centralised and Point of Care Solutions

Molecular Diagnostics

Tissue Diagnostics

Diabetes Care

Composition as at 31.12.2019

www

SIX Exchange
Regulation:
<https://www.six-exchange-regulation.com/en/home/publications/significant-shareholders.html>

Business activities are carried out through Group subsidiaries and associated companies. Detailed information on Roche Holding Ltd and on significant subsidiaries and associated companies (including company name, listing information, domicile, share capital and equity interest) is listed in the Finance Report, Note 33 to the Roche Group Consolidated Financial Statements ('List of subsidiaries and associates', page 134).

Major shareholders are listed in the Finance Report, Notes 22 and 32 to the Roche Group Consolidated Financial Statements ('Equity attributable to Roche shareholders' and 'Related parties', pages 94 and 131), and in Note 4 to the Financial Statements of Roche Holding Ltd ('Significant shareholders', page 175). In addition, significant shareholders are published on the relevant webpage of the disclosure office of SIX Exchange Regulation.

André Hoffmann, Vice-Chairman of the Board of Directors and Chairman of the Remuneration Committee, and Dr Andreas Oeri, member of the Board of Directors and Chairman of the Board's Corporate Governance and Sustainability Committee, serve in their respective capacities on the Board and its committees as representatives of the shareholder group with pooled voting rights and receive the remuneration set forth in the Remuneration Report on page 132 and in the Finance Report, Note 32 to the Roche Group Consolidated Financial Statements ('Related parties', page 131). No other relationships exist with the shareholders with pooled voting rights.

There are no cross-shareholdings.

Capital structure

Information on Roche's capital structure is provided in the Finance Report, Notes to the Financial Statements of Roche Holding Ltd (page 174). Additional details are contained in the Articles of Incorporation of Roche Holding.²

Movement in recognised amounts during the last three financial years are detailed in the Finance Report, Notes to the Financial Statements of Roche Holding Ltd (page 175).

The company has a share capital of CHF 160,000,000, divided into 160,000,000 fully paid bearer shares with a nominal value of CHF 1 each. There are no restrictions on the exercise of the voting rights of these shares. Upon deposit, shares can be voted without any restrictions.

There is no authorised or conditional capital.

In addition, 702,562,700 non-voting equity securities (NES) have been issued in bearer form. They do not

form part of the share capital and confer no voting rights. Each NES confers the same rights as one share to participate in available earnings and in any liquidation proceeds following repayment of the share capital. Roche's NES and the rights pertaining thereto (including the provisions protecting the interests of NES holders) are described in §4 of the Articles of Incorporation of Roche Holding Ltd.

Information on debt instruments which have been issued and on outstanding bonds is provided in the Finance Report, Note 21 to the Roche Group Consolidated Financial Statements ('Debt', page 89).

Information on employee stock options is provided in the Finance Report, Note 27 to the Roche Group Consolidated Financial Statements ('Equity compensation plans', page 107), including detailed information on the Stock-settled Stock Appreciation Rights (S-SARs) Plan, the Restricted Stock Units (RSUs) Plan, the Performance Share Plan (PSP), Roche Connect and the Roche Option Plan.

² https://www.roche.com/about/governance/article_of_incorporation.htm

Roche has issued no options apart from employee stock options as described in the Finance Report, Note 27 to the Roche Group Consolidated Financial Statements ('Equity compensation plans', page 107) and options issued in connection with debt instruments.

Neither the options awarded to employees nor the debt instruments which have been issued have any effect on Roche's share capital.

Board of Directors and Corporate Executive Committee

Information on each member of the Board of Directors and on each member of the Corporate Executive Committee is listed on pages 107 and 108. Members of the Board of Directors have no age limit or restriction on their term of office.

Curricula vitae (CVs) of all current and former members (of at least the last five years) of both bodies and other information (including information on the years of their first election, additional positions, memberships and activities) are available and continuously updated on the Internet. In addition, the status of the CVs of both bodies at the relevant reporting date on 31 December (of at least the last five years) is separately available too.³

Rules pursuant to article 12 para. 1 point 1 VegüV on the number of permitted activities of the Board of Directors and the Corporate Executive Committee members are outlined in §22.4 of the Articles of Incorporation of Roche Holding Ltd.⁴

Since 2014, the Annual General Meeting has elected all members of the Board of Directors, the Chairman of the Board of Directors and the members of the Remuneration Committee on an annual basis in elections in which each nominee is voted on separately (see §18 of the Articles of Incorporation of Roche Holding Ltd⁴ and the Minutes of the 101st Annual General Meeting of Roche Holding Ltd, held on 5 March 2019⁵).

With the exception of Dr Severin Schwan none of the members of the Board of Directors in office at the end of 2019 has been a member of Roche's Corporate Executive Committee or served in an executive capacity at any Group subsidiary during the five financial years preceeding the current reporting period and they are for lack of existing business connections with any Group subsidiary independent. Roche's Board of Directors' independence definition is based on the definition in the Swiss Code of Best Practice for Corporate Governance of 'economiesuisse' and is complemented by specific preceding criteria (see https://www.roche.com/about/governance/board_of_directors.htm).

The Principles of Governance (principles of delegation and competence, reservation of powers and management of a group of companies) of the executive bodies of the company include economic, environmental and social topics. The principles together with the internal organisation of the Board of Directors, the division of authority and responsibilities between the Board and management, the remits of the Board Committees, and the information and control mechanisms available to the Board in its dealings with corporate management, are governed by the Bylaws.⁶

The Board of Directors of Roche Holding Ltd is organised so as to ensure that the Group conducts its businesses responsibly and with a focus on long-term

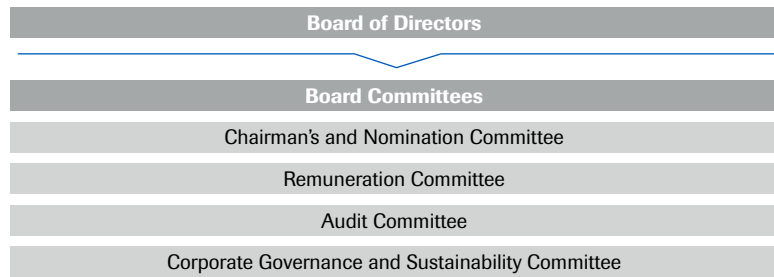
³ https://www.roche.com/about/governance/board_of_directors.htm and https://www.roche.com/about/governance/executive_committee.htm

⁴ https://www.roche.com/about/governance/article_of_incorporation.htm

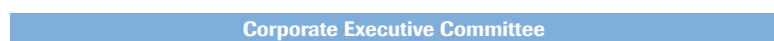
⁵ https://www.roche.com/about/governance/annual_general_meetings.htm

⁶ https://www.roche.com/about/governance/article_of_incorporation.htm

Board of Directors and Board Committees



Corporate Executive Committee



value creation. To this end, the Roche Board has delegated certain responsibilities to several committees.⁷ Their composition and chairpersons as at 31 December 2019 are described on page 107. Each committee's authorities and responsibilities are defined in detail in the Bylaws of the Board of Directors.⁸

All the committees are chaired by independent directors.

According to the Bylaws of the Board of Directors, a Board meeting may be convened without the Chairman present at the request of any of its members. The Roche Board meets once a year to assess the Chairman's performance. This meeting, which is not attended by the Chairman, is chaired by the Vice-Chairman.

As part of the Management Information System (MIS), the Board of Directors is regularly informed about the most important issues, sales performance, etc. The Board has access to an electronic information platform which provides timely information to the Board of Directors and the Board's committees as does the system of controls as set forth below.

The Board of Directors has established a system of controls which is continuously monitored by the Audit Committee, by the Corporate Governance and Sustainability Committee and by the Board of Directors and consists of the following elements:

- Report on operating and financial risks (risk management system)

The Roche Group has established a risk management process covering the entire company with a system in place to identify and manage all types of risks potentially affecting its business (including economic, environmental and social impacts, risks and opportunities and containing stakeholder input). The Board of Directors is the highest governance body involved. Roche's Risk Management Policy sets out the approach and accompanying responsibilities. The Pharmaceuticals and Diagnostics Divisions and global functions conduct a formal risk assessment process at least once a year and must develop risk plans for their most material risks. These are monitored and deviations reviewed in regular performance dialogues. The consolidated Group Risk Report including target risk profile is discussed by the Corporate Executive Committee and approved together with the Group Business Plan. All material risks are reviewed by the Board on a yearly basis.

⁷ <https://www.roche.com/about/governance/committees.htm>

⁸ https://www.roche.com/about/governance/article_of_incorporation.htm

The effectiveness of the risk management process is monitored by the Group Risk Advisory team and the overall process is regularly reviewed by external auditors, with findings presented to the Audit Committee and the full Board. For details on risk management, including risk factors and the Risk Management Policy, see 'Risk Management' on our website.⁹ Financial risk management is specifically described in the Finance Report.¹⁰

- System of internal controls over financial reporting (see pages 149 and 156 of the Finance Report)
- Internal audit

Group Audit reports to the General Counsel, has direct access and gives regular briefings to the Audit Committee and to the Corporate Governance and Sustainability Committee about ongoing activities and audit reports. The Chief Audit & Risk Advisory Executive attends the Audit Committee and partly the Corporate Governance and Sustainability Committee meetings, as do the external auditors. Group Audit is an independent appraisal function which evaluates and reviews the Group's activities as a service to the Board of Directors and to management. The annual audit plan with yearly defined focus areas (eg, market access, third-party management) is validated by Senior Management and presented to the Audit Committee. The Roche Group is committed to maintaining a high standard of internal control throughout its worldwide operations. Management is responsible for assessing the business risks in all aspects of its operation and for implementing effective and efficient processes and controls whilst ensuring compliance with internal and external rules and regulations.

By conducting operational audits, Group Audit determines management's response to the risks surrounding business processes and systems, and

evaluates the appropriateness, completeness and efficiency of the processes and controls. Action plans to implement necessary changes and enhancements are developed together with the business/auditee and are tracked to completion.

- Statutory auditors, see page 116
- Chief Compliance Officer and Compliance Officers in subsidiaries, see page 119
- Safety, Health and Environmental Protection Department¹¹
- Corporate Sustainability Committee¹²
- Science and Ethics Advisory Group (SEAG), for issues relating to genetics and genetic engineering¹³

The members of the Corporate Executive Committee are invited to attend meetings of the Board of Directors for, and report in person on, those agenda items concerning them. When the situation warrants, members of the Enlarged Corporate Executive Committee may also be invited to attend. The Board Committees invite the Chairman of the Board and Corporate Executive Committee members to deliver reports at committee meetings and may elect to commission independent expert reports and call on the services of consultants.

Each year several black-out periods are imposed during which members of the Board of Directors and senior employees are prohibited from trading in company stock. The following black-out periods are in effect for 2020:

26 December 2019 to 30 January 2020

1 April to 22 April 2020

26 June to 23 July 2020

1 October to 15 October 2020

Black-out periods can be changed by the Chairman of the Board of Directors if circumstances warrant.

⁹ <https://www.roche.com/sustainability/approach/risk-management.htm>

¹⁰ Additional information is provided in the Finance Report, Note 31 to the Roche Group Consolidated Financial Statements, 'Risk management', page 119.

¹¹ <https://www.roche.com/sustainability/environment.htm>

¹² <https://www.roche.com/sustainability.htm>

¹³ https://www.roche.com/research_and_development/who_we_are/how_we_work/ethics_in_rd/ethical_conflicts.htm



Dr Andreas Oeri, Chairman of the Corporate Governance and Sustainability Committee.

In 2019, the Board of Directors met for 7 meetings, generally each from 3 to 6 hours in length, including a full-day meeting, and in addition for a 4-day visit to a major subsidiary.*

The Board Committees met as follows in 2019:

- Chairman's/Nomination Committee: 8 (approx. 2 hours each*)
- Remuneration Committee: 2 meetings¹⁴ (approx. 2 to 3 hours each*)
- Audit Committee: 4 meetings (approx. 3 to 4 hours each*)
- Corporate Governance and Sustainability Committee: 3 meetings (approx. 3 hours each*)

The Board of Directors regularly conducts an assessment (self-assessment/assessment by third parties via electronic survey and personal interviews) of its performance.

Members of the Corporate Executive Committee have a maximum ordinary notice period of twelve months. There are no change-of-control clauses in the employment contracts.

There are no management contracts which fall within the scope of Subsection 4.4 (annex) of the SIX Directive on Information relating to Corporate Governance.

¹⁴ Remuneration Committee members recuse themselves from deliberations and decisions on matters that affect their interests.

* These figures indicate the actual length of meetings and do not include the directors' extensive pre-meeting preparations and post-meeting follow-up activities

Attendance at Board and Board Committee meetings in 2019

	Board	Chairman's/ Nomination Committee	Remuneration Committee	Audit Committee	Corporate Governance and Sustainability Committee
Number of meetings	7	8	2	4	3
C. Franz	7	8	2	–	–
A. Hoffmann	7	8	2	–	3
J. Bell	7	–	–	1**	–
J. Brown	7	–	–	4	–
P. Bulcke	7	–	–	4	–
H. Clevers (member of the Board since March 2019)	5*	–	–	3*	–
A. Hauser	7	–	–	–	3
R.P. Lifton	7	–	2	–	–
A. Oeri	7	–	–	–	3
B. Poussot	7	–	2	–	–
S. Schwan	7	–	–	–	–
C. Suessmuth Dyckerhoff	7	–	–	4	3
P.R. Voser (member of the Board until 30 June 2019)	4***	–	1***	–	–

– Not a member of that committee

* Member since March 2019

** Member until March 2019

*** Member until 30 June 2019

Remuneration, shareholdings and loans

All details regarding remuneration, shareholdings and loans (content and method of determining the compensation and the shareholding programmes, basic principles and elements of compensation and shareholding programmes for serving and former members of the Board of Directors and Corporate Executive Committee, together with a description of the authorities and procedure for determining such) are set forth in the separate Remuneration Report on pages 120 to 148 and in the Finance Report, Notes 22 and 32 to the Roche Group Consolidated Financial Statements ('Equity attributable to Roche shareholders' and 'Related parties', pages 94 and 131), and are listed in Note 6 to the Financial Statements of Roche Holding Ltd ('Board and Executive shareholdings', page 176).

The following rules on remuneration, shareholdings and loans for the Board of Directors (Board) and the Corporate Executive Committee (CEC) are set forth in the Articles of Incorporation (AoI)¹⁵:

Content	Rules in AoI ¹⁵ for	
	Board	CEC
Rules on the principles applicable to performance-related pay	\$25.1–6	\$25.1–6
Rules on the principles to the allocation of equity securities, convertible rights and options	\$25.7	\$25.7
Additional amount for payments to members of the Executive Committee appointed after the vote on pay at the General Meeting of Shareholders		\$24.5
Rules on loans, credit facilities and post-employment benefits	\$25.1 and 3	\$25.2 and 3
Rules on the vote on pay at the AGM	\$24	\$24

¹⁵ https://www.roche.com/about/governance/article_of_incorporation.htm

Participatory rights of shareholders

The participatory rights of shareholders are defined in Roche's Articles of Incorporation.¹⁶ As Roche shares are issued to bearer, there are no restrictions on admission to Annual General Meetings, with the exception that shares must be deposited within a specified period before the date of a meeting and an admittance card must be issued in the shareholder's name, as provided in §12 of the Articles of Incorporation. Any shareholder can elect to be represented by a third party at an Annual General Meeting.

The Articles of Incorporation contain no restrictions on the exercise of voting rights, and the only quorum requirements are those stipulated in §16, in conformity with the Swiss Code of Obligations.

Under §10.2 of the Articles of Incorporation, shareholders representing shares with a nominal value of at least CHF 1 million can request the placement of items on the agenda of an Annual General Meeting. This must be done no later than 28 days before the date of the meeting.

The rules on the issue of instructions to the independent proxy and rules on the electronic participation in the Annual General Meeting are laid down in the corresponding invitation to the Annual General Meeting and are not regulated in the Articles of Incorporation.

Change of control and defensive measures

The Articles of Incorporation contain no provisions on the mandatory bid rule. Swiss law applies.

There are no change-of-control clauses. Those components of remuneration based on Roche NES

would be terminated in the event of an acquisition, and vesting period restrictions on pre-existing awards would be removed, so that all such options could be exercised immediately.

Relationship to statutory auditors

At the Annual General Meeting of Roche Holding Ltd on 5 March 2019, the shareholders voted to appoint KPMG AG (KPMG) as statutory auditors.

Based on the existing legal requirements of the Swiss Code of Obligations (Article 730a) concerning the maximum term of office of seven years of the auditor in charge, Ian Starkey as auditor-in-charge since business year 2011 was replaced by Mark Baillache starting with the business year 2018 (information on how long the auditors and auditor-in-charge

have been serving in these capacities is provided on page 108). The statutory auditors participate in Audit Committee meetings. They prepare written and oral reports on the results of their audits. The Audit Committee oversees and assesses the auditors and makes recommendations to the Board (for information on the authorities and responsibilities of the Audit Committee, see Article 8.1 of the Bylaws¹⁷). The statutory auditors participated in all four meetings of the Audit Committee in 2019.

¹⁶ https://www.roche.com/about/governance/article_of_incorporation.htm

¹⁷ https://www.roche.com/about/governance/article_of_incorporation.htm

The performance of KPMG is assessed based on different elements such as affiliate surveys (to evaluate the service level at the country level), interviews with Roche key stakeholders and the self-evaluation of the KPMG internal processes to ensure compliance with the Federal Audit Oversight Authority (FAOA) Audit Committee Guide.

KPMG's independence is ensured by limiting KPMG from providing certain non-auditing services. Furthermore, permitted services cannot exceed in total 20% of the audit fee. The auditors have direct access to the Audit Committee and its chair as well as the Head of Group Audit to discuss relevant issues.

The reports of the statutory auditor on the Consolidated Financial Statements and on the Financial Statements can be found on pages 150 and 180, respectively, of the Finance Report.

KPMG received the following remuneration for their services as statutory auditors of Roche Holding Ltd and as the auditors of other Roche companies (including Chugai):

	2019	2018
	(millions of CHF)	
Auditing services	21.7	21.7
Audit-related services		
– Assurance	0.1	0.7
– Non-statutory audits	–	–
Tax services	1.9	2.1
Other services	0.4	0.4
Total	24.1	24.9

The audit fee is reviewed by the Head of Group Audit and approved by the Audit Committee every year and takes into consideration changes in Roche's business, as well as changes in financial reporting and audit standards and regulations.

The statutory auditors are elected each year by the Annual General Meeting.

Auditing services are provided as legally required.

Audit-related services include assurance and accounting services provided by auditors but which are not necessarily provided by the statutory auditor. These services which go beyond the legal requirements could include other attestation services, comfort letters, consents and consultations.

Tax services include services with respect to compliance, tax returns and tax advice except those services related to the audit of tax.

Other services include advice relating to process improvements, regulations and trainings.

The company has a formal policy governing the engagement of the statutory auditor for non-audit services. The policy prohibits certain services from being provided but permits certain other services up to limits agreed by the Audit Committee. Each potential non-audit service engagement is reviewed against this policy before any authority to proceed is given.

Relationship to the independent proxy

In recent years, BDO AG served as the independent proxy and at the Annual General Meeting on 5 March 2019, shareholders elected BDO AG as the independent proxy for the period from 2019 until the conclusion of the 2020 ordinary Annual General Meeting of Shareholders. BDO AG was paid for its services for the Annual General Meeting 2019 according to expenditure totalling CHF 14,939 (2018: CHF 13,736).

Due to BDO AG's resignation in July 2019 as the independent proxy elected at the 2019 General Meeting with a view to ceasing the execution of mandates as independent proxy, pursuant to article 8 para. 6 of the 'Ordinance against excessive

compensation at listed joint-stock companies' (VegüV) the Board of Directors appointed Testaris AG as a replacement independent proxy until the conclusion of the 2020 General Meeting. The Board of Directors nominates Testaris AG for election as independent proxy by the General Meeting 2020 for the period from 2020 until the conclusion of the 2021 ordinary General Meeting of Shareholders.

The rules on the issue of instructions to the independent proxy and rules on the electronic participation in the Annual General Meeting are laid down in the corresponding invitation to the Annual General Meeting and are not regulated in the Articles of Incorporation.

Information policy

As provided by §34 of the Articles of Incorporation¹⁸, corporate notices are published in the Swiss Official Gazette of Commerce and in other daily newspapers designated by the Board of Directors ('Basler Zeitung', 'Finanz und Wirtschaft', 'L'Agefi', 'Le Temps', 'Neue Zürcher Zeitung').

Roche reports its half-year and full-year results in business reports (published in print and/or online formats) and at media events. In addition, detailed first-quarter and nine months sales figures are published each year in April and October. The most current list of publication dates is available in English and German on the Internet.¹⁹

All relevant information and documents, including all media releases, investor updates²⁰ and presentations

to analyst and investor conferences are available on the Internet. Further publications are available on <https://www.roche.com/publications.htm> or can be ordered by e-mail: basel.warehouse-services@roche.com or fax: +41 (0)61 688 69 02

The contact address for Investor Relations is:
F. Hoffmann-La Roche Ltd, Investor Relations,
Group Finance, 4070 Basel, Switzerland
tel.: +41 (0)61 688 88 80
fax: +41 (0)61 691 00 14

Additional information, including details on specific contact persons, is available on the Internet.²¹

¹⁸ https://www.roche.com/about/governance/article_of_incorporation.htm

¹⁹ <https://www.roche.com/media.htm>

²⁰ <https://www.roche.com/investors.htm>

²¹ <https://www.roche.com/investors/contacts.htm>

Chief Compliance Officer and Compliance Officers network

The Chief Compliance Officer with his Compliance Officers network is committed to ensuring that the Roche Group Code of Conduct²² is consistently complied with throughout the Roche Group. He also serves as a contact person for shareholders, employees, customers, suppliers and the general public on issues relating to the implementation of and compliance with this Code. Employees and other parties who become aware of violations of the Roche Group Code of Conduct can bring them to the attention of their managers or supervisors, to the local Compliance Officer or report them to the Chief Compliance Officer (Ms Pascale Schmidt, e-mail: pascale.schmidt@roche.com, tel.: +41 (0)61 688 11 11). Such disclosures will be treated confidentially. In addition, as of the end of 2009, employees may anonymously report irregularities or complaints in their mother tongue via a 'SpeakUp Line'. Starting in December 2013, a new compliance tool on Group level, the so-called Roche Group Code of Conduct Help & Advice Line, was introduced which strives to provide guidance in case of questions or uncertainties about the interpretation of the Roche Group Code of Conduct and its reference documents. It furthermore will serve as a platform for ideas and suggestions concerning those documents.

In addition, Roche has established a Business Ethics Incident Reporting (BEIR) system which enables the Chief Compliance Officer to capture, track and monitor alleged violations, from initial reports by local Compliance Officers through to resolution.

Business ethics incidents are recorded in the system when the Group Internal Investigation department or the regional/local management receives specific and concrete information about an alleged violation of the Roche Group Code of Conduct in one of certain pre-defined categories.²³ The Corporate Governance and Sustainability Committee and the Audit Committee of the Board of Directors are informed of substantial violations and management's corrective actions made.

The Chief Compliance Officer reports to the General Counsel and also submits regular reports to the Corporate Governance and Sustainability Committee and as needed to the Audit Committee of the Board of Directors.

Non-applicability/negative disclosure

It is expressly noted that any information not contained or mentioned herein is either non-applicable or its omission is to be construed as

a negative declaration (as provided in the SIX Swiss Exchange Corporate Governance Directive and the Commentary thereto).

²² https://www.roche.com/about/governance/code_of_conduct.htm

²³ <https://www.roche.com/sustainability/approach.htm>



Remuneration Report

All employees should be compensated fairly, transparently and competitively and participate appropriately in the company's success.

We honour performance and success.

Optimal conditions enable employees to make their best possible contribution to improving the wellbeing of people in need.

1. Principles

www

Compensation policy:
https://www.roche.com/careers/for_employees/rewards.htm

Sound value system:
https://www.roche.com/careers/for_employees/living_our_values.htm

Roche is an innovative and agile company whose success depends substantially on the expertise, motivation and performance of its employees. This conviction forms the basis of our compensation policy.

Roche aims to remunerate all employees fairly, transparently and in line with market conditions, to enable them to participate appropriately in the company's success. We pursue this goal by providing competitive, performance-based and results-oriented compensation.

We strive for a balanced mix of fixed and variable compensation components geared to each employee's position and management responsibility.

Firstly, the variable components are intended to create additional financial incentives to achieve corporate goals and to keep innovation at a consistently high level while increasing the value that the company creates for all stakeholder groups. Secondly, in order to allow employees and managers to participate in the company's business success, adequate compensation measures are key. Both objectives are incentivised by annual bonus payments and long-term securities-based programmes.

For a global company like Roche, market-competitive remuneration plays a key role along with a performance-

based, transparent compensation structure. To ensure that compensation packages are competitive, both the structure and individual components are regularly benchmarked against Swiss, European and international criteria. Our remuneration guidelines and their underlying principles are also subject to regular outside comparisons.

However, compensation policy is only one factor in safeguarding Roche's future success. The key element is a corporate culture that offers employees conditions in which they can make their best possible contribution to the shared corporate goal of improving healthcare to patients. This includes a sound and a sustainability-oriented value system that is based on integrity, courage and passion. At the same time, our decentralised management approach plays a major role with its wide scope for individual decision-making, respectful interactions, openness to diversity, wide-ranging training and development opportunities and an attractive working environment. An unidimensional diminishment to questions on remuneration would fall by far too short.

Roche is committed to a fair, performance-based and results-oriented compensation policy that links employees' interests with those of various other stakeholder groups.

2. Remuneration decision process and approval framework

2.1 Overview

Each year the Remuneration Committee of Roche's Board of Directors decides the remuneration of Board members and the members of the Group's Corporate Executive Committee.

Chairman, Group CEO and all other members of the Group's Corporate Executive Committee must not be present when the Remuneration Committee decides their corresponding compensation and have no right to a say in decisions. The decision right is reserved to Remuneration Committee members only.

The Remuneration Committee tracks market data on salaries at other leading global pharmaceutical

companies¹ and at major Swiss companies² and reports its findings to the full Board. The external consulting firm PricewaterhouseCoopers (PwC) assists the Remuneration Committee of Roche in performing market comparisons and in advising. PwC has been awarded additional mandates in the Roche Group. Information on the Remuneration Committee's remit, powers and procedures for making remuneration decisions can be found in the Bylaws of the Roche Board of Directors³ and in the Articles of Incorporation.⁴ They are also outlined in the sections below on the principles governing specific remuneration components (see 3.).

Remuneration decision process and approval framework as of 2019

Remuneration components	Beneficiary		Decision by	Approval by
	Board of Directors (BoD) Chairman (C)	Corporate Executive Committee (CEC) incl. CEO Roche Group		
Base pay/remuneration	√	√	Remuneration Committee	Annual General Meeting
Bonus	√ (C only)	√		
Stock-settled Stock	-	√		
Appreciation Rights (S-SARs)	-	√		
Restricted Stock Units (RSUs)	-	√		
Performance Share Plan (PSP) (expiring plans: PSP 2017–2019 and PSP 2018–2020, see 3.1.5)	-	√		
Decisions on pension	√ (C only)	√	Board of Directors upon recommendation from Remuneration Committee (at the end of 2019 and 2020, respectively)	
			Remuneration Committee	

As of the end of 2018, no new PSP awards are granted under the Performance Share Plan (PSP). Acting upon recommendations from the Remuneration Committee, at the end of 2019

the Board of Directors determined the payment of the expired PSP 2017–2019 and must determine the payment of the PSP 2018–2020 at the end of 2020, respectively (see 3.1).

1 Peer set for 2019: Abbott Laboratories, AbbVie, Amgen, Astellas, AstraZeneca, Bayer, Bristol-Myers Squibb, Eli Lilly, GlaxoSmithKline, Johnson & Johnson, Merck & Co., Novartis, Pfizer, Sanofi, Takeda (no change in composition of peer set compared to 2018).

2 ABB, Credit Suisse, LafargeHolcim, Nestlé, Sonova, Straumann, Swiss Re, UBS, Zurich Insurance.

3 https://www.roche.com/about/governance/article_of_incorporation.htm

4 https://www.roche.com/about/governance/article_of_incorporation.htm

Since 2014, total aggregate amounts that are based on these decisions have been submitted to the General Meeting for approval implementing the 'Ordinance against excessive compensation at listed joint-stock companies' (Verordnung gegen übermässige Vergütungen bei börsenkotierten Aktiengesellschaften [VegüV]).

The General Meeting shall vote annually and with binding effect on the approval of the remuneration (that the Board of Directors has resolved) of the Board of Directors and the Corporate Executive Committee (for details see 4. and 5.).

Peer set for 2019

Abbott Laboratories
AbbVie
Amgen
Astellas
AstraZeneca
Bayer
Bristol-Myers Squibb
Eli Lilly
GlaxoSmithKline
Johnson & Johnson
Merck & Co.
Novartis
Pfizer
Sanofi
Takeda

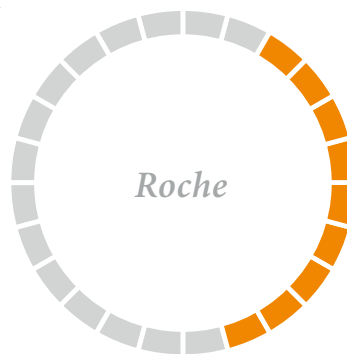


ABB
Credit Suisse
LafargeHolcim
Nestlé
Sonova
Straumann
Swiss Re
UBS
Zurich Insurance

Peer set for 2019

Market comparison companies for salary assessment

- Pharma peer set
- Major Swiss companies

2.2 Procedure for submitting total Board and Executive remuneration for shareholder approval at the Annual General Meeting

Each year at the Annual General Meeting (AGM) shareholders approve the total remuneration for the Board of Directors and for the Corporate Executive Committee as decided by the Board of Directors' Remuneration Committee and the Board of Directors, respectively.

According to the approval at the AGM 2014, Roche has committed itself to obtaining separate and binding shareholder approvals of the total remuneration paid to the Board of Directors and to the Corporate Executive Committee as follows:

Retrospective approval

Total aggregate bonus amounts for the Corporate Executive Committee and the Chairman of the Board of Directors for the financial year just ended will be submitted retrospectively at each ordinary AGM for separate and binding approval.

Prospective approval

All other Board and Executive aggregate remuneration will be submitted prospectively to the AGM for separate and binding approval for the period between two ordinary AGMs.



André Hoffmann, Chairman of the Remuneration Committee.

Approval of total remuneration at the Annual General Meeting (AGM) 2020

Retrospective:

Chairman of the BoD (C):

- Bonus for financial year 2019 (total amount)

Corporate Executive Committee (CEC) including CEO Roche Group:

- Bonus for financial year 2019 (total amount)

Prospective:

Board of Directors (BoD) including C:

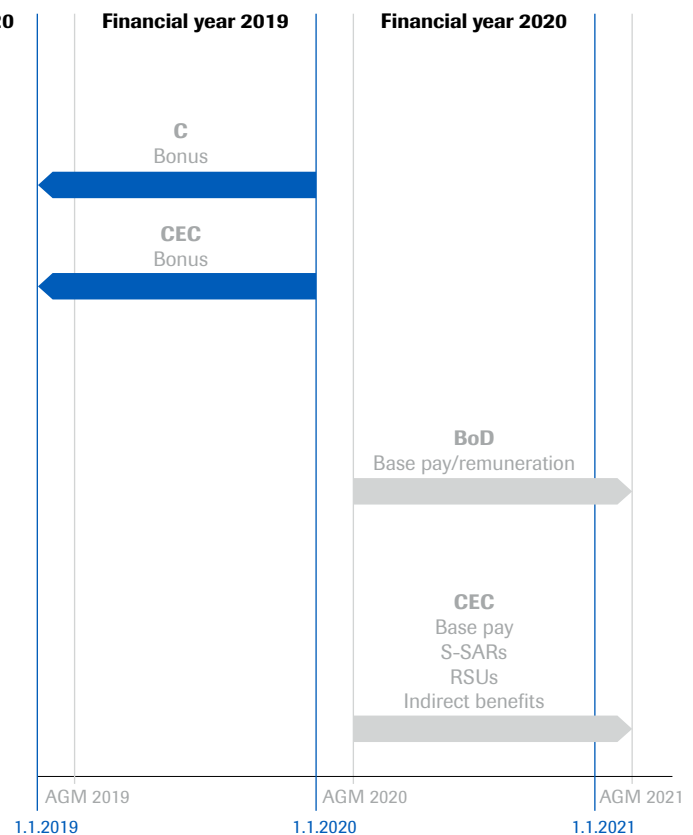
Aggregate total remuneration (AGM 2020–AGM 2021)

- Base pay/remuneration

Corporate Executive Committee (CEC) including CEO Roche Group:

Aggregate total remuneration (AGM 2020–AGM 2021)

- Base pay
- Stock-settled Stock Appreciation Rights (S-SARs)
- Restricted Stock Units (RSUs)
- Indirect benefits



3. Remuneration components

3.1 Overview of remuneration elements

As already described in the outlook for 2019 of the Annual Report 2018 (page 128, 3.1.6), starting in 2019, composition of the remuneration components of the Long-Term Incentive (LTI) for the Corporate Executive Committee and the Enlarged Corporate Executive Committee is changed.

LTI 2019 of the **Corporate Executive Committee and Enlarged Corporate Executive Committee** is complemented with Restricted Stock Units (RSUs)

and is composed of 80% S-SARs and 20% RSUs (based on the already existing individual target value of the total LTI for Corporate Executive Committee members of 133.33% of a base pay measured on 1 January of a year). Vesting and expiration periods are aligned for any newly issued S-SARs and RSUs (see below). Unlike all other participants of the two programmes, members of the Corporate Executive Committee have no choice in determining the mix of RSUs and S-SARs, which will have a four-year cliff vesting.

Corporate Executive Committee LTI (as of 2019)

Mix (S-SARs/RSUs) fixed	Base for calculation	Vesting period	Cliff vesting	Expiration period
80% S-SARs	Based on the already existing individual target value of the total LTI for Corporate Executive Committee members of 133.33% of a base pay measured on 1 January of a year	New: 4 years (until 2019: 3 years)	New: 4 years (until 2019: 3 years)	New: 10 years (until 2019: 7 years)
20% RSUs		New: 4 years	New: 4 years	-

As of 2019, **remaining participants of the S-SARs and RSUs programmes** are offered on a yearly basis a choice of three combinations to determine the mix of Restricted Stock Units (RSUs) and Stock-settled Stock Appreciation Rights (S-SARs, options are used instead of S-SARs in some countries). The following options are available:

Choice 1	Choice 2	Choice 3
80% S-SARs	50% S-SARs	20% S-SARs
20% RSUs	50% RSUs	80% RSUs

Offering this level of choice empowers participants to engage more fully in their total rewards, enables them to better understand a critical element of their compensation, increases the value of the programme, and positions Roche as the first among its peer group to provide this benefit.

The expiration period for any newly issued S-SARs is extended from currently seven years to ten years. This gives participants an additional three years to exercise vested S-SARs. The vesting schedule for any newly issued RSUs was changed from three-year cliff vesting to four-year annual vesting. Each year, 25% of the granted RSUs will vest and will become available to participants. The vesting schedule for S-SARs, currently three-year annual vesting, was also aligned with a four-year annual vesting schedule for any new grants.

These changes make the Roche Long-Term Incentive programme more attractive, enabling Roche to attract, motivate and retain the best talent and keep it aligned with the company's long-term success.

Therefore, as of 2019, the remuneration to the members of the Board of Directors and the Corporate Executive Committee is composed of the following elements (for concrete composition see chart below: ‘Composition of remuneration to the Board of Directors and the Corporate Executive Committee’):

The fixed base salary is complemented with the annual variable bonus as **Short-Term Incentive (STI)** and with perennial remuneration elements (S-SARs, RSUs) as **Long-Term Incentive (LTI)**.

Since the end of 2018, no new Performance Share Plan (PSP) awards have been granted. Acting upon recommendations from the Remuneration Committee, at the end of 2019 the Board of Directors determined the payment of the expired PSP 2017–2019 and must determine the payment of the PSP 2018–2020 at the end of 2020, respectively.

The remuneration components are linked to the employees’ performance, the company’s financial performance and commercial success and thus align the interests of Roche and its employees with those of shareholders.

The LTI remuneration components are intended to sustainably, homogeneously and in a long-term-oriented perspective align management’s interest with those of shareholders and holders of non-voting equity securities and to give participating managers an additional incentive to achieve sustainable shareholder value growth.

Composition of remuneration to the Board of Directors and the Corporate Executive Committee

Annual remuneration elements	Description	C	BoD	CEO Roche Group	CEC
Base pay/ remuneration	Monthly payment (see 3.1.1 below)	√	√ Quarterly payments	√	√
Bonus	Annual payment (see 3.1.2 below)	√ For 10 years blocked non-voting equity securities and/or shares	–	√ For 10 years blocked non-voting equity securities and/or shares	√ Cash
Pensions etc.	(see 3.1.6 below)	√	–	√	√
Perennial remuneration elements					
Stock-settled Stock Appreciation Rights (S-SARs)	(see 3.1.3 below)	–	–	√	√
Restricted Stock Units (RSUs)	(see 3.1.4 below)	–	–	√	√
Performance Share Plan (PSP) (expiring plans: PSP 2017–2019 and PSP 2018–2020)	(see 3.1.5 below)	–	–	√ For 10 years blocked non-voting equity securities and/or shares	√

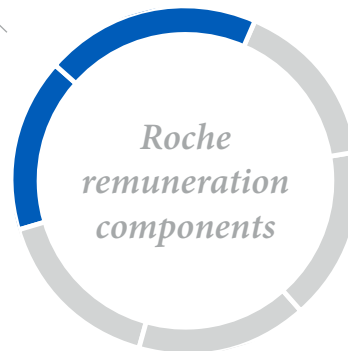
Variable, long-term

STI:

- Bonus

LTI:

- Stock-settled Stock Appreciation Rights
- Restricted Stock Units
- Performance Share Plan



Base salary

Indirect benefits (employer contribution):

- Pensions and insurance contributions
- Roche Connect
- Tax consulting services

Expense allowances

Others:

- Children's schooling costs
- Foreign tax obligation
- AHV/IV/ALV

Fixed

3.1.1 Base pay (fixed)

Base pay (cash payment) is determined for each position based on salary market data of other leading global pharmaceutical companies (see footnote 1) and of other major Swiss companies (see footnote 2) and reflects individuals' abilities, experience and performance over time. Pay adjustments are likewise linked to individual performance and take into account prevailing market conditions and the company's overall financial situation.

The Remuneration Committee makes and reviews the final decision on the individual base pay paid to the Chairman of the Board of Directors and members of the Corporate Executive Committee and on the remuneration of the other members of the Board.

3.1.2 Bonuses (variable)

Bonuses are annually awarded for individual contributions of value creation in a business year and are meant to be an incentive to strive for outstanding results and to create new business opportunities. Bonus amounts are linked to Group and divisional core profits, sales growth at constant exchange rates, Operating Profit After Capital Charge (OPAC) based on core operating profit, core earnings per share and non-voting equity security (NES) growth at constant exchange rates, product development pipeline, diversity of employees and managers, environmental goals and to the achievement of measurable and

qualitative individual or functional performance objectives. For competitive reasons, Roche does not disclose the individual performance objectives of members of its Corporate Executive Committee and of its Chairman.

In December at the end of a reporting year or in January following a reporting year, the Remuneration Committee decides on the bonuses and their amounts payable to the Chairman of the Board and the members of the Corporate Executive Committee in respect of the current reporting year, based on performance against the aforementioned objectives. At the same time, the Remuneration Committee also decides in what form bonuses will be awarded, ie, cash payments and/or non-voting equity securities and/or shares.

The Remuneration Committee uses complete discretion in the weighting of each criteria and in the bonus allocation.

3.1.3 Stock-settled Stock Appreciation Rights (S-SARs) (long-term)

As of 2019, the S-SARs proportion of the LTI of the Corporate Executive Committee is composed of 80% (based on the already existing individual target value of the total LTI for Corporate Executive Committee members of 133.33% of a base pay measured on 1 January of a year).

S-SARs entitle holders to benefit financially from any increase in the value of Roche's non-voting equity securities between the grant date and the exercise date. As of 2019, S-SARs granted all vest together after four years and then have to be exercised within ten years of the grant date. Unexercised S-SARs lapse without compensation. Since 2012, the fair value of S-SARs has been calculated at the grant date using the trinomial model for American call options (for details see page 140).

S-SARs to the Corporate Executive Committee are allocated individually at the Remuneration Committee's discretion. In 2019 in total, around 20,950 employees received S-SARs.

3.1.4 Restricted Stock Units (RSUs) (long-term)

As of 2019, the proportion of Restricted Stock Units (RSUs) of the members of the Corporate Executive Committee is 20% of the total LTI (based on the already existing individual target value of the total LTI for Corporate Executive Committee members of 133.33% of a base pay measured on 1 January of a year). RSU awards are allocated individually for the Corporate Executive Committee at the Remuneration Committee's discretion.

RSUs contain rights to receive non-voting equity securities and/or shares after a (since 2019 newly defined) four-year vesting period plus a value adjustment (being the amount equivalent to the sum of the dividend paid during the vesting period attributable to the number of non-voting equity securities and/or shares for which an individual award has been granted). They will be vested to the recipient for the Corporate Executive Committee after four years only. Thereafter, resulting non-voting equity securities and/or shares may remain blocked for up to ten years.

RSUs serve as a remuneration component for around 21,070 eligible Roche employees.

3.1.5 Performance Share Plan (PSP) (long-term)

The PSP was established in 2002 for periods of three years each and based on a three-year comparison of the Total Shareholder Return (TSR) with 15 peer companies (see footnote 1). In a respective year, the PSP consisted of three overlapping performance cycles, with a new cycle starting at the beginning of each year and a cycle finishing at the end of each year. The plan's key performance metric for an award, the TSR, was calculated as a three-month moving average rate before the start of and before the end of the performance cycle.

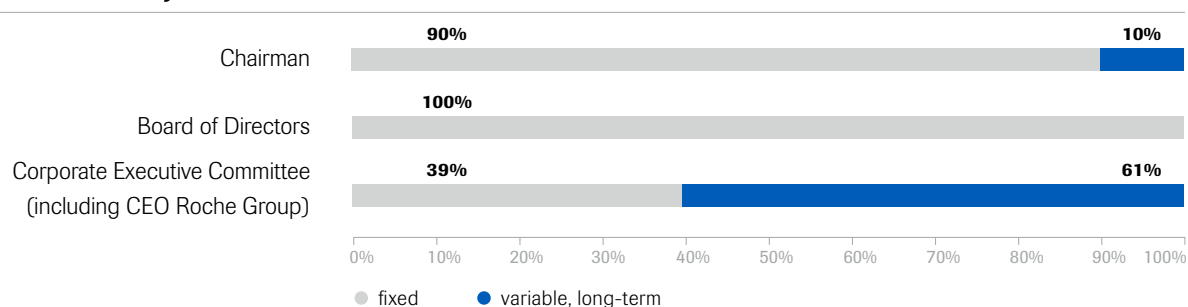
No new PSP awards have been granted since the end of 2018. Therefore, in 2019, there were only the two overlapping performance cycles PSP 2017–2019 and PSP 2018–2020, of which PSP 2017–2019 closed on 31 December 2019 (see 5.8 and 5.3).

The Board of Directors, acting upon recommendations from the Remuneration Committee, must determine the payment of the ongoing PSP 2018–2020 at the end of 2020 using complete discretion.

3.1.6 Indirect benefits

As shown in 5.9 (5.3 [for the CEO Roche Group] and 4.3 [for the Chairman], respectively), members of the Corporate Executive Committee additionally received indirect benefits (payments in pension funds, insurances, Roche Connect, payments for foreign tax obligation and tax consulting services and annual expense allowances) and as shown under 5.10 individual members of the Corporate Executive Committee received payments for family, children and education allowance and for schooling costs for their children.

3.2 Weighting (fixed/variable, long-term) of 2019 remuneration components (at target and as percentage of total remuneration in 2019)



The variable, long-term remuneration paid out to the members of the Corporate Executive Committee ranged from 0% to 68% of the fixed compensation.

3.3 Ratio of variable remuneration components relative to fixed base pay of the Corporate Executive Committee 2019

Ratio of variable remuneration components (bonuses, S-SARs and RSUs) relative to % of value of fixed base pay

Criteria	STI (variable)	LTI (long-term) (total: 133,33%**)	
		S-SARs (80% of total LTI)	RSUs (20% of total LTI)
Individual target value*	≤100%	106.66%**	26.66%**
Minimum	0%	0%	0%
Maximum	200%	106.66%	26.66%
Performance criteria	Group objectives (Group and divisional business performance) and individual objectives considering core profits, sales growth at constant exchange rates, Operating Profit After Capital Charge (OPAC) based on core operating profit, core earnings per share and non-voting equity security (NES) growth at constant exchange rates, product development pipeline, diversity of employees and managers, environmental goals	Value development determined by performance of NES after grant	Value development determined by performance (plus a value adjustment for dividends) of NES after grant
Split in %			
a) Group objectives	70%	n.a.	n.a.
b) Individual objectives	30%	n.a.	n.a.
Weighting criteria/ Decision on objectives	Complete discretion of the Remuneration Committee		

n.a. - not applicable

* Assessed in consideration of the performance of competitors and the macro-economic development

** Based on the already existing individual target value of the total LTI for Corporate Executive Committee members of 133.33% of a base pay measured on 1 January of a year

For all further details please refer to the following sections of this Remuneration Report.⁵

⁵ See also in the Finance Report Note 32 to the Roche Group Consolidated Financial Statements ('Related parties', page 131) and Note 6 to the Financial Statements of Roche Holding Ltd ('Board and Executive shareholdings', page 176).

4. Remuneration of the Board of Directors

4.1 Resolution and approval

Remuneration of the Chairman of the Board of Directors and of members of the Board of Directors was decided at the Remuneration Committee's discretion, taking into account market comparisons.

The remuneration is in form of cash payments and is annually tracked against market data on directors' pay at other leading global pharmaceutical companies (see footnote 1) and other major Swiss companies (see footnote 2) which is assisted by the consultancy of PwC.

As in the previous years, in 2020, the Board of Directors will separately submit the total aggregate bonus of the Chairman of the Board of Directors to the General Meeting for the 2019 financial year for retrospectively binding approval.

The maximum amounts of the total other aggregate remuneration of the Board of Directors for the period between the ordinary General Meeting 2020 and the ordinary General Meeting 2021 will be separately tabled in 2020 as in the previous years for the General Meeting's prospectively binding approval (see 2.2).

4.2 Amount of remuneration to the members of the Board of Directors

In 2019, the members of the Board of Directors⁶ received remuneration and additional compensation in form of quarterly fixed cash payments as shown in the 'Remuneration of members of the Board of

Directors 2019' table on page 132 for their Board activities. Roche paid legally required employer's contributions of total CHF 109,784 to Swiss social security programmes providing retirement, disability and unemployment benefits (AHV/IV/ALV) for the members of the Board of Directors beside the legally required contributions separately stated for the Chairman of the Board of Directors.

The basic remuneration of the Board of Directors (excluding the Chairman) has remained unchanged since 2001.

With the exception of the Chairman of the Board of Directors (bonus in form of blocked shares) and Dr Severin Schwan as an executive member of the Board, members of the Board of Directors were not awarded any shares, non-voting equity securities or S-SARs.

There are no loans or credits granted to the members of the Board of Directors.

In his capacity as a member of the Chugai International Council (CIC) of Chugai Pharmaceutical Co., Ltd. André Hoffmann received in 2019 honoraria amounting to a total of USD 40,000 (CHF 39,753).

For his advisory service on the Genentech Scientific Review Board, Prof. Dr Richard P. Lifton received in 2019 honoraria amounting to a total of USD 10,000 (CHF 9,938).

AUDITED

⁶ For a list of members, their positions and their committee memberships and chairmanships see page 107.

Remuneration of members of the Board of Directors 2019 (in CHF)

	AUDITED			
	Basic remuneration	Additional remuneration for committee members/chairs ⁷	Additional special remuneration	Total remuneration
C. Franz, Chairman		(see '4.3 Total remuneration paid to the Chairman of the Board of Directors')		
A. Hoffmann, Vice-Chairman	400,000 ⁸	-	39,753 (see page 131)	439,753
J. Bell	300,000	7,500	-	307,500
J. Brown	300,000	60,000	-	360,000
P. Bulcke	300,000	30,000	-	330,000
H. Clevers (since March 2019 ⁹)	250,000	22,500	-	272,500
A. Hauser	300,000	30,000	-	330,000
R.P. Lifton	300,000	30,000	9,938 (see page 131)	339,938
A. Oeri	300,000	60,000	-	360,000
B. Pousset	300,000	30,000	-	330,000
S. Schwan	(see '5.3 Highest total remuneration paid to Dr Severin Schwan as a member of the Corporate Executive Committee', remuneration received in his primary function as CEO Roche Group is reflected in total remuneration for the Corporate Executive Committee)			
C. Suessmuth Dyckerhoff	300,000	60,000	-	360,000
P.R. Voser (until end of June 2019 ¹⁰)	150,000	15,000	-	165,000
Total¹¹	3,200,000	345,000	49,691	3,594,691

7 With the exception of members of the Chairman's Committee (Chairman, Vice-Chairman) Board members receive CHF 30,000/year for each committee they serve on and CHF 60,000/year for each committee they chair.

8 Remuneration for serving as Vice-Chairman of the Board.

9 Prorated remuneration for the period from March to December 2019.

10 Prorated remuneration for the period from January to end of June 2019.

11 Additionally, employer contribution to AHV/IV/ALV totalling CHF 340,551 (including the Chairman) was paid that does not form part of remuneration.

Remuneration of members of the Board of Directors 2018 (in CHF)

	Basic remuneration	Additional remuneration for committee members/chairs ¹²	Additional special remuneration	Total remuneration
C. Franz, Chairman		(see '4.3 Total remuneration paid to the Chairman of the Board of Directors')		
A. Hoffmann, Vice-Chairman	400,000 ¹³	-	39,123	439,123
J. Bell	300,000	30,000	-	330,000
J. Brown	300,000	60,000	-	360,000
P. Bulcke	300,000	30,000	-	330,000
A. Hauser	300,000	30,000	-	330,000
R.P. Lifton	300,000	30,000	9,781	339,781
A. Oeri	300,000	60,000	-	360,000
B. Pousot	300,000	30,000	-	330,000
S. Schwan	(see '5.3 Highest total remuneration paid to Dr Severin Schwan as a member of the Corporate Executive Committee', remuneration received in his primary function as CEO Roche Group is reflected in total remuneration for the Corporate Executive Committee)			
C. Suessmuth Dyckerhoff	300,000	60,000	-	360,000
P.R. Voser	300,000	30,000	-	330,000
Total¹⁴	3,100,000	360,000	48,904	3,508,904

AUDITED

12 With the exception of members of the Chairman's Committee (Chairman, Vice-Chairman) Board members receive CHF 30,000/year for each committee they serve on and CHF 60,000/year for each committee they chair.

13 Remuneration for serving as Vice-Chairman of the Board.

14 Additionally, employer contribution to AHV/IV/ALV totalling CHF 351,618 (including the Chairman) was paid that does not form part of remuneration.

4.3 Total remuneration paid to the Chairman of the Board of Directors

As Chairman, Dr Christoph Franz received total remuneration for 2019 as shown below. The Remuneration Committee's bonus proposal (adopted in late 2019) in respect of the 2019 financial year

(in form of shares blocked for ten years, payable in March 2020) will be put for shareholder binding vote at the 2020 ordinary Annual General Meeting (AGM).

The Chairman's total remuneration is contained in the total remuneration of the Board of Directors in 4.4.

Total remuneration paid to the Chairman of the Board of Directors (in CHF)

	2019	2018
Base salary (in cash)	3,500,000	3,500,000
Bonus (subject to approval of the Annual General Meeting)	558,390*	558,390*
Pension funds/MGB ¹⁵ /insurances/annual expense allowances	1,674,159**	1,687,311**
Total	5,732,549¹⁶	5,745,701

AUDITED

* In form of shares blocked for 10 years (calculation of number of shares, based on the price at the date of transfer in March 2020 and 2019, respectively, after approval at the AGM 2020/AGM 2019, respectively), calculation of value in consideration of reduction of value due to blocking period of 10 years (reduced market value: 55.839%) to be submitted for shareholder approval at the AGM 2020/as approved at the AGM 2019, respectively

** Including employer contribution of social securities' beneficial parts

15 MGB: Stiftung der F. Hoffmann-La Roche AG für Mitarbeiter-Gewinnbeteiligung (employee profit-sharing foundation supplementing occupational pension benefits), dissolved in 2019.

16 Additionally, employer contribution to AHV/IV/ALV of CHF 230,767 (2018: CHF 231,145) was paid that does not form part of remuneration.

4.4 Total remuneration paid to the Board of Directors

For the 2019 calendar year the members of the Board of Directors received remuneration including bonuses and employer contribution of social securities' beneficial parts totalling CHF 9,405,725 (2018: CHF 9,328,325), excluding additional employer's contribution paid to AHV/IV/ALV totalling CHF 340,551 (2018: CHF 351,618) that does not form part of remuneration.

4.5 Remuneration paid to the former members of the Board of Directors

Former member of the Board of Directors Dr Franz B. Humer in 2019 received fees amounting to a total of USD 40,000 (CHF 39,753) for serving as a member of the Chugai International Council (CIC) of Chugai Pharmaceutical Co., Ltd.

Former member of the Board of Directors William M. Burns in 2019 received honoraria amounting to a total of USD 40,000 (CHF 39,753) in his capacity as a member of the Chugai International Council (CIC) of Chugai Pharmaceutical Co., Ltd.

No additional remuneration was paid.

4.6 Board remuneration subject to approval at the Annual General Meeting

4.6.1 Submission of the Chairman's total aggregate bonus for a binding vote at the Annual General Meeting

Remuneration to the Chairman of the Board of Directors includes a bonus award of CHF 558,390 in form of shares blocked for ten years as shown in the table in section '4.3 Total remuneration paid to the Chairman of the Board of Directors'. The Board of Directors will submit the Remuneration Committee's bonus proposal (adopted in late 2019) for the Chairman of the Board, Dr Christoph Franz, in respect of the 2019 financial year (payable in March 2020, excluding legally required employer's contributions to AHV/IV/ALV) for the shareholder binding vote to the 2020 ordinary Annual General Meeting.

Retrospective approvals of the Chairman's total aggregate bonus (in CHF)*

	Proposal AGM 2020	AGM 2019	AGM 2018
	Aggregate amount for financial year 2019	Aggregate amount for financial year 2018	Aggregate amount for financial year 2017
Total aggregate amount proposal for approval/ approved by the AGM	558,390**	558,390**	558,390**

* Excluding legally required employer's contributions to AHV/IV/ALV

** Bonus award (in form of shares, blocked for 10 years [calculation of number of shares based on the price at the date of transfer in March 2020/March 2019/April 2018, respectively, after approval at the AGM 2020/AGM 2019/AGM 2018, respectively], calculation of value in consideration of reduction of value due to blocking period of 10 years [reduced market value: 55.839%]) to be submitted for shareholder approval at the AGM 2020/as approved at the AGM 2019 and AGM 2018, respectively)

4.6.2 Submission of the Board's total aggregate future remuneration for a binding shareholder vote

The Board of Directors proposes that the 2020 ordinary AGM approve Board remuneration totalling not more than CHF 10,000,000 (excluding legally required employer's contributions to AHV/IV/ALV and excluding bonuses) for the period ending at the 2021 ordinary AGM.

Dr Severin Schwan's remuneration as shown in 5.3 which he receives in his function as CEO Roche Group and member of the Corporate Executive Committee is not included here but is part of the Corporate Executive Committee's total remuneration.

Prospective approvals of the Board's total aggregate future remuneration (in CHF)*

	Proposal AGM 2020	AGM 2019	AGM 2018
	Aggregate amount for the period AGM 2020–AGM 2021	Aggregate amount for the period AGM 2019–AGM 2020	Aggregate amount for the period AGM 2018–AGM 2019
Total aggregate amount proposal for approval/ approved by the AGM	10,000,000	10,000,000	10,000,000

* Excluding legally required employer's contributions to AHV/IV/ALV and excluding bonuses

4.6.3 Reconciliation of the reported remuneration with the shareholders' approved remuneration for the members of the Board of Directors

The 2018 ordinary AGM approved Board remuneration totalling not more than CHF 10,000,000 (excluding legally required employer's contributions to AHV/IV/ALV and excluding bonuses) for the period ending at the 2019 ordinary AGM.

For comparison, from the 2018 ordinary AGM to the 2019 ordinary AGM actual remuneration amounted to CHF 8,694,022 (excluding legally required employer's contributions to AHV/IV/ALV and excluding bonuses).

Prospectively approved total remuneration for the members of the Board of Directors in comparison to the actual total payments made (in CHF)*

	Total remuneration for the period AGM 2019–AGM 2020	Total remuneration for the period AGM 2018–AGM 2019	Total remuneration for the period AGM 2017–AGM 2018
Maximum of total remuneration approved by the AGM	10,000,000	10,000,000	10,000,000
Actual total remuneration paid	Calculation at end of period	8,694,022	8,700,243
Within the approved limit	Calculation at end of period	Yes	Yes

* Excluding legally required employer's contributions to AHV/IV/ALV and excluding bonuses

4.7 Security holdings

Directors André Hoffmann and Dr Andreas Oeri and members of the founders' families who are closely associated with them belong to a contractually bound shareholder group with pooled voting rights. At the end of 2019 this group held 72,018,000 shares (45.01% of issued shares). Detailed information about this group can be found in the Finance Report, Note 32 to the Roche Group Consolidated Financial Statements

(‘Related parties’, page 131) and in Note 4 to the Financial Statements of Roche Holding Ltd (‘Significant shareholders’, page 175). In addition, as at 31 December 2019 (as at 31 December 2018, respectively) the members of the Board of Directors and persons closely associated with them held Roche shares, non-voting equity securities (NES) and American Depositary Receipts (ADRs^{***}) as shown in the table ‘Security holdings’ below.

Security holdings (shares and NES)

	(as at 31 December 2019)				(as at 31 December 2018)			
	Shares (number)	Non-voting equity securities (NES) (number)	Close relatives' security holdings (number/type)	Others (number)	Shares (number)	Non-voting equity securities (NES) (number)	Close relatives' security holdings (number/type)	Others (number)
Board of Directors								
C. Franz	19,771	4,810	-	-	16,014	4,810	-	-
A. Hoffmann	-*	200	-	-	-*	200	-	-
J. Bell	1,115	1,647	-	-	1,115	1,647	-	-
J. Brown	729	-	-	-	729	-	-	-
P. Bulcke	-	4,000	-	-	-	4,000	-	-
H. Clevers	-	-	-	-	n.a.	n.a.	n.a.	n.a.
A. Hauser	3,000	150	20 NES	-	-	150	20 NES	-
R.P. Lifton	-	-	-	300 ADRs ^{***}	-	-	-	300 ADRs ^{***}
A. Oeri	-*	187,793	-	-	-*	187,793	-	-
B. Poussot	500	500	-	-	500	500	-	-
S. Schwan	(see ‘5.16 Security holdings’ Corporate Executive Committee on page 147)				(see ‘5.16 Security holdings’ Corporate Executive Committee on page 147)			
C. Suessmuth Dyckerhoff	-	2,100 ^{**}	-	-	-	2,100 ^{**}	-	-
Total	25,115	201,200	20 NES	300 ADRs^{***}	18,358	201,200	20 NES	300 ADRs^{***}

n.a. – not applicable

* Shares held by the shareholder group with pooled voting rights not listed

** Jointly held with close relative

*** Roche's ADR (American Depositary Receipt) listed on OTCQX <https://www.otcmarkets.com/stock/RHHBY/quote> International Premier under the symbol RHHBY, ISIN US771195104. Traded in USD, eight (8) ADRs represent one (1) underlying NES

5. Remuneration of the Corporate Executive Committee

5.1 Resolution and approval

Remuneration of the members of the Corporate Executive Committee was decided at the Remuneration Committee's discretion, taking into account market comparisons.

As in the previous years, in 2020, the Board of Directors will separately submit the total aggregate bonuses of the Corporate Executive Committee to the General Meeting for the 2019 financial year for retrospectively binding approval.

The maximum amounts of the total other aggregate remuneration of the Corporate Executive Committee for the period between the ordinary General Meeting 2020 and the ordinary General Meeting 2021 will be tabled in 2020 as in the previous years for the General Meeting's prospectively binding approval (see 2.2).

5.2 Amount of remuneration to members of the Corporate Executive Committee

The general provisions assigning authority for decisions on Corporate Executive Committee remuneration to the Remuneration Committee and to the Board of Directors are outlined on page 123, '2. Remuneration decision process and approval framework'.

In 2019, members of the Corporate Executive Committee received remuneration for their work as shown in 5.3–5.12. The amount of remuneration for the CEO Roche Group, Dr Severin Schwan, is explained in 5.3 in detail.

Payments to Daniel O'Day, who retired from the Corporate Executive Committee at the end of December 2018 and from Roche at the end of February 2019, for 2019 are included and aggregated in the total remuneration of the Corporate Executive Committee (see 5.12).

Payments for 2019 to Dr Michael Heuer, CEO Roche Diagnostics a. i., who retired as member of the Corporate Executive Committee and retired from Roche as of 31 July 2019, are included and aggregated in the total remuneration of the Corporate Executive Committee (see 5.12).

Individually specified remuneration to Dr Thomas Schinecker include payments for 2019 in his former role as well as payments as a member of the Corporate Executive Committee as of 1 August 2019.

5.3 Highest total remuneration paid to Dr Severin Schwan as a member of the Corporate Executive Committee

Dr Severin Schwan, executive member of the Board of Directors, received his remuneration in his primary function as CEO Roche Group. It is reflected as the

highest total remuneration paid to a member of the Corporate Executive Committee (see below) and included in the total amount paid to the Corporate Executive Committee (see '5.12 Total remuneration paid to the members of the Corporate Executive Committee', page 144).

Highest total remuneration paid to Dr Severin Schwan as a member of the Corporate Executive Committee (in CHF)

	2019	2018 ¹⁷
Base salary	4,000,000	4,000,000
S-SARs ¹⁸	3,379,524 ^{***}	2,666,934 ^{****}
Pension funds/MGB ¹⁹ /insurances	580,843 ^{**}	585,418 ^{**}
Roche Connect	100,008	100,008
Bonus (subject to approval of the total aggregate bonuses for the Corporate Executive Committee by Annual General Meeting)		
– Blocked shares	2,791,950 ^{20*}	2,791,950*
RSUs	595,673 ^{21*}	n.a.
PSP	n.a.	1,488,911 ^{22*}
Other payments incl. expense allowance/for tax consulting services	68,856	127,314
Total	11,516,854²³	11,760,535²³

n.a. – not applicable

* Calculation of value of non-voting equity securities/shares in consideration of reduction of value due to blocking period of 10 years (reduced market value: 55.839%)

** Including employer contribution of social securities' beneficial parts

¹⁷ For detailed calculation of the remuneration for 2018 and 2017 see Annual Report 2018, page 138.

¹⁸ *** Number of S-SARs 2019: 122,322, grant value according to the trinomial model for American call options: CHF 34.88. Trinomial model for American call options value as described in '5.6 Stock-settled Stock Appreciation Rights (S-SARs) of the other members of the Corporate Executive Committee', page 140. S-SARs 2019 are blocked for 4 years and may thereafter be exercised only, whilst exercising resulting NES are automatically blocked for additional 4 years (calculation of value of non-voting equity securities in consideration of reduction of value due to additional blocking period of 4 years, reduced market value: 79,209%).

**** Number of S-SARs 2018: 100,677, grant value according to the trinomial model for American call options: CHF 26.49. Trinomial model for American call options value as described in '5.6 Stock-settled Stock Appreciation Rights (S-SARs) of the other members of the Corporate Executive Committee', page 140.

¹⁹ MGB: Stiftung der F. Hoffmann-La Roche AG für Mitarbeiter-Gewinnbeteiligung (employee profit-sharing foundation supplementing occupational pension benefits), dissolved in 2019.

²⁰ Shares blocked for 10 years (calculation of number of shares based on the share price at the date of transfer in March 2020 after approval at the AGM 2020).

²¹ Calculation of RSUs value 2019: number of RSUs (3,927) multiplied by grant value of CHF 271.65 (NES closing price at grant date on 15 March 2019) per RSU.

²² Target number of non-voting equity securities for PSP 2018–2020 (11,076 non-voting equity securities) multiplied per non-voting equity securities' price averaged over the three months (October to December 2017) prior to the start of the performance cycle 2018–2020, CHF 240.74/non-voting equity security.

²³ Includes an annual expense allowance (CHF 30,000), payments for tax consulting services (CHF 28,056; 2018: CHF 47,314), family, children and education allowance (CHF 10,800) and anniversary payment in 2018 of CHF 50,000. Additionally, employer contribution to AHV/IV/ALV of CHF 495,882 (2018: CHF 428,867) was paid that does not form part of remuneration.

5.4 Base pay of the other members of the Corporate Executive Committee

Base pay (in CHF)

	2019	2018
B. Anderson	1,804,301	n.a.
A. Hippe	1,600,000	1,600,000
G.A. Keller	1,500,000	1,500,000
T. Schinecker	608,704	n.a.
C.A. Wilbur	989,156	925,000
Total	6,502,161	4,025,000

AUDITED

n.a. - not applicable

Payments to Daniel O'Day and Dr Michael Heuer until their retirement from Roche at the end of February and July 2019, respectively, are included and aggregated in the total remuneration of the Corporate Executive Committee (see 5.12).

5.5 Bonuses of the other members of the Corporate Executive Committee

The Remuneration Committee of the Board of Directors determined the Corporate Executive Committee members' bonuses based on the performance 2019 against the agreed objectives. The Remuneration Committee uses complete discretion in the weighting of each criteria and in the bonus

allocation. For Dr Michael Heuer a bonus of CHF 750,000 is being proposed. It is included and aggregated in the total remuneration of the Corporate Executive Committee (see 5.12). The total aggregate amount of bonuses will be brought forward for a binding vote by the Annual General Meeting 2020. Daniel O'Day received no bonus payment for 2019.

Except for Dr Severin Schwan, all members of the Corporate Executive Committee will receive the bonus 2019 as a 100% cash payment which is due in March 2020. Dr Severin Schwan will receive the bonus in form of Roche shares which are blocked for ten years (see page 138). Bonus payment is due in March 2020.

Bonus (in CHF)

	2019 (Subject to approval of the total aggregate bonuses of the Corporate Executive Committee by the Annual General Meeting 2020)	2018
B. Anderson	2,500,000	n.a.
A. Hippe	2,000,000	2,000,000
G.A. Keller	1,400,000	1,400,000
T. Schinecker	500,000	n.a.
C.A. Wilbur	1,200,000	1,200,000
Total	7,600,000	4,600,000

AUDITED

n.a. - not applicable

5.6 Stock-settled Stock Appreciation Rights (S-SARs) of the other members of the Corporate Executive Committee

S-SARs to the Corporate Executive Committee are allocated individually at the Remuneration Committee's discretion. The S-SARs shown in the 5.16.2 'S-SARs' table on page 148 entitle holders to benefit financially from any increase in the value of Roche's non-voting equity securities (NES) between the grant date and the exercise date. The strike price for S-SARs under the terms of this multi-year plan is the closing price for Roche NES at grant date. All S-SARs as of 2019 vest four (previously granted S-SARs three) years after the grant date. Vested S-SARs can be exercised (converted into NES) within ten (previously granted S-SARs within seven) years of the grant date. Unexercised S-SARs lapse without compensation.

As of 2019, the S-SARs proportion of the LTI of the Corporate Executive Committee is composed of 80% (based on the already existing individual target value

of the total LTI for Corporate Executive Committee members of 133.33% of a base pay measured on 1 January of a year).

The fair value of the S-SARs is calculated at the grant date using the trinomial model for American call options. The trinomial model is an effective method for valuation of American call options, as it considers the possibility of exercising the option any time prior to maturity (called 'American' option, as compared to a 'European' option, which only allows exercise at its maturity date).²⁴

The numbers of S-SARs, the strike prices, expiry dates and grant values for S-SARs are shown in the 5.16.2 'S-SARs' table on page 148. The numbers of S-SARs as calculated at the time of issue have been entered as values in the table below and on page 138.²⁵

For 2019, no S-SARs were granted to Daniel O'Day and Dr Michael Heuer.

Stock-settled Stock Appreciation Rights (S-SARs) (in CHF)

	S-SARs	
	2019	2018
B. Anderson	1,919,970	n.a.
A. Hippe	1,706,678	1,066,885
G.A. Keller	1,600,015	1,000,209
T. Schinecker	270,111	n.a.
C.A. Wilbur	1,013,334	566,939
Total	6,510,108	2,634,033

n.a. - not applicable

²⁴ For further information on the trinomial model for American call options: Please refer to Boyle, Phelim P.: 'A lattice framework for option pricing with two state variables', The Journal of Financial and Quantitative Analysis, Volume 23, Issue 1 (Mar 1988), 1-12, <https://www.roche.com/dam/jcr:1a6a5a5c-7b9f-4019-810a-7b57c4b89eac/en/trinomial-model.pdf>

²⁵ See strike prices in table 5.16.2 'S-SARs', page 148.

5.7 Restricted Stock Units (RSUs) of the other members of the Corporate Executive Committee

As of 2019, the proportion of Restricted Stock Units (RSUs) of the members of the Corporate Executive Committee is composed of 20% of the total LTI (based on the already existing individual target value of the total LTI for Corporate Executive Committee members of 133.33% of a base pay measured on 1 January of a year). RSU awards are allocated individually for the Corporate Executive Committee at the Remuneration Committee's discretion.

RSUs contain rights to receive non-voting equity securities and/or shares after a (since 2019 newly

defined) four-year vesting period plus a value adjustment (being the amount equivalent to the sum of the dividend paid during the vesting period attributable to the number of non-voting equity securities and/or shares for which an individual award has been granted). They will be vested to the recipient for the Corporate Executive Committee after four years only. Thereafter, resulting non-voting equity securities and/or shares may remain blocked for up to ten years.

For 2019, Daniel O'Day and Dr Michael Heuer received no RSUs.

Restricted Stock Units (RSUs)

	Number	Value at grant in CHF	2019 Value in CHF
B. Anderson	1,767	271.65	480,006
A. Hippe	1,571	271.65	238,300*
G.A. Keller	1,472	271.65	223,283*
T. Schinecker	994	271.65	213,880**
C.A. Wilbur	933	271.65	253,449
Total	6,737	271.65	1,408,918

n.a. – not applicable

* Calculation of value in consideration of reduction of value due to an additional blocking period of 10 years, reduced market value: 55.839%

** Calculation of value in consideration of reduction of value due to an additional blocking period of 4 years, reduced market value: 79.209%

5.8 Performance Share Plan (PSP) of the other members of the Corporate Executive Committee

The PSP was established in 2002 for periods of three years each and based on a three-year comparison of the Total Shareholder Return (TSR) with 15 peer companies (see footnote 1). In a respective year, the PSP consisted of three overlapping performance cycles, with a new cycle starting at the beginning of each year and a cycle finishing at the end of each year. The plan's key performance metric for an award, the TSR, was calculated as a three-month moving average rate before the start of and before the end of the performance cycle.

Since the end of 2018, no new PSP awards have been granted. Therefore, in 2019, there were only the two overlapping performance cycles PSP 2017–2019 and PSP 2018–2020, of which PSP 2017–2019 closed on 31 December 2019. The Board of Directors, acting upon recommendations from the Remuneration Committee, must determine the payment of the ongoing PSP 2018–2020 at the end of 2020 using complete discretion.

Under the provisions of this plan, a number of non-voting equity securities (NES) or shares have been reserved for the participants in each cycle.

The number of securities actually awarded will depend on whether and to what extent an investment in Roche securities (shares and NES) outperforms the average return on an investment in securities issued by a set of peer companies.²⁶ Comparisons are based on the securities' market prices and dividend yields, ie, on Total Shareholder Return (TSR). To reduce the effect of short-term market fluctuations, security prices are averaged over the three months (October to December) prior to the start of a performance cycle and over the three months (October to December) at the end of the cycle.

If Roche securities perform better than the average of the peer set, the Board of Directors can elect to increase the NES or shares award. The maximum award is double the original-level reserved target number of NES or shares according to the PSP (plus a value adjustment being the amount equivalent to the sum of the dividend paid during the vesting period attributable to the number of non-voting equity securities or shares for which an individual

award has been granted) and requires that Roche securities perform as well as or better than those of 75% of the peer set. In the event that an investment in Roche securities underperforms the average return delivered by the peer companies, fewer or no NES or shares will be awarded.

At the end of the PSP 2017–2019 cycle (based on a three-month average) with distributed dividends totalling CHF 21.736 billion (2019: CHF 7.504 billion; 2018: CHF 7.159 billion; 2017: CHF 7.073 billion), according to the terms of the plan, the participants received 100% of the originally targeted NES awarded. At the end of the PSP 2017–2019 cycle, 25,201 NES of the 33,682 originally targeted NES (incl. NES of the Group CEO) as outlined on pages 141 and 138 in the Annual Report 2018 taking into account retired members of the Corporate Executive Committee were awarded.

Bill Anderson, Dr Thomas Schinecker and Dr Michael Heuer were not participating in the PSP programme.

Performance Share Plan (PSP)

AUDITED	2019		2018		
			Target number of non-voting equity securities (NES) for PSP 2018–2020 (number)	Fair value at grant per non-voting equity security (NES), NES prices averaged over the three months (October to December 2017) prior to the start of the performance cycle PSP 2018–2020 (value in CHF)	Fair value of target number of non-voting equity securities (NES) for PSP 2018–2020 (value in CHF)
A. Hippe			4,430	240.74	595,511*
G.A. Keller		In 2019, no shares or NES were reserved under the PSP.	4,153	240.74	558,274*
C.A. Wilbur			2,353	240.74	566,461
Total			10,936	240.74	1,720,246

* Calculation of value of non-voting equity securities in consideration of reduction of value due to blocking period of 10 years (reduced market value: 55.839%)

²⁶ See footnote 1, page 123.

5.9 Indirect benefits of the other members of the Corporate Executive Committee

Employer contributions made in 2019 to social security schemes, pension plans and a Group-wide employee stock purchase plan (Roche Connect) in respect of members of the Corporate Executive Committee are shown in the 'Indirect benefits (employer contributions)' table below and in the table on page 138.

Roche Connect is a voluntary stock purchase plan offering employees the opportunity to buy Roche non-voting equity securities (NES) up to an amount equal to 10% of their annual salary at a 20% discount. NES purchased under this plan are subject to a holding period, which is four years in Switzerland.

In addition, members of the Corporate Executive Committee received annual expense allowances and some members payments for foreign tax obligations and tax consulting services as shown in the table below.

Payments (employer contributions) of indirect benefits to Daniel O'Day and Dr Michael Heuer until their retirement from Roche at the end of February and July 2019, respectively, are included and aggregated in the total remuneration of the Corporate Executive Committee (see 5.12).

Indirect benefits (employer contributions) (in CHF)

	2019				2018			
	Pension funds/ insurances*	Annual expense allowances	Roche Connect	Payments for tax/tax consulting services	Pension funds/ MGB ²⁷ / insurances*	Annual expense allowances	Roche Connect	Payments for tax/tax consulting services
B. Anderson	330,843	30,000	-	127,525	n.a.	n.a.	n.a.	n.a.
A. Hippe	330,843	30,000	39,996	11,142	335,418	30,000	39,996	13,378
G.A. Keller	96,270	30,000	37,500	-	122,226	30,000	37,500	-
T. Schinecker	141,796	12,500	3,000	32,967	n.a.	n.a.	n.a.	n.a.
C.A. Wilbur	330,843	30,000	18,744	100,153	335,418	30,000	18,744	75,299
Total	1,230,595	132,500	99,240	271,787	793,062	90,000	96,240	88,677

n.a. – not applicable

* Including employer contribution of social securities' beneficial parts

²⁷ MGB: Stiftung der F. Hoffmann-La Roche AG für Mitarbeiter-Gewinnbeteiligung (employee profit-sharing foundation supplementing occupational pension benefits), dissolved in 2019.

AUDITED

5.10 Other remuneration and loans of members of the Corporate Executive Committee

Based on legal and contractual obligations, in 2019, Roche paid to individual members of the Corporate Executive Committee costs with respect to temporary relocation and housing, for family, children and education allowance and for their children's schooling costs totalling CHF 123,884.

All aforementioned additional payments are included in the total remuneration to members of the Corporate Executive Committee.

In 2019, there were no loans or credits granted to the members of the Corporate Executive Committee.

The maximum regular period of notice for members of the Corporate Executive Committee is 12 months. There are no change-of-control clauses in the employment contracts.

AUDITED

AUDITED

AUDITED

5.11 Remuneration to former members of the Corporate Executive Committee

In 2019, pensions totalling CHF 2,057,784 (2018: CHF 2,057,784) were paid to former Corporate Executive Committee members. These pension benefits, which were guaranteed for various former members of the Executive Committee or their widows outside the Pension Fund and were pledged before 2003 (due to gaps in pension provision resulting from postings abroad, for instance), were transferred to the Roche Pension Fund, which required a one-off transfer of CHF 10,561,961 to the Pension Fund.

AUDITED

5.12 Total remuneration paid to the members of the Corporate Executive Committee

For the 2019 calendar year, the members of the Corporate Executive Committee received remuneration (including bonuses and employer contribution of social securities' beneficial parts and all payments to Dr Michael Heuer, CEO Roche Diagnostics a. i. until his retirement at the end of July 2019 and payments until Daniel O'Day's retirement from Roche at the end of February 2019) totalling CHF 37,952,012 (2018: 39,272,132), excluding additional employer's contribution paid to AHV/IV/ALV totalling

CHF 1,628,429 (2018: CHF 1,792,838) that does not form part of remuneration.

No additional remuneration other than the above mentioned payments was paid to current or former members of the Corporate Executive Committee.

AUDITED

5.13 Executive remuneration subject to approval at the Annual General Meeting

5.13.1 Submission of Executive total aggregate bonuses for a binding vote at the Annual General Meeting

The Board of Directors proposes awarding the members of the Corporate Executive Committee bonuses (for Dr Severin Schwan in form of Roche shares which are blocked for ten years, for all other members of the Corporate Executive Committee as a 100% cash payment, see 5.5) totalling CHF 11,141,950 in respect of the 2019 financial year (2018: CHF 9,291,950), excluding legally required employer's contributions to AHV/IV/ALV, and will submit this proposed total amount to the ordinary Annual General Meeting (AGM) 2020 for a binding vote.

Retrospective approvals of the members of the Executive Committee's total aggregate bonuses (in CHF)*

	Proposal AGM 2020	AGM 2019	AGM 2018
	Aggregate amount for financial year 2019	Aggregate amount for financial year 2018	Aggregate amount for financial year 2017
Total aggregate amount proposal for approval/ approved by the AGM	11,141,950	9,291,950	11,591,950

* Excluding legally required employer's contributions to AHV/IV/ALV

5.13.2 Submission of Executive total future aggregate remuneration for a binding shareholder vote

The Board of Directors proposes that the 2020 ordinary AGM approves remuneration for the Corporate Executive Committee totalling not more than CHF 37,000,000 (excluding legally required employer's contributions to AHV/IV/ALV and excluding bonuses) for the period ending at the 2021 ordinary AGM.

The amount of Executive total future aggregate remuneration is composed of base pay, long-term

incentives S-SARs (calculated at grant value without considering reductions of value due to blocking periods if applicable) and RSUs (see 3.1.4, calculated at the time of reservation of non-voting equity securities or shares, without considering reductions of value due to blocking periods), contributions to pension benefits (excluding legally required employer's contributions to AHV/IV/ALV) as well as contributions for expenses, payments for foreign tax obligations, tax consulting services and Roche Connect.

Prospective approvals of the members of the Executive Committee's total future aggregate remuneration (in CHF)*

	Proposal AGM 2020	AGM 2019	AGM 2018
	Aggregate amount for the period AGM 2020–AGM 2021	Aggregate amount for the period AGM 2019–AGM 2020	Aggregate amount for the period AGM 2018–AGM 2019
Total aggregate amount proposal for approval/ approved by the AGM	37,000,000	38,000,000	41,000,000

* Excluding legally required employer's contributions to AHV/IV/ALV and excluding bonuses

5.13.3 Reconciliation of the reported remuneration with the shareholders' prospectively approved remuneration for the members of the Corporate Executive Committee

The 2018 ordinary AGM approved remuneration for the Corporate Executive Committee totalling not more than CHF 41,000,000 (excluding legally required employer's contributions to AHV/IV/ALV and

excluding bonuses) for the period ending at the 2019 ordinary AGM.

For comparison, from the 2018 ordinary AGM to the 2019 ordinary AGM remuneration amounted to CHF 33,139,195 (excluding legally required employer's contributions to AHV/IV/ALV and excluding bonuses. PSP: assumption of maximum value).

Prospectively approved total remuneration of the members of the Executive Committee in comparison to actual total remuneration effected (in CHF)*

	Amount for the period AGM 2019–AGM 2020	Amount for the period AGM 2018–AGM 2019	Amount for the period AGM 2017–AGM 2018
Maximum of total remuneration prospectively approved by the AGM	38,000,000	41,000,000**	41,000,000**
Total remuneration calculated at end of corresponding AGM–AGM period	Calculation at the end of period AGM 2019–AGM 2020	33,139,195**	38,215,056**
Actual total remuneration realised (for corresponding AGM–AGM period based on the actual amount calculated retrospectively after the end of the corresponding PSP cycle/ as of 2019 grant value of RSUs)	Calculation at the end of period AGM 2019–AGM 2020	Calculation at the end of 2020 (after the end of the PSP cycle 2018–2020)	26,826,781***
Within the approved limit	Calculation at end of period	Calculation at end of period	Yes
Additional amount paid for new members of the Corporate Executive Committee after approval by the AGM and not within the approved total amount	No	No	No

* Excluding legally required employer's contributions to AHV/IV/ALV and excluding bonuses

** Including assumption amount of 200% (maximum possible award) of shares/non-voting equity securities of the corresponding PSP cycle

*** Due to the 100% award of NES under the PSP 2017–2019 cycle and their originally included calculation of 200% (maximum possible award), the amount of the total remuneration for the period AGM 2017–AGM 2018 is reduced to CHF 26,826,781

5.14 Clawback

In addition to applicable statutory provisions, Roche's long-term incentive plans include the option to partially reclaim distributed compensation as a result of special circumstances (clawback).

If the employee voluntarily serves notice of termination of employment, S-SARs (see 5.16.2) and RSUs (see 3.1.4) which are unvested at the date of termination of employment lapse immediately without any compensation.

Upon termination of employment as a result of serious misconduct, all S-SARs and RSUs granted and outstanding, whether vested or unvested, shall lapse immediately without any compensation. According to the S-SARs plan rules, serious misconduct by the participant may include (inter alia):

- activity leading to serious disciplinary action
- repeated or willful failure to perform such duties as have been reasonably assigned by Roche
- violation of any law or public regulation
- commission of a crime
- gross negligence or willful misconduct in employment
- engaging in conduct bringing disgrace or disrepute to Roche and/or any of its subsidiaries
- violation of any of Roche's directives and guidelines relating to business conduct

According to the regulations of the PSP programme, the originally targeted but not awarded NES or shares shall lapse without any compensation upon notice of termination of employment being given for any reason other than redundancy, disability or retirement.

5.15 Guidelines for security holdings

In 2012, the Board of Directors decided that the CEO Roche Group and other members of the Corporate Executive Committee must acquire shares and/or NES equivalent to two annual base salaries (CEO Roche Group since 2018 equivalent to five annual base salaries) and one annual base salary, respectively, by the end of 2016 and retain these holdings for as

long as they serve on the Corporate Executive Committee. With the exception of Bill Anderson and Dr Thomas Schinecker, who joined the Corporate Executive Committee in 2019 and who must fulfil the requirement by the end of 2024, all other members of the Corporate Executive Committee fulfil this requirement.

	Type of security	Value to be acquired
CEO Roche Group	Shares and/or NES	5 × annual base salary
Members of the Corporate Executive Committee	Shares and/or NES	1 × annual base salary

5.16 Security holdings

As at 31 December 2019 (as at 31 December 2018, respectively) the members of the Corporate Executive Committee and persons closely associated with them held securities as shown in the following tables 'Shares and non-voting equity securities (NES)' and 'S-SARs'.

5.16.1 Shares and non-voting equity securities (NES)

	(as at 31 December 2019)				(as at 31 December 2018)			
	Shares (number)	NES (number)	Close relatives' security holdings (number/type)		Shares (number)	NES (number)	Close relatives' security holdings (number/type)	
Corporate Executive Committee			Shares	NES			Shares	NES
S. Schwan	191,595	35,273	-	-	175,890	35,270	-	-
B. Anderson	-	1,986	-	-	n.a.	n.a.	n.a.	n.a.
A. Hippe	6,970	20,830	-	-	6,970	19,956	-	-
G.A. Keller	19,441	27,271	1,100	-	19,191	21,462	1,100	-
T. Schinecker	-	155	-	-	n.a.	n.a.	n.a.	n.a.
C.A. Wilbur	-	4,315	-	-	-	3,955	-	-
Total	218,006	89,830	1,100	-	202,051	80,643	1,100	-

n.a. – not applicable

5.16.2 S-SARs

	Number of S-SARs held on 31 December 2019						
	2019	2018	2017	2016	2015	2014	2013
Corporate Executive Committee							
S. Schwan	122,322	100,677	85,476	89,517	59,997	54,453	-
B. Anderson	55,045	43,929	35,925	30,993	21,297	17,397	-
A. Hippe	48,930	40,275	34,191	35,811	-	-	-
G.A. Keller	45,872	37,758	32,052	-	20,000	10,000	-
T. Schinecker	7,744	6,288	1,608	-	-	-	-
C.A. Wilbur	29,052	21,402	16,032	15,339	4,164	5,754	4,594
Total	308,965	250,329	205,284	171,660	105,458	87,604	4,594
Price (CHF)	271.65	220.80	251.90	251.50	256.10	263.20	214.00
Market price per NES on 31 December 2019 (CHF)	314.00						
Expiry date	15.3.2029	15.3.2025	16.3.2024	3.3.2023	5.3.2022	6.3.2021	7.3.2020
Grant value per S-SAR (CHF)	34.88	26.49*	31.20*	29.79*	43.34*	47.75*	36.38*
Since 1.1.2012:							
- Trinomial model for American call options							
* Values according to corresponding annual reports							

5.16.3 Restricted Stock Units (RSUs)

	Number of RSUs held on 31 December 2019		
	2019	2018	2017
Corporate Executive Committee			
S. Schwan	3,927	n.a.	n.a.
B. Anderson	1,767	5,270	4,449
A. Hippe	1,571	n.a.	n.a.
G.A. Keller	1,472	n.a.	n.a.
T. Schinecker	994	1,131	596
C.A. Wilbur	933	n.a.	n.a.
Total	10,664	6,401	5,045
Grant value per RSU	CHF 271.65 (NES closing price at grant date on 15 March 2019)	CHF 220.80 (NES closing price at grant date on 15 March 2018)	CHF 251.90 (NES closing price at grant date on 16 March 2017)



Statutory Auditor's Report

To the General Meeting of Roche Holding Ltd, Basel

We have audited the accompanying Remuneration Report of Roche Holding Ltd for the year ended 31 December 2019. The audit was limited to the information according to articles 14–16 of the Ordinance against excessive compensation at listed joint-stock companies (the Ordinance) contained in the sections marked as 'audited' with a grey line, including the respective footnotes, on pages 120 to 148 of the Remuneration Report.

Responsibility of the Board of Directors

The Board of Directors is responsible for the preparation and overall fair presentation of the Remuneration Report in accordance with Swiss law and the Ordinance. The Board of Directors is also responsible for designing the remuneration system and defining individual remuneration packages.

Auditor's Responsibility

Our responsibility is to express an opinion on the accompanying Remuneration Report. We conducted our audit in accordance with Swiss Auditing Standards. Those Standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the Remuneration Report complies with Swiss law and articles 14–16 of the Ordinance.

An audit involves performing procedures to obtain audit evidence on the disclosures made in the Remuneration Report with regard to compensation, loans and credits in accordance with articles 14–16 of the Ordinance. The procedures selected depend on the auditor's judgement, including the assessment of the risks of material misstatements in the Remuneration Report, whether due to fraud or error. This audit also includes evaluating the reasonableness of the methods applied to value components of remuneration, as well as assessing the overall presentation of the Remuneration Report.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Opinion

In our opinion, the Remuneration Report for the year ended 31 December 2019 of Roche Holding Ltd complies with Swiss law and articles 14–16 of the Ordinance.

KPMG AG

Mark Baillache
Licensed Audit Expert
Auditor in Charge

Marc Ziegler
Licensed Audit Expert

Basel, 27 January 2020

Independent Assurance Report

on the 2019 non-financial reporting to the Corporate Governance and Sustainability Committee of Roche Holding AG, Basel

We have been engaged to perform assurance procedures to provide assurance on the aspects of the 2019 non-financial reporting of Roche Holding AG, Basel and its consolidated subsidiaries ('Roche') included in the Annual Report 2019 ('Report').

Scope and Subject matter

Our assurance engagement on reasonable or limited levels of assurance focused on the data and information for the year ended 31 December 2019 disclosed in the Report of Roche.

We have not carried out any work on data reported for prior reporting periods and in respect of projections and targets.

Reasonable assurance

The following data and information published in the Report is within the scope of our reasonable assurance engagement:

- the key figures related to grants and donations to patient organisations, grants and donations to healthcare organisations, and sponsorships to healthcare and patient organisations, in all material aspects, disclosed on the page 97 of the Report (together the 'contributions key figures'); and
- the management of reporting processes with respect to the contributions key figures as well as the related control environment in relation to the data aggregation of these contributions key figures.

Limited assurance

The following data and information published in the Report is within the scope of our limited assurance engagement:

- the materiality determination process of Roche at Group level according to the requirements of the 'GRI Standards' and as disclosed on page 14 of the Report;
- the design of the sustainability risks and opportunities determination process based on Roche Group level activities, disclosed on page 12 in the paragraph 'Risk management' of the Report;
- the people key figures disclosed on pages 70 to 75 of the Report and the Safety, Security, Health and Environmental protection ('SHE') key figures (including greenhouse gas emissions for scope 1 & 2 and scope 3 resulting from business flights) in the tables and graphs on pages 78 to 85 and page 96 of the Report;
- the figures on the Roche Group level in relation to the payments and donations, disclosed on page 99 of the Report; and
- the management of reporting processes with respect to people, SHE, payments and donations key figures as well as the related control environment in relation to the data aggregation of these key figures.

Criteria

The management reporting processes with respect to the non-financial reporting and key figures were prepared by Roche based on the policies and procedures as set forth in the following:

- the Roche Group guideline 'Grants donations and sponsorship (GSD) data collection process' disclosed on the website;

- the Roche Group internal non-financial reporting guidelines based on the 'Responsible Care Health, Safety and Environmental Protection reporting guidelines' published by the European Chemical Industry Council CEFIC and the 'GRI Standards' published in October 2016 by the Global Reporting Initiative (GRI);
- the Roche Group internal Corporate Reporting Manual 'Sustainability Reporting Guidance—Economic Performance' issued 28 June 2018;
- the Roche materiality determination process at Group level based on the 'GRI Standards' published in October 2016 by the Global Reporting Initiative (GRI); and
- the defined guidelines, by which SHE, payments and donations, people and contributions key figures, and sustainability risks and opportunities are internally gathered, collated and aggregated.

Inherent limitations

The accuracy and completeness of non-financial indicators are subject to inherent limitations given their nature and methods for determining, calculating and estimating such data. Our assurance report should therefore be read in connection with Roche's guidelines, definitions and procedures on its non-financial reporting performance.

Roche's responsibility

The Roche Corporate Governance and Sustainability Committee is responsible for both the subject matter and the criteria as well as for selection, preparation and presentation of the selected information in accordance with the criteria. This responsibility includes the design, implementation and maintenance of related internal control relevant to this reporting process that is free from material misstatement, whether due to fraud or error.

Our responsibility

Our responsibility is to perform a limited or reasonable assurance engagement and to express conclusions on the aspects of the 2019 non-financial reporting of Roche. We planned and performed our procedures in accordance with the International Standard on Assurance Engagements (ISAE 3000) (Revised) 'Assurance engagements other than audits or reviews of historical financial information' and, in respect of greenhouse gas emissions, with the International Standard on Assurance Engagements (ISAE 3410) 'Assurance Engagements on Greenhouse Gas Statements', issued by the International Auditing and Assurance Standards Board. These standards require that we plan and perform the assurance engagement to obtain limited or reasonable assurance on the identified non-financial information prepared, in all material aspects, in accordance with Roche's policies and procedures, as well as the management and reporting processes together with the related control environment in relation to the data aggregation exist as designed and form an appropriate basis for reporting as well as give a fair picture of the non-financial performance of Roche.

A limited assurance engagement is substantially less in scope than a reasonable assurance engagement in relation to both the

risk assessment procedures, including an understanding of internal control, and the procedures performed in response to the assessed risks. Consequently, the nature, timing and extent of procedures for gathering sufficient appropriate evidence are deliberately limited relative to a reasonable assurance engagement and therefore less assurance is obtained with a limited assurance engagement than for a reasonable assurance engagement. The procedures selected depend on the assurance practitioner's judgement.

Our independence and quality controls

We have complied with the independence and other ethical requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

Our firm applies International Standard on Quality Control 1 and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Summary of the work performed

Our assurance procedures included, amongst others, the following work:

- *Review of the application of Roche Group guidelines*
Reviewing the application of the Roche Group non-financial reporting and contributions guidelines;
- *Site visits and management inquiry*
Visiting selected sites of Roche's Pharmaceuticals and Diagnostics divisions in the USA, Norway, China and Hong Kong. The selection was based on quantitative and qualitative criteria; Interviewing personnel responsible for internal non-financial reporting and data collection at the sites we visited and at the Roche Group level to determine the understanding and application of Roche's non-financial and contributions guidelines;
- *Assessment of the key figures*
Performing tests on a sample basis of evidence supporting selected SHE, payments and donations, contributions, and people key figures (e.g. Roche accident rate, energy consumption, emissions to air, water usage and discharge, grants and donations to patient organisations, employee engagement rate, women in key leadership roles) concerning completeness, accuracy, adequacy and consistency;
- *Review of documentation and analysis of relevant policies and principles*
Reviewing relevant documentation on a sample basis, including Roche Group non-financial reporting policies, management of reporting structures and documentation;
Reviewing the principles of the Roche materiality process providing the definition for the development of its adherence to GRI's environmental, social and economic reporting requirements addressing the soundness of the identification process, determination of impacted stakeholders, peer and competition review, integration of relevant regulatory requirements, integration

of key organisational values and objectives and report prioritisation of material aspects;

Inspecting the integration of the sustainability risks and opportunities in the Group Risk Management Process and its adherence to the internal guidelines;

- *Assessment of the processes and data consolidation*
Reviewing the management and non-financial reporting processes for SHE, payments and donations, contributions and people key figures; and
Assessing the aggregation process of data at Roche Group level.

We have not conducted any work on data other than outlined in the subject matter as defined above. We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our assurance conclusions.

Reasonable assurance conclusion

Based on our work performed in our opinion the following applies in all material aspects:

- a) the contributions key figures as described in the scope and subject matter section are, in all material aspects, stated in accordance with the reporting criteria;
- b) the management and reporting processes with respect to the contributions key figures as well as the control environment in relation to the data aggregation of these contributions key figures are working as designed and provide an appropriate basis for the reporting; and
- c) the contributions key figures give a fair picture of the non-financial performance of Roche.

Limited assurance conclusion

Based on our work performed nothing has come to our attention causing us to believe that in all material aspects:

- the Roche materiality determination process at Group level as disclosed does not adhere to the principles and guiding factors (e.g. soundness, stakeholder determination, peer review, relevance of regulatory environment, integration of key organisational values and objectives) defined with the 'GRI Standards';
- the design of the sustainability risks and opportunities determination process at Group level as disclosed does not function as designed;
- the key figures mentioned in the scope and subject matter section and disclosed within the non-financial reporting in the Roche Annual Report 2019 are not stated in accordance with the reporting criteria; and
- The management and reporting processes to collect and aggregate the SHE, payments and donations, people key figures as well as the control environment in relation to the data aggregation work do not exist as designed.

PricewaterhouseCoopers AG

Christophe Bourgoin

Fabienne Fricker

Zurich, 29 January 2020



Key dates for 2020

Annual General Meeting

17 March 2020

First-quarter sales

22 April 2020

Half-year results

23 July 2020

Nine-month sales

15 October 2020

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F. Hoffmann-La Roche Ltd
Group Communications
4070 Basel, Switzerland
Tel.: +41 (0)61 688 11 11
www.roche.com

To order/download publications

Internet: roche.com/publications
E-mail: basel.warehouse-services@roche.com
Fax: +41 (0)61 688 69 02

Media Relations

Tel.: +41 (0)61 688 88 88
E-mail: media.relations@roche.com

Investor Relations

Tel.: +41 (0)61 688 88 80
E-mail: investor.relations@roche.com

Corporate Sustainability Committee

Tel.: +41 (0)61 688 40 18
E-mail: corporate.sustainability@roche.com

Cautionary statement regarding forward-looking statements

This Annual Report contains certain forward-looking statements. These forward-looking statements may be identified by words such as ‘believes’, ‘expects’, ‘anticipates’, ‘projects’, ‘intends’, ‘should’, ‘seeks’, ‘estimates’, ‘future’ or similar expressions or by discussion of, among other things, strategy, goals, plans or intentions. Various factors may cause actual results to differ materially in the future from those reflected in forward-looking statements contained in this Annual Report, such as: (1) pricing and product initiatives of competitors; (2) legislative and regulatory developments and economic conditions; (3) delay or inability in obtaining regulatory approvals or bringing products to market; (4) fluctuations in currency exchange rates and general financial market conditions; (5) uncertainties in the discovery, development or marketing of new products or new uses of existing products, including without limitation negative results of clinical trials or research projects, unexpected side effects of pipeline or marketed products; (6) increased government pricing pressures; (7) interruptions in production; (8) loss of or inability to obtain adequate protection for intellectual property rights; (9) litigation; (10) loss of key executives or other employees; and (11) adverse publicity and news coverage.

The statement regarding earnings per share growth is not a profit forecast and should not be interpreted to mean that Roche’s earnings or earnings per share for 2020 or any subsequent period will necessarily match or exceed the historical published earnings or earnings per share of Roche.

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The Roche Annual Report is published in German and English.

Our reporting consists of the actual Annual Report and of the Finance Report and contains the annual financial statements and the consolidated financial statements. With regards to content, the Management Report as per the Articles of Incorporation consists of both aforementioned reports with the exception of the Remuneration Report.

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