Controlling Cancer Outcomes:

From Health Disparities to Sustainable Healthy Communities

Presentation Overview

- Community Health
- About NMQF
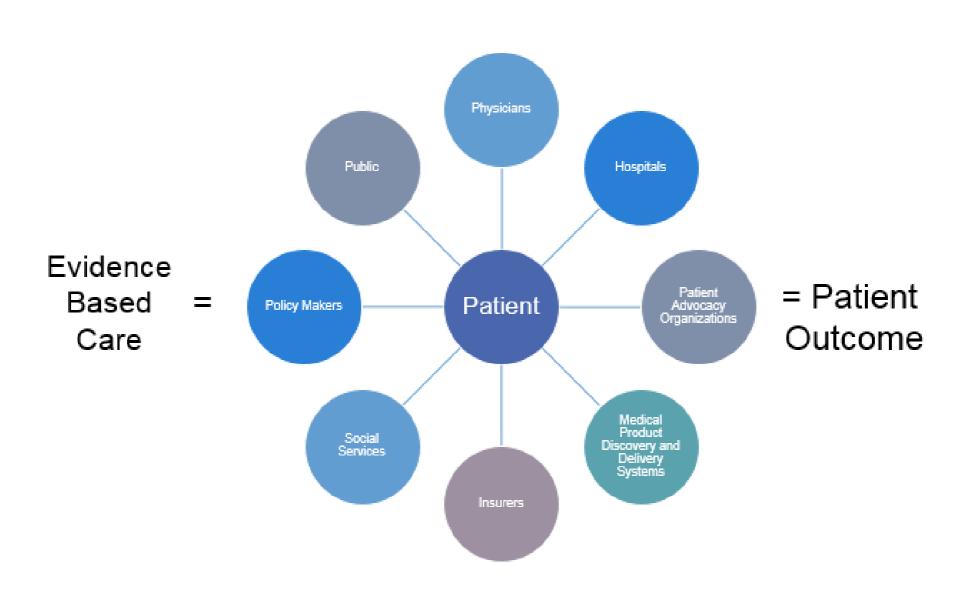- The Geography of Lung Cancer and Cancer Care

Community Health

Health care is a product of local collaborative networks, which include individual health-care providers, public health agencies, pioneering companies, health-care organizations, purchasers of health services, governments, insurers, employers, schools, faith communities, community-based organizations, media, policy makers, voters, and individual patients.

All agencies and individuals in the network must understand and adhere to evidence-based care for the network to operate optimally.

A Community-Based Collaborative Health Network

Evidence Based Care =

Patient

Physicians
Hospitals
Patient Advocacy Organizations
Medical Product Discovery and Delivery Systems
Insurers
Social Services
Policy Makers
Public

= Patient Outcome

Risk Mitigation

Measuring Network Functions

These collaborative networks can produce optimal or suboptimal results.

They can be optimized so they deliver effective medical care across diverse populations.

Performance measures can be developed that report on how well the integrated network and their component parts are functioning.

Health Disparities as Suboptimal Performance

Health Disparities are a function of community-based collaborative networks operating suboptimally for a specific cohort.

It could be a collective malfunction or the dysfunction could reside in some component part.

The Metric Problem for Population Health

While health care performance measurements are more widely used since their introduction in the 1990s, they continue to be fragmented measurements and assessments of value that target specific professional groups or industries.

Population health measurements in the United States, on the other hand, are poorly developed and uncoordinated.

The Metric Problem for Health Care Innovators

Successful innovations in health care necessarily have to conform to the objective reality in order to achieve predicted outcomes for patients, and institution such as the Federal Drug Administration have evolved to confirm that association.

In the market place innovative products enter a domain where metrics assign a financial value to predicted outcomes, and innovations that do not reach a subjectively determine financial value/outcomes ratio have restrictions placed on patients' ability to access those health products.

The Metric Problem for Patients

Optimum care for patients is absolutely reliant upon all stakeholders in health systems being adherent to the dictates of the objective reality.

Value-based care models have obscured the consequences to patients of non adherence to the objective reality (that is to evidence based medicine).

Value/outcomes ratios that obfuscate the consequences of non adherence to evidence-based medicine elevate the patients risk of an acute event or dissatisfaction with health outcomes, and there has been no third party evaluations that measures the impact of value-based care on patient outcomes.

Building A Patient Centric Valuation Framework

The National Minority Quality Forum has launched the Community Health Performance Indicators Initiative. It is working with partners to develop a standardized metrics that measure the deliver of care in community.

Theses indicators, informed by input from patients and care partners, will measure values such as health-care quality, equity, improvement, and cost at the community level.
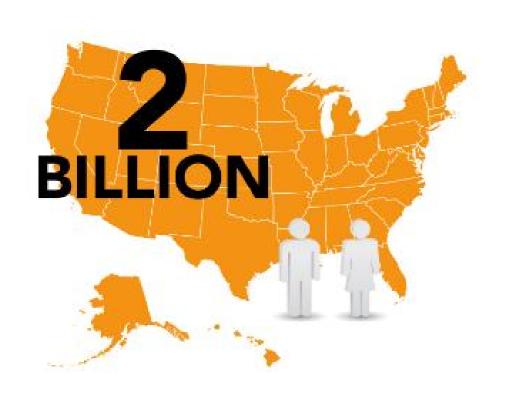
The purpose is to not only to optimize care, but to bring new capacity for local care networks to control health outcomes for the communities they serve.

About NMQF

The National Minority Quality Forum (NMQF)

Founded in 1998, NMQF is a non-profit Washington, D.C.-based, health care research and education organization whose mission is to measure the performance of community-based collaborative networks so as to optimize their ability to control health outcomes for the communities they serve.
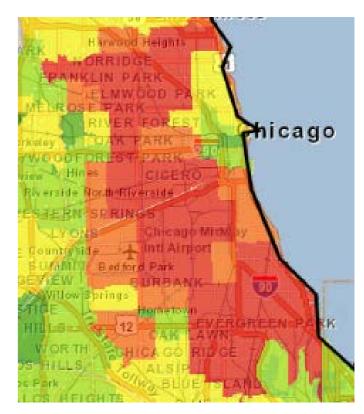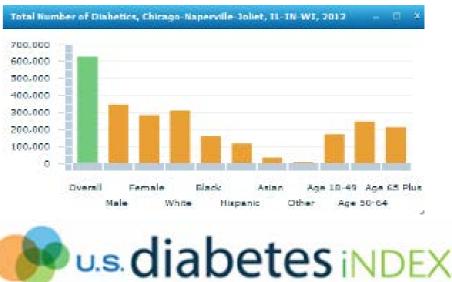
The National Minority Quality Forum (NMQF)

The Forum has developed a comprehensive database comprised of over **2 billion** patient records, which it uses to define disease prevalence, costs and outcomes for demographic subpopulations at the zip code level

GIS-Based Data Visualization

NMQF develops **maps** to provide demographic intelligence about acute and chronic disorders at the zip code level – segmented by age, gender, race/ethnicity – to:
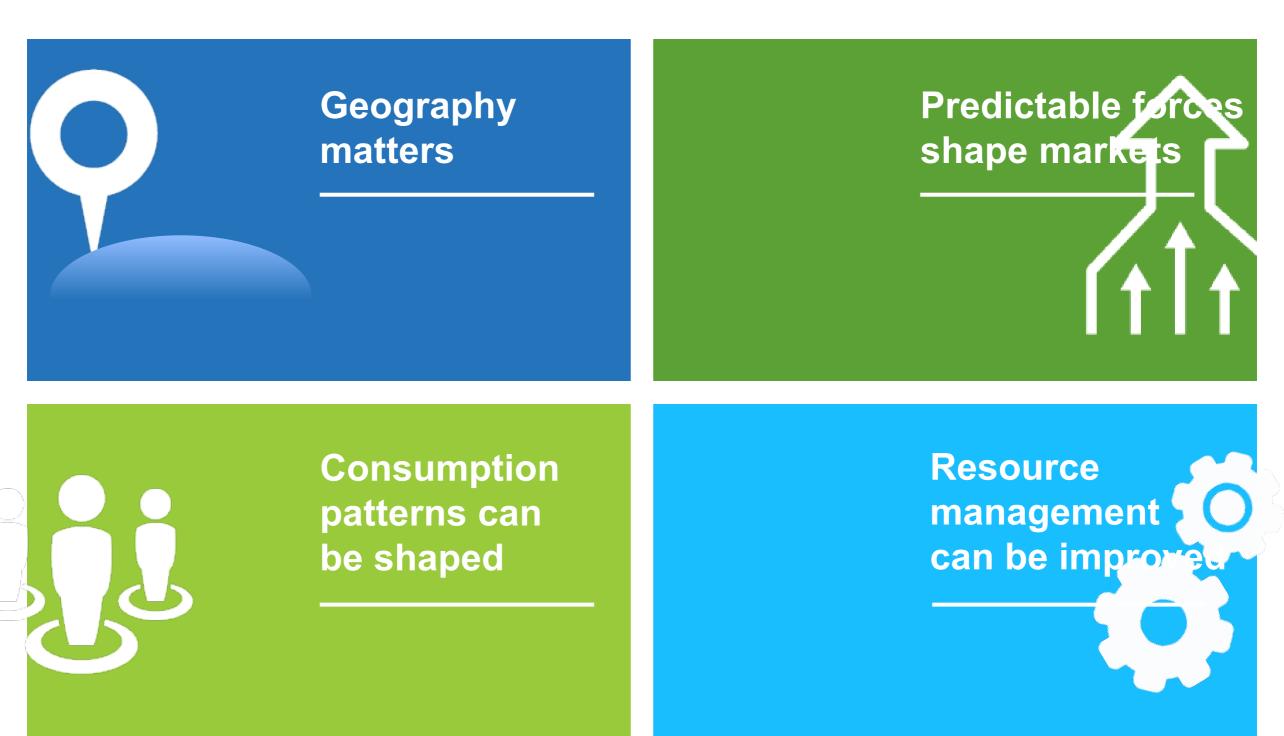
- Map any index disease by prevalence, cost, outcomes, comorbidities, socioeconomic status or other data type for any state, MSA, congressional and state legislative districts
- Define where the unmet needs exist
- Forecast trends using predictive analytics
- Produce customized reports to support educational, advocacy and policy efforts

Total Number of Diabetics, Chicago-Naperville-Joliet, IL-IN-WI, 2012

u.s. **diabetes** iNDEX

Key Learnings

Geography matters

Predictable forces shape markets

Consumption patterns can be shaped

Resource management can be improved

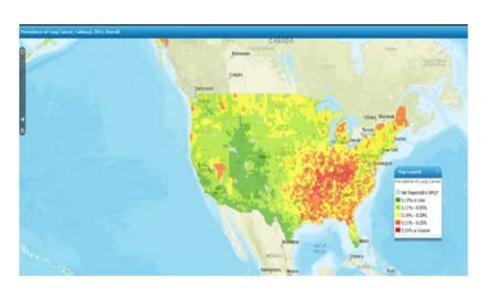NATIONAL Minority Quality Forum
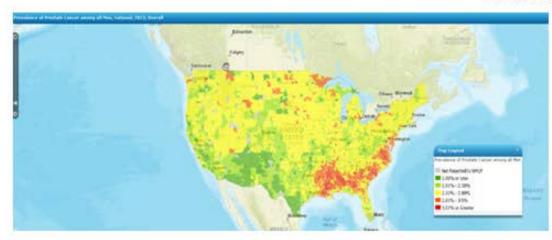
Cancer Working Group

Cancer Prevalence Vary Geographically

Lung Cancer

Breast Cancer

Prostate Cancer

Source data: Medicare Claims 2012

Lung Cancer Health Service Areas

In 2013 there were over 32,022 zip codes where Medicare fee for service beneficiaries reside. 70% of these beneficiaries reside in 7,000 zip codes, and 70% of lung cancer beneficiaries reside in 7,000 zip codes.

In 6,809 zip codes, where 510,100 beneficiaries reside, there was no treated cases of lung cancer in 2013.

In the remaining 25,213 zip codes, the median prevalence for lung cancer was 1.1% and the median survival years was 1.5 from date of first treatment.

NATIONAL Minority Quality Forum

Is Lung Cancer a Rare Disease in Some Zip Codes?

In 6,809 zip codes where there was no treated cases of lung cancer. The question that immediately gets raised is lung cancer a rare disease in some zip codes, and how does the local collaborative network function for when a patient is diagnosed with lung cancer.

Obviously we need to know a lot more about these zip codes before any reasonable answer can be made.

The Lung Cancer Health Services Areas

Seventy percent of Medicare Beneficiaries Fee for Service Beneficiaries Reside in 7,000 zip codes. In those 7,000 Zip codes the median prevalence was 1.1% and the median survival was 1.5 years. In those 7,000 Zip Codes, 70% every dollar reimbursed in the Medicare program for lung cancer are reimbursed in those zip codes.

High Prevalence of Lung Cancer Zip Codes

In the 7,000 zip codes there were variations in prevalence. The ninety percentile of zip codes had a prevalence rate of above 2 percent, and the tenth percentile had a rate of less than 1 percent. Small differences in prevalence masked significant differences in outcomes.

Variations in Survival Years

Survival Years for Beneficiaries Residing in Zip codes in the Tenth Percentile Prevalence of Lung Cancer					
Number of Beneficiaries	Tenth Percentile Survival Years	Twenty-Fifth Percentile Survival Years	Median Survival Years	Seventy-Fifth Percentile Survival Years	Ninety Percentile Survival Years
15,980	0.10	0.40	1.39	4.13	8.11
Survival Years for Beneficiaries Residing in Zip codes in the Ninety Percentile Prevalence of Lung Cancer					
Number of Beneficiaries	Tenth Percentile Survival Years	Twenty-Fifth Percentile Survival Years	Median Survival Years	Seventy-Fifth Percentile Survival Years	Ninety Percentile Survival Years
13,931	0.05	0.17	0.52	0.99	1.47
Percent Difference	100	141	167	317	452

National Minority Quality Forum

Survival Years by Race

Tenth Percentile Prevalence 2013		
Race and Ethnicity	Number of Beneficaries Ninety Percentile	Survival Years
Unknown	73	1.10
WNH	12,550	1.46
BNH	1,467	1.15
ANH	513	1.53
Other	910	1.23
Hispanic	430	0.88
Native American	37	1.02
	15,980	

Ninety Percentile Prevalence 2013		
Race and Ethnicity	Number of Beneficaries	Survival Years
Unknown	54	0.55
WNH	12,701	0.52
BNH	972	0.54
ANH	65	0.44
Other	63	0.57
Hispanic	39	0.42
Native American	37	0.74
	13,931	

Top Twenty Lung Cancer Zip Codes 2015

zip	ST	Lung Number	Lung Prevalence
32162	FL	327	1.21%
33437	FL	301	2.15%
08759	NJ	290	1.72%
08757	NJ	217	1.60%
08831	NJ	212	1.35%
33446	FL	164	1.82%
21222	MD	159	1.58%
11235	NY	159	1.15%
32159	FL	149	1.38%
85351	AZ	147	1.55%
33433	FL	147	1.72%
02151	MA	145	1.89%
34748	FL	142	1.19%
01960	MA	140	1.36%
33484	FL	139	1.99%
08701	NJ	139	1.33%
34293	FL	138	1.34%
21502	MD	129	1.35%
33908	FL	128	1.21%
02155	MA	128	1.60%

Lung Cancer by Demographic Clusters: Characterizing Patients

Cluster Description	Number of Zip Codes	Percent of All Zip Codes	Cumm Percent	Lung Number_Sum	Percent of Lung Cancer Patients	Cumm Percent	Average Prevalence
15 Ethnic mixed (WNH 63%), esp Calif and TX, middle income	2,698	10%	10%	67,763	19%	19%	0.95%
06 metro sububs, WNH, mortgage home owners, family, above average income	3,001	11%	21%	52,955	15%	35%	0.94%
10 middle income WNH	3,196	12%	34%	39,704	11%	46%	1.12%
01 Metro centre and suburbs, 79% WNH	1,649	6%	40%	35,925	10%	56%	0.90%
12 WNH 93%, middle income, midwest	3,987	15%	55%	30,380	9%	65%	1.11%
09 WNH majority (90%), low income, low college (19%), but poverty not high, rust belt	3,266	12%	67%	25,333	7%	72%	1.17%
13 BNH majority, low income, low private health insurance, south eastern states	1,223	5%	72%	18,991	5%	78%	0.93%
17 WNH, high poverty, low college, Kentucky, West Virginia, Tenn, Oklah	2,308	9%	80%	17,476	5%	83%	1.27%
04 metro sububs, WNH, mortgage home owners, family, very high income and college	889	3%	84%	15,673	5%	87%	0.86%
18 Hispanic majority, esp Texas, high poverty	1,047	4%	88%	11,662	3%	91%	0.71%
05 non metro retirement areas	362	1%	89%	7,953	2%	93%	1.78%
14 WNH and Asian groups, above average income, college 49%, esp Calif	382	1%	90%	7,421	2%	95%	0.74%
19 Metropolitan, high turnover, high renting, many one person hhlds, college 59%	437	2%	92%	5,335	2%	97%	0.83%
20 middle income commuting areas, WNH 88%	928	3%	96%	4,650	1%	98%	1.30%
02 Metropolitan centre, high turnover and renting, family, high income and college	112	0.4%	96%	4,174	1%	99%	0.82%
03 Rural areas, low population density, large farming sector	652	2%	98%	1,273	0.4%	100%	1.62%
11 Hawaii	81	0.3%	99%	392	0.1%	100%	1.33%
16 Native American majority	136	1%	99%	357	0.1%	100%	1.58%
08.3 high poverty and unemployment, Hispanic	61	0.2%	100%	191	0.1%	100%	0.49%
08.1 high unemployment, Poor, WNH	65	0.2%	100%	152	0.04%	100%	2.14%
07 High turnover, academic	41	0.2%	100%	107	0.03%	100%	1.90%
08.2 high unemployment, Low-Medium Income, WNH	21	0.1%	100%	35	0.0%	100%	2.86%
	26,542			347,902			

Identifying Providers

It is possible to know the lung cancer patient panel of a provider what care is being delivered, and the survival rates of the patients

Community-Based
Collaborative Network Treating Lung Cancer

Cancer Working Group

- The mission of the Cancer Working Group is to ensure that the benefits of the Cancer Moonshot touches all communities, to make sure no community is left behind.

- As the moonshot shortens discovery times, the innovative cancer therapies that are developed will need to be efficacious and accessible to all Americans.