



A Decade of Advancing Patient-Centered Care:  
**The 10th National CAHPS® User Group Meeting**




*Improving quality information in a  
consumer-driven era: Showing differences is  
crucial to informed consumer choice*

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American Institutes for Research*




**Outline**



- Purpose
- Hypotheses
- Methods and design
- Examples of data displays
- Findings
- Implications

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## Purpose of study



- Identify and systematically test features of data displays for quality reports that help consumers:
  - Notice differences in quality more readily
  - Interpret differences more accurately
  - Use quality information more easily
- Identify subgroups of consumers who respond differently than others to features of data display
- Help sponsors and developers of reports understand the impact and tradeoffs of including design features that highlight performance differences

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## Study Hypotheses




- When presenting quality data, four key design elements would improve consumers' accurate evaluations of the data:
  - Using symbols rather than numbers
  - Providing a summary display
  - Presenting in order of performance
  - Presenting fewer, rather than more, topics


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## Methods and Design



- Laboratory experiment
- Tested conditions that were **more** and **less** evaluable
- Design to test the main effects and interaction effects of various design elements



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Chart version	Number of topics	More evaluable			Less evaluable		
		Summary	Symbols	Rank order	No summary	Numbers	Alpha. order
# 1	5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
# 2	5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
# 3	5		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
# 4	5		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
# 5	9	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
# 6	9	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
# 7	9		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
# 8	9		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
# 9	9	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
# 10	9				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

## Conducted two different analyses



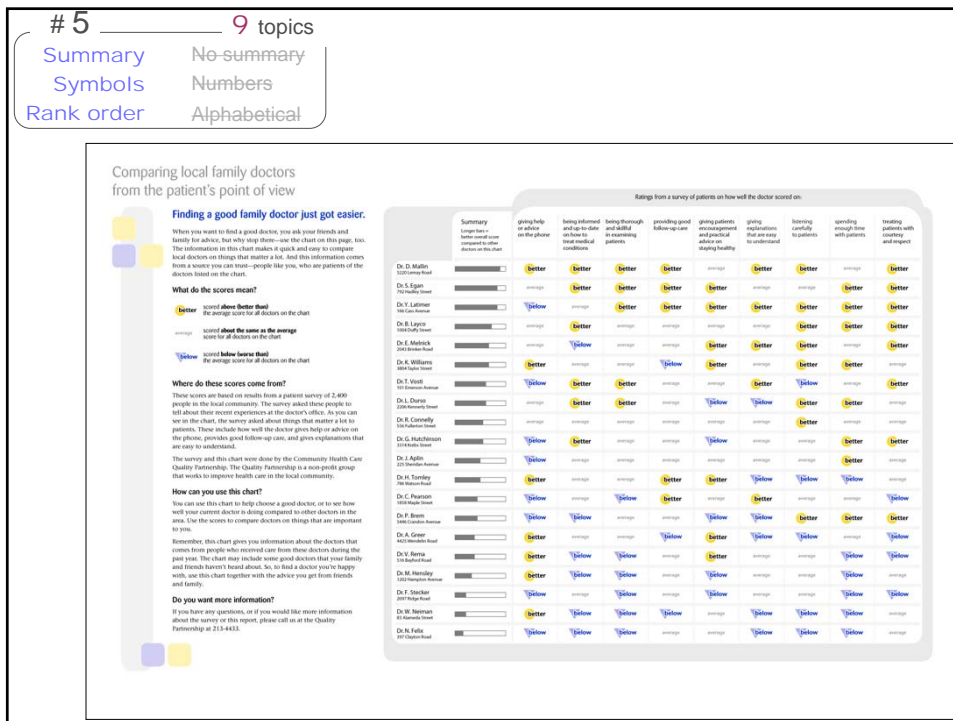
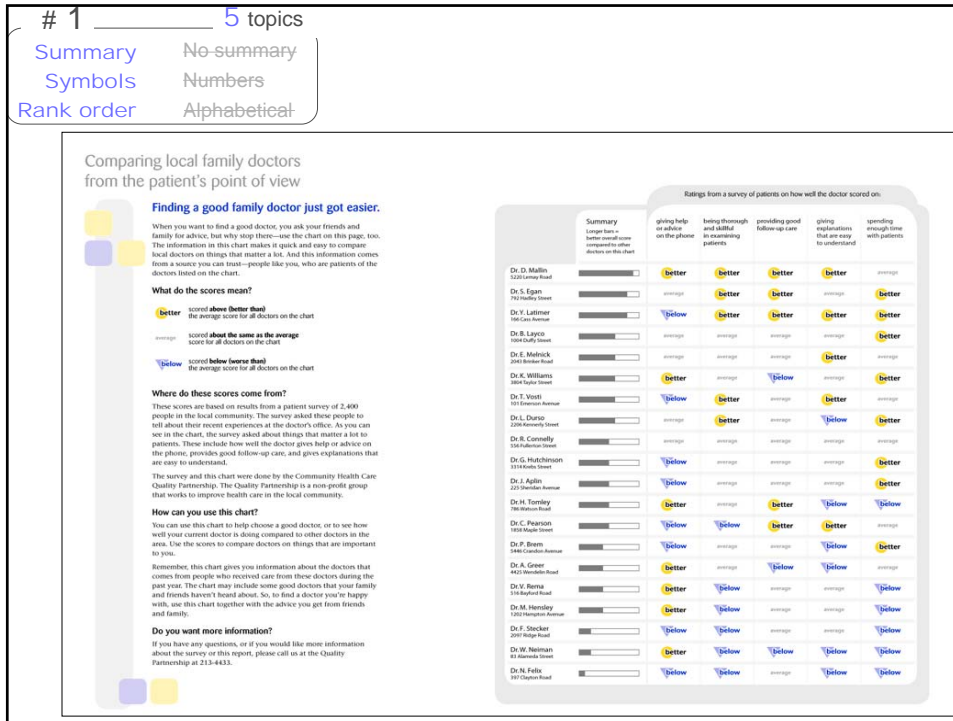
- Analysis 1:
  - How various design elements affected participant understanding and use of data
- Analysis 2:
  - Derive profiles of sub groups of participants based on their predisposition to seek information and how much they value different types of information about physicians *AND*
  - How various design elements affected sub group participants' understanding and use of data

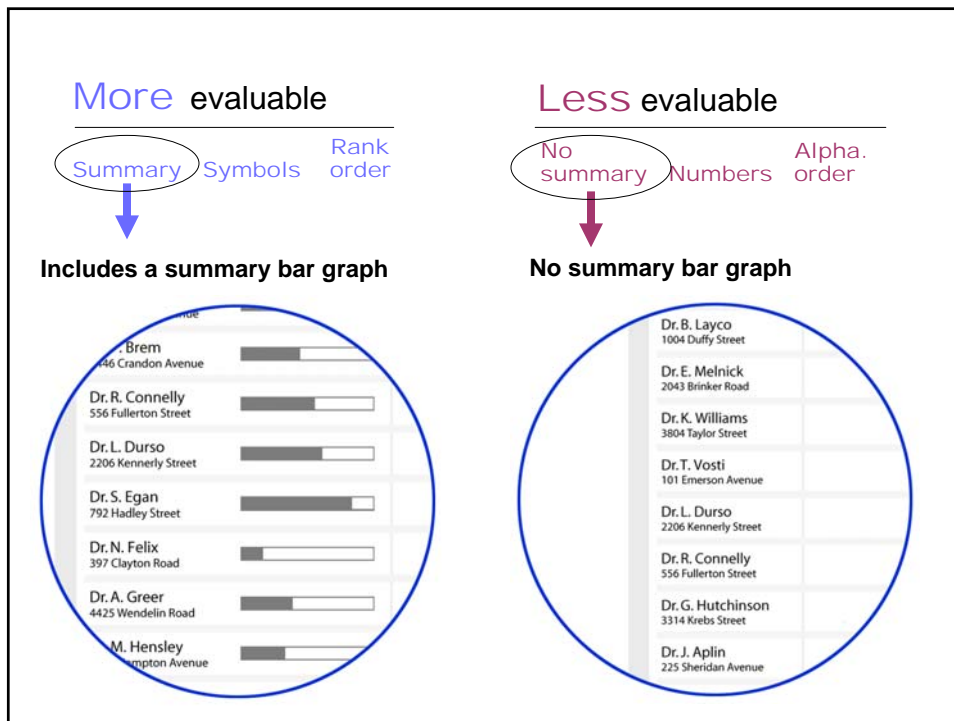
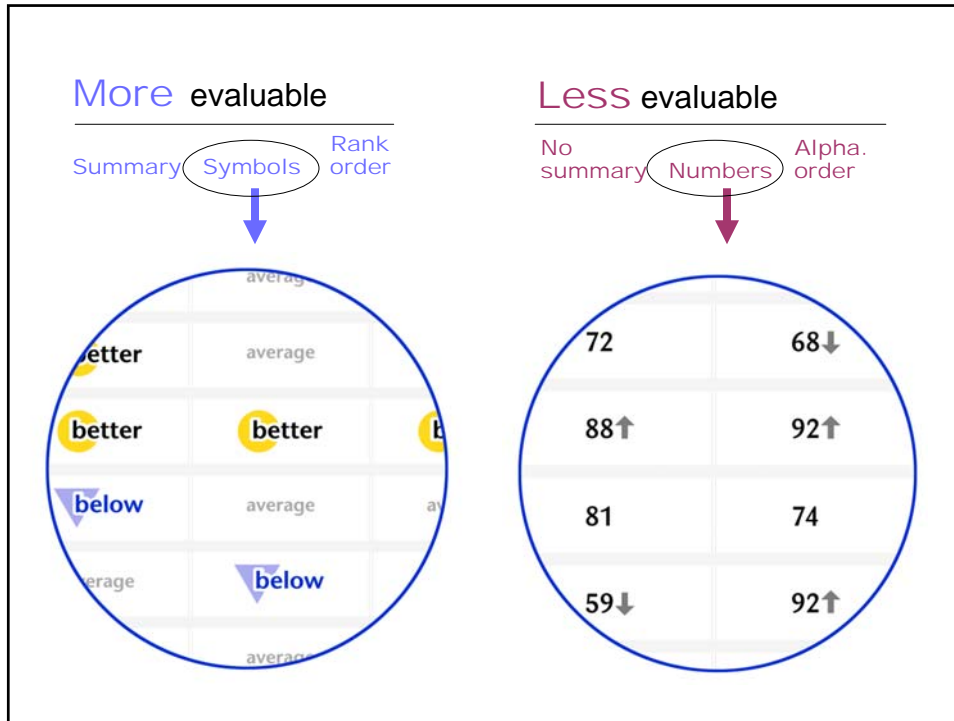
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## Examples of data displays







**More** evaluable

Summary Symbols Rank order

**Doctors are ordered by performance**

**Less** evaluable

No summary Numbers Alpha. order

**Doctors are listed in alphabetical order**

Doctor Name	Address	Performance
Dr. L. Durso	2206 Kennerly Street	High
Dr. R. Connelly	556 Fullerton Street	Medium
Dr. G. Hutchinson	3314 Krebs Street	Low
Dr. J. Aplin	225 Sheridan Avenue	Low
Dr. H. Tomley	786 Watson Road	Low
Dr. C. Pearson	1858 Maple Street	Low
P. Brem	London Avenue	Low

Doctor Name	Address	Performance
P. Brem	London Avenue	Low
Dr. R. Connelly	556 Fullerton Street	Medium
Dr. L. Durso	2206 Kennerly Street	High
Dr. S. Egan	792 Hadley Street	Medium
Dr. N. Felix	597 Clayton Road	Low
Dr. A. Greer	4425 Wendelin Road	Medium
M. Hensley	London Avenue	Low

cahps

**What did we learn?**

AMIA  
U.S. Department of Health and Human Services  
CAHPS

### What do the scores mean?

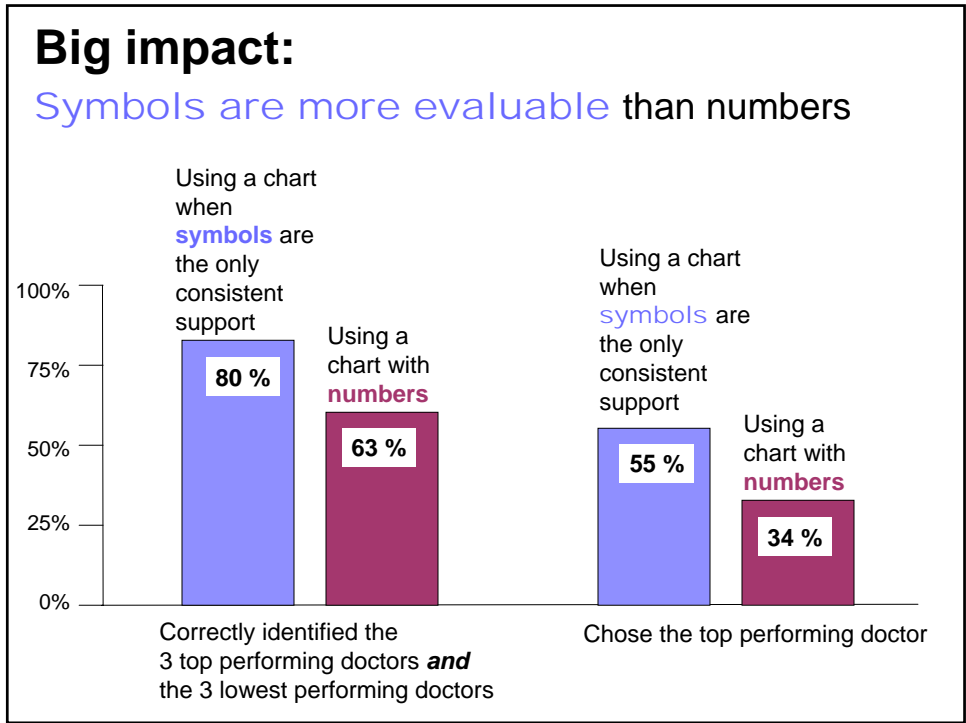
- better** scored **above (better than)** the average score for all doctors on the chart
- average** scored **about the same as the average** score for all doctors on the chart
- below** scored **below (worse than)** the average score for all doctors on the chart

### What do the scores mean?

- ↑** scored **above (better than)** the average score for all doctors on the chart
- no arrow** scored **about the same as the average** score for all doctors on the chart
- ↓** scored **below (worse than)** the average score for all doctors on the chart

		67	80	80	
99↑	72	68↓	72↓		
		2↑	88	88	
		4	71↓	68↓	
		2↑	70↓	66↓	
		5↓	86	80	
		2↓	82	90	95
		5↑	95↑	93↑	88
		2	83	97↑	91
		36	96↑	94↑	75
28↓	94	82	93↑	98↑	95↑
27↓	70↓	61↓	89	65↓	70↓
	72↓	92↑	85	95↑	79
	70↓	80	93↑	92	75
		79	71↓	89	
			94↑		





**More evaluable**

Summary Symbols **Rank order**

Doctors are ordered by performance

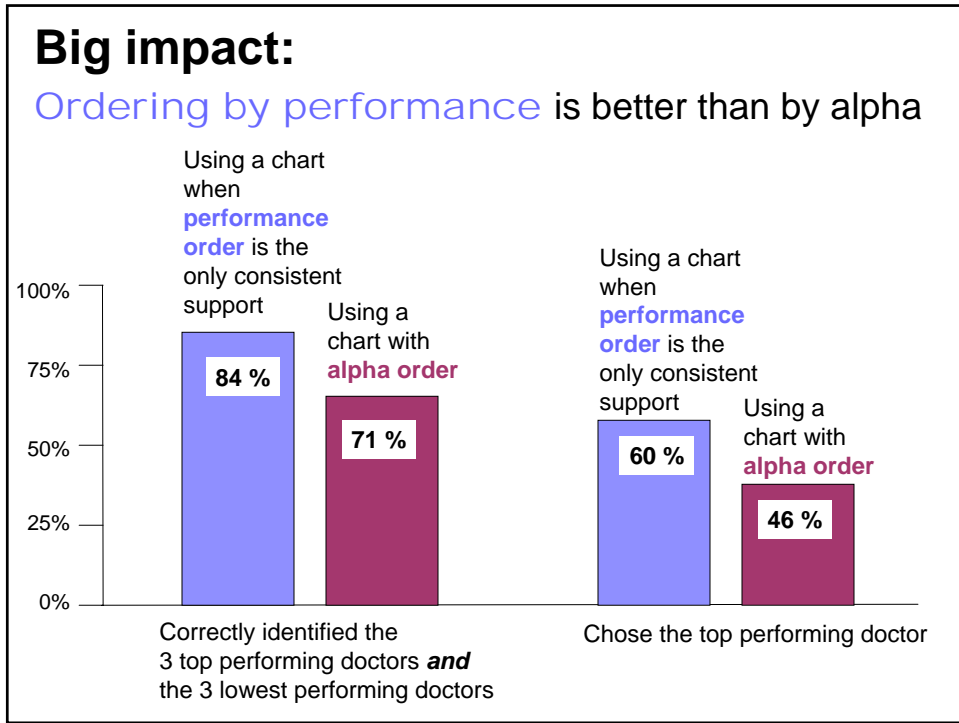
Dr. B. Layco 1004 Duffy Street
Dr. E. Melnick 2043 Brinker Road
Dr. K. Williams 3804 Taylor Street
Dr. T. Vosti 101 Emerson Avenue
Dr. L. Durso 2206 Kennerly Street
Dr. R. Connelly 556 Fullerton Street
Dr. G. Hutchinson 3314 Krebs Street
Dr. J. Aplin 225 Sheridan Avenue

**Less evaluable**

No summary Numbers **Alpha. order**

Doctors are listed in alphabetical order

Dr. J. Aplin 225 Sheridan Avenue
Dr. P. Brem 5446 Crandon Avenue
Dr. R. Connelly 556 Fullerton Street
Dr. L. Durso 2206 Kennerly Street
Dr. S. Egan 792 Hadley Street
Dr. N. Felix 397 Clayton Road
Dr. A. Greer 4425 Wendelin Road
Dr. M. Hensley 1202 Hampton Avenue
Dr. G. Hutchin...



#### This chart has all 4 evaluable elements

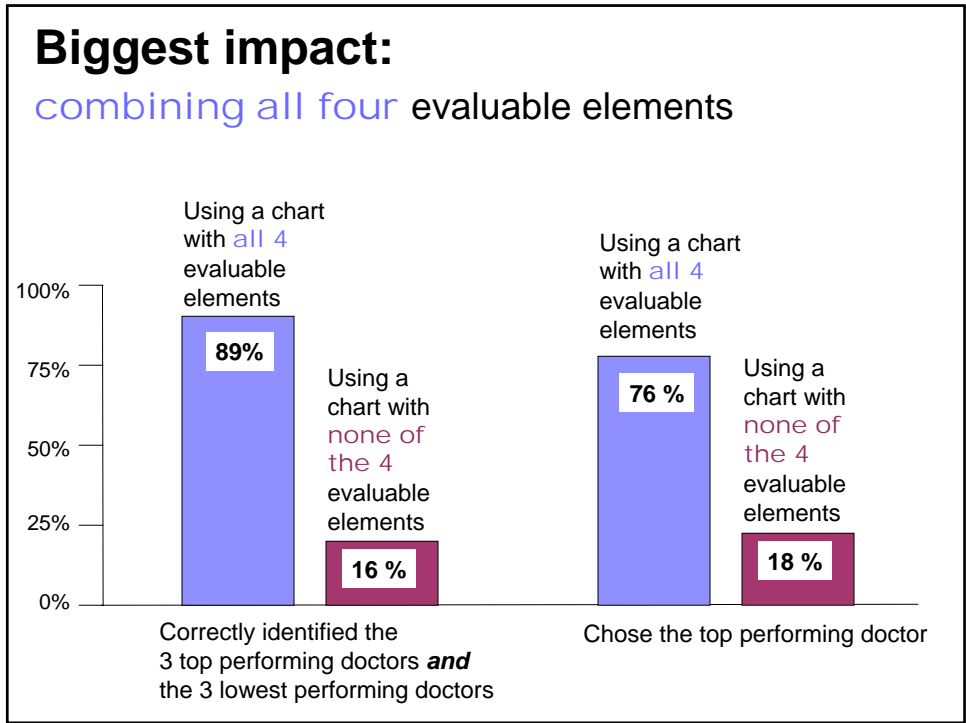
# 1

- Summary
- Symbols
- Rank order
- 5 topics
- No summary
- Numbers
- Alphabetical

#### This chart has none of the 4 evaluable elements

# 10

- No summary
- Symbols
- Rank-order
- 9 topics
- No summary
- Numbers
- Alphabetical



**Best = combine all four:**

- Rank order
- Symbols
- Summary bar
- 5 not 9 Fewer topics

But what if you can't (or don't want to) combine all four? The elements are substitutable, to some degree:

**2nd best:**

- Rank order
- Symbols

**3rd best:**

- Rank order

**4th best:**

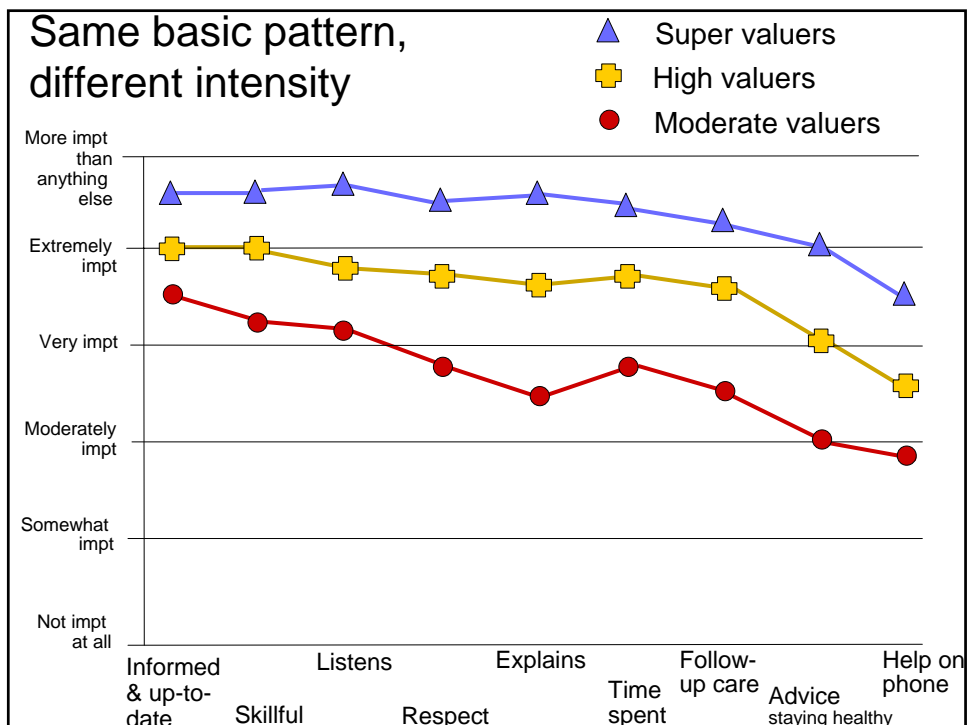
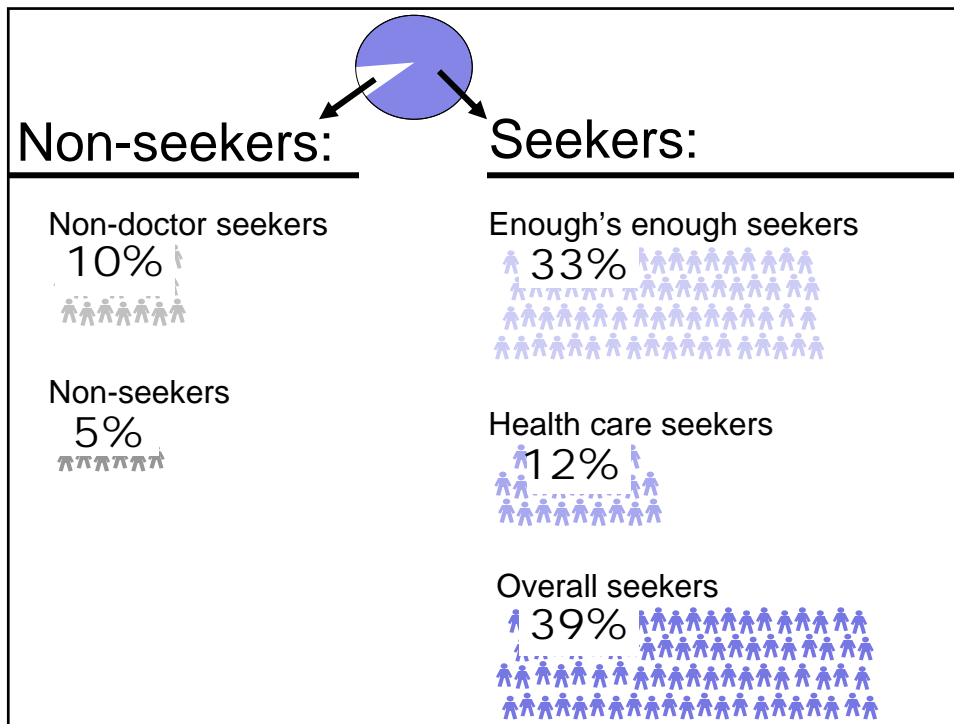
- Symbols


**5th best:**

- Summary bar

-- or --

- 5 not 9 Fewer topics







## Evaluability helps everyone

- *Non-seekers* don't seriously attend to even the most evaluable information....
  - However, they choose higher performing doctors in more evaluable formats
- As evaluability declines, choices become increasingly random, regardless of participants' intent or predisposition to seek the best doctor
- Even the most highly predisposed-to-seek-information *Overall Seekers* and the most highly educated *Enough's Enough Seekers* were defeated by the formats that were least evaluable
- No downside – evaluable formats help users pick and choose what's important to them personally


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## Implications

- Comparative quality reports that do not incorporate evaluable elements are not effectively conveying the meaning of the data
- For consumers, poorly displayed information can create a false sense of informed choice or result in random choices
- Evaluable elements are needed to help consumers make choices that reflect their true values and preferences
- Target your information seekers -- by targeting the needs of the seekers, you aid the non-seekers


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## Implications (cont'd)



- In a consumer-driven era, when informed decisions are increasingly important, using information wisely is a crucial skill
  - If you don't incorporate evaluable elements, you can't expect consumers to either use or value the information you give them
- Resources are available to guide you in creating more evaluable reports
- One last note – a symbol by any other name...



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# 1	5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
# 2	5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>
# 3	5		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
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# 7	9		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
# 8	9		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
# 9	9	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
# 10	9				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Chart version	Number of topics	More evaluable			Less evaluable		
		Summary	Symbols	Rank order	No summary	Numbers	Alpha. order
# 1	5	+	+	+	-	-	-
# 2	5	+	+	-	-	-	+
# 3	5	-	+	+	+	-	-
# 4	5	-	+	-	+	-	+
# 5	9	+	+	+	-	-	-
# 6	9	+	+	-	-	-	+
# 7	9	-	+	+	+	-	-
# 8	9	-	+	-	+	-	+
# 9	9	+	-	+	-	+	-
# 10	9	-	-	-	+	+	+

Chart version	Number of topics	More evaluable			Less evaluable		
		Summary	Symbols	Rank order	No summary	Numbers	Alpha. order
# 1	5	yes	yes	yes	no	no	no
# 2	5	yes	yes	no	no	no	yes
# 3	5	no	yes	yes	yes	no	no
# 4	5	no	yes	no	yes	no	yes
# 5	9	yes	yes	yes	no	no	no
# 6	9	yes	yes	no	no	no	yes
# 7	9	no	yes	yes	yes	no	no
# 8	9	no	yes	no	yes	no	yes
# 9	9	yes	no	yes	no	yes	no
# 10	9	no	no	no	yes	yes	yes