



HOW TO

Three Reasons for Missing Data

Engaging Consumers in Quality Information

April 2012

Introduction

Although there are a number of specific reasons why quality data reports may be missing for a provider, we have specific guidance available focusing on three key reasons:

1. **Too few patients:** When there is not enough data to report results reliably
2. **Did not report:** When information is not reported by a provider
3. **Not applicable:** When information is not relevant to the provider

For each reason we provide an explanation of the type of missing data, an example of when this type of data goes missing, recommendations and considerations for displaying this type of data, and information on displays that are ineffective.

Too Few Patients: When There Are Not Enough Data to Report Results Reliably

What is this issue, and when does it apply?

Publicly reported comparative quality reports should provide users with information they can use to make appropriate comparisons among providers. The number of patients who responded to a survey or had a specific condition may not be enough to report results reliably. For example, Hospital CAHPS sometimes requires 300 results from each hospital for data to be used for comparative purposes.

It is important the language explaining this type of missing data explicitly conveys that providers are not hiding information. Neutral language for providers with too few patients ensures they are not unjustly penalized.

About Aligning Forces for Quality


Aligning Forces for Quality (AF4Q) is the Robert Wood Johnson Foundation's signature effort to lift the overall quality of health care in targeted communities, as well as reduce racial and ethnic disparities and provide real models for national reform. The Foundation's commitment to improve health care in 16 AF4Q communities is the largest effort of its kind ever undertaken by a U.S. philanthropy. AF4Q asks the people who get care, give care and pay for care to work together to improve the quality and value of care delivered locally. The Center for Health Care Quality in the Department of Health Policy at George Washington University School of Public Health and Health Services serves as the national program office. Learn more about AF4Q at www.forces4quality.org. Learn more about RWJF's efforts to improve quality and equality of care at www.rwjf.org/qualityequality/af4q/.

About the Author

American Institutes for Research (AIR) provides technical assistance for the Robert Wood Johnson Foundation's *Aligning Forces for Quality* initiative. AIR is working with Aligning Forces communities to support consumer engagement efforts to promote higher-quality health care at lower cost and authored this publication.

What works?

In this section we provide recommended language to explain this type of missing data as well as other options for consideration, based upon testing a number of potential explanations with a set of study participants. When selecting a display format and text, keep in mind participants particularly like when the threshold number for public reporting is provided in the explanation.

	Sample Display	Considerations Before Using
BEST	<p>Short sentences:</p> <div>Not reported due to less than 100 completed surveys.</div> <div>Too few patients. Only offices with at least 100 completed surveys are reported.</div>	<p>When used with clinical quality measures, say “Not reported due to less than 100 patients who had this service.”</p> <p>When used with clinical quality measures, say “Too few patients. Only offices with at least 100 patients who had this service are reported.”</p>
GOOD	<p>Short phrase/word icon:</p> <div>too few patients</div> <div> too few patients</div>	<p>This short phrase may be misinterpreted to mean the provider sees only a few patients, as opposed to the number of patients meeting the criteria for the measure or completing a survey.</p> <p>A few testing participants stated they wanted additional information.</p>
GOOD	<p>Short sentence:</p> <div>There was not enough survey information available to report this measure.</div>	<p>Participants may interpret this as something being awry with the survey.</p> <p>When used with clinical quality measures, say, “There was not enough information available to report this measure.”</p>

What does not work?

In this section we provide a list of displays that did not work well in testing. In general, these displays were confusing, misleading, or did not provide enough information. We *do not* recommend use of these displays; however, there are important lessons that may be gathered from reviewing what doesn’t work.

	Sample Display	Problems and Concerns				
INEFFECTIVE	<p>Symbols:</p> <ul style="list-style-type: none">Footnote next to provider name: <div><div>Dr. B. Karas¹</div></div> <ul style="list-style-type: none">Asterisk; dagger <table><tr><td>Dr. J. Addison</td><td>*</td></tr><tr><td>Dr. F. Sullivan</td><td>†</td></tr></table>	Dr. J. Addison	*	Dr. F. Sullivan	†	<p>Most participants did not notice the footnotes on their own. Participants indicated the symbols (e.g., asterisk, dagger) were not meaningful to them because they would have to click on the symbol to learn what it means.</p>
	Dr. J. Addison	*				
Dr. F. Sullivan	†					

	Sample Display	Problems and Concerns
INEFFECTIVE	<p>Short phrases:</p> <ul style="list-style-type: none"> Not enough survey information Not reported due to small numbers <p>Short sentences:</p> <ul style="list-style-type: none"> Did not have minimum number of patient survey responses. The doctor's office does not have enough survey information to reliably tell how well it did. 	Some consumers may relate these sentences and phrases to the quality of the survey and the organization's capacity to collect sufficient information.
INEFFECTIVE	<p>Short sentences:</p> <ul style="list-style-type: none"> This doctor's office provides this service, but too few patients received the service to meaningfully report this survey information. 	The word "meaningfully" can be challenging to consumers.
INEFFECTIVE	<p>Acronyms:</p> <ul style="list-style-type: none"> NR (Not reported due to small numbers) TF (Too few patients) NA (Not enough information) N/D (Not enough data) 	Participants did not know what the abbreviations stood for.
INEFFECTIVE	<p>Omission statements:</p> <ul style="list-style-type: none"> Why isn't my doctor's office listed? Only offices with at least 100 patients will be shown here. The following doctors' offices reported a very small number of applicable cases: (list out or include hyperlink to list of names). If your doctor's office is not listed, too few patients were available (fewer than 100) to meaningfully report. 	<p>These statements became too complicated when more than one type of missing data needed to be shown in a report.</p> <p>Further, some of these seem to refer to a situation where a provider does not report at all, instead of one where a provider reports on some measures but not others.</p>

Did Not Report: When Information is Not Reported by a Provider

What is this issue, and when does it apply?










Although it is becoming more likely and relevant for providers to participate in public reporting of quality data, not all providers contribute. A few providers object to the measures or displays being used and do not contribute their data. The issue of providers not reporting quality data is one of importance whether reporting is optional or required.

For example, a small provider without the resources to collect and report this information may choose not to report voluntary data publicly. Other providers may withhold public reporting data indicating poor performance. Still other providers may have missed reporting deadlines of required public reports.

What works?

In this section we provide recommended language to explain this type of missing data as well as other options for consideration, based upon testing a number of potential explanations with a set of study participants. As you can see from the examples above, there are varying degrees of non-reporting, so we offer several options that may be more or less

encouraging of provider participation. When making these strategic choices, you will have to weigh strong consumer preferences for distinguishing between voluntary reporting measures and provider refusal to participate, along with what is politically feasible in your community.

	Sample Display	Considerations Before Using
BEST	<p>Short phrase/word icon:</p>  	Some participants wanted additional information about why information was not reported.
BEST	<p>Short phrase/word icon:</p>  	This was easy to understand for usability testing participants. Participants interpreted this statement as meaning providers weren't cooperating with the website or were hiding poor performance.
GOOD	<p>Short phrase/word icon:</p>  	<p>This short phrase represented inaction on the part of the provider and invoked the least amount of blame on providers. This is a good phrase to use when you do not know if the provider made a decision about whether or not to report information.</p> <p>However, this phrase may not motivate non-reporting providers to participate in public reporting.</p>
GOOD	<p>Short phrase/word icon:</p>  	While similar to “refused,” this phrase evoked a slightly weaker reaction from usability testing participants.
GOOD	<p>Symbol:</p> 	Participants interpreted this as meaning “zero” or “no data.” Note, however, that no data and zero are not equivalent.

What does not work?

In this section we provide a list of displays that did not work well in testing. In general, these displays were confusing, misleading, or did not provide enough information. We *do not* recommend use of these displays; however, there are important lessons that may be gathered from reviewing what doesn't work.

	Sample Display	Problems and Concerns				
INEFFECTIVE	<p>Symbols:</p> <ul style="list-style-type: none">Footnote next to provider name: <div><div>Dr. B. Karas¹</div></div> <ul style="list-style-type: none">Asterisks; Dagger <table><tr><td>Dr. J. Addison</td><td>*</td></tr><tr><td>Dr. F. Sullivan</td><td>†</td></tr></table>	Dr. J. Addison	*	Dr. F. Sullivan	†	<p>Most participants did not notice the footnotes on their own. Participants indicated that the symbols (e.g., asterisk, dagger) were not meaningful to them because they would have to click on the symbol to learn what it means.</p> <p>When seeing the larger asterisk, participants stated it signaled something was exceptional, different, or out of place for that provider.</p>
Dr. J. Addison	*					
Dr. F. Sullivan	†					
INEFFECTIVE	<p>Short sentence:</p> <ul style="list-style-type: none">Did not collect survey information or did not report survey information.	<p>This sentence was not specific enough for participant who wanted to understand whether the provider actively refused to submit information or rather, did not take any action.</p>				
INEFFECTIVE	<p>Short sentences:</p> <ul style="list-style-type: none">This doctor’s office did not report all survey information.Doctor’s office chose not to report survey information.	<p>These sentences may lead consumers to believe that a provider selects what survey information was reported, thus avoiding any negative reports. This could have a negative impact on the consumer’s trust of the information for reporting providers.</p>				
INEFFECTIVE	<p>Acronyms:</p> <ul style="list-style-type: none">NR (not reported)ND (no data)DNR (did not report)RF (refused)	<p>Participants did not know what the abbreviations stood for and sometimes confused them with more common usages of the abbreviation (e.g., do not resuscitate).</p> <p>Several usability testing participants expressed frustration at having to hover over or click on the abbreviation to find its meaning.</p>				
INEFFECTIVE	<p>Omission statements:</p> <ul style="list-style-type: none">The following doctors’ offices did not report information: (list out doctors’ offices).If your doctor's office is not listed, it means they did not report information for this topic.Participation in reporting data on this website is voluntary. Not all doctors’ offices participate.	<p>These statements became too complicated when more than one type of missing data needed to be shown in a report.</p>				

Not Applicable: When Information is Not Relevant to the Provider

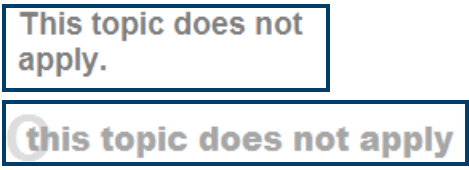
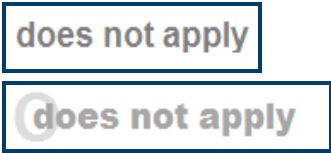



What is this issue, and when does it apply?

There are some providers that do not offer certain types of care and thus will not be able to supply related public reports. For example, an OB/GYN will not conduct prostate screenings, a men's clinic will not screen for cervical or breast cancer, and a pediatrician will not collect adult patient survey data.

It is important that providers to whom a measure is not applicable are not penalized for not having publicly reported data not related to the care they provide.


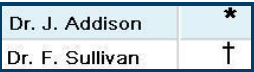
What works?

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	Sample Display	Considerations Before Using
BEST	<p>Short sentence/word icon:</p> 	This was easy for usability testing participants to understand.
BEST	<p>Short sentence/word icon:</p> 	Although this was easily understood, some usability testing participants wanted additional information about why information was not applicable.
BEST	<p>Short sentence:</p> 	To customize this sentence for other measures, replace “breast cancer screening” with a brief name of the applicable measure.
GOOD	<p>Short sentence/word icon:</p> 	Some usability testing participants struggled with the word “applicable.” Although this was understood, some usability testing participants wanted additional information about why information was not applicable.
GOOD	<p>Acronym:</p> 	Although generally acronyms are not recommended, NA was one acronym for which nearly all usability testing participants knew the meaning.

What does not work?

In this section we provide a list of displays that did not work well in testing. In general, these displays were confusing, misleading, or did not provide enough information. We do not recommend use of these displays; however, there are important lessons that may be gathered from reviewing what doesn’t work.

	Sample Display	Considerations Before Using
INEFFECTIVE	<p>Symbols:</p> <ul style="list-style-type: none"> Footnote next to provider name:  Asterisks; Cross  	Most participants did not notice the footnotes on their own. Participants indicated that the symbols (e.g., asterisk, dagger) were not meaningful to them because they would have to click on the symbol to learn what it means.

	Sample Display	Considerations Before Using
INEFFECTIVE	Short sentence: <ul style="list-style-type: none"> This survey does not apply to patients seen at this doctor's office. This doctor's office does not have patients eligible for the survey. 	This phrase may not provide sufficient explanation for why a measure does not apply to a specific provider and what the patient eligibility requirements are.
INEFFECTIVE	Acronyms: <ul style="list-style-type: none"> DNA (does not apply) 	Participants did not know what the abbreviation stood for and sometimes confused them with more common usages of the abbreviation (i.e., deoxyribonucleic acid).
INEFFECTIVE	Omission statements: <ul style="list-style-type: none"> This topic does not apply to the following doctors' offices: (list providers or link to list of providers). If your doctor's office is not listed it means this topic does not apply to your doctor's office. 	These statements became too complicated when more than one type of missing data needed to be shown in a report.