Institute for Quality Improvement

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IQI Insights **Volume 2, Number 4, Fall 2010**
Planning Data Collection

A Note to the Reader:

IQI Insights is a series of brief informational pieces from the AAAHC Institute for Quality Improvement. Our focus is on enhancing quality and safety through educational activities. In this series, we hope to provide you with the opportunity to learn more about basic issues and concepts associated with quality improvement in ambulatory health care. These short documents are not meant to provide in depth or complete information; however, we hope that they will increase your comfort with these topics and perhaps, lead you to seek additional information. We welcome your feedback.

Sincerely,

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Introduction
This *IQI Insights* will address key issues related to describing the data (information) that will be collected to determine organizational performance for a quality improvement (QI) activity (please see AAAHC Standard 5.II.B. 3). As with all of the AAAHC Institute for Quality Improvement's *IQI Insights*, this one is not designed to address the breadth or detail associated with this topic.

At a first glance, this topic may seem straightforward and not really critical to the success of a QI activity. Let's consider why this is a very important part of the QI process and what issues/processes should be considered to avoid frustration.

Why is Describing Data Collection for Determining Organizational Performance Important?
In order to know whether to pursue a quality improvement activity, you need to know whether your organization has a real issue to address. Data collection can provide you with information as to whether you should stop and look to another issue OR go ahead and pursue the one you have studied to this point.

If you do not do a good job at describing the data you are collecting, this can lead to confusion, inconsistent data collection, high levels of missing or unlikely data, little understanding of factors that may influence your results, and, as a result, inconclusive or inaccurate findings. In other words, you can experience a lot of frustration. Further, if you don't do a good job of data collection you may be misled into pursuing something that isn't worth pursuing or miss a good opportunity for improvement.

Additionally, if you measure and determine that you have an issue worthy of addressing by implementing a corrective action or intervention, you should not have to change your data collection method to re-measure, to see if your intervention worked. This is because if you have changed data collection and find different results for re-measurement, you may not be able to tell whether this was due to changing data collection or changing performance.

What is it that I Need to Describe Regarding Data Collection?
The *performance goal* that you have established for your QI activity should help you to begin to formulate your description of your data collection. [1]

Information you need to include in a description of data collection includes:

(1) issue (HbA1c testing, pre-procedure patient wait times, etc.) being addressed by the measure
(2) type of score (percentage, pass/fail, etc.)
(3) target population (age group, gender, condition, procedure, etc.)
(4) timing of measurement (monthly, quarterly, every 12 months, ongoing for 2 months, etc.)
(5) data source(s) (chart, billing, survey, observation, etc.)

You will note that the following examples are very specific:

1. Percentage of chlamydia screening of sexually active non-pregnant female patients age 24 years and younger who have a non-emergency visit at our center in the next six months per our survey tool.

2. Percentage of time each cataract surgeon in our center starts cataract surgery on or before the time the procedure is scheduled to start, for start of the day, for the next month, per our surgery log.

What Issues Should I Consider in Describing Data Collection?

Are there *opportunities for intra- and inter-organizational comparisons*—i.e., can this be a benchmarking activity? [1]

Do you have *different sources* (charts, billing, surveys, computer-based program, etc.) from which you can collect *data*? What are the *pros* and *cons* (accuracy, completeness, ease of collection) of your different data source options? You need to know if the information you are seeking is likely to be in the data source you are considering. You should also consider how difficult (time/resource intensive) it will be to collect data from this source. A data source's accuracy is also an important consideration.

How can you get p*articipation in developing measures from key people across your organization*? If others are helping you collect data or have a high level of familiarity with your QI issue, it would be very beneficial to involve them in describing data collection and to do so as early in the process as possible. This will not only lead to more "ownership," understanding, and cooperation from all concerned, but will also provide you with appropriate terminology and divide up complex questions so that you can make your data collection clearer to all involved. Involvement from key individuals may also alert you to factors that can influence your measurement results and should be measured themselves, as well as help you anticipate unintended consequences of your data collection plans.

Let's consider the data collection description examples from the previous page.

(1) Percentage of chlamydia screening of sexually active non-pregnant female patients age 24 years and younger who have a non-emergency visit at our center in the next six months per our survey tool.

Benchmarking Opportunities: If you have multiple providers who provide this type of care at your organization, you can internally benchmark (compare performance of these providers). If you are a part of a larger system (state university system, multi-center group practice, etc.) you could set up an opportunity to benchmark your organization with others.

Data Sources: You could use chart abstraction, which might be quite time consuming and screening results may be misfiled or missing. You could look at your billing information, but this may not provide some of the information you need to assure that you are looking at the correct sample of patients (those in the right age group and sexually active…). A survey that is a quick check off sheet could do the job fairly quickly and accurately and could then be included in the chart as part of documentation also.

Information from Key People in Your Organization: Key people in your organization will make you further clarify your terms. How do you qualify a female as "sexually active?" What does "non-pregnant" mean? Do I need to do a pregnancy test on all potential patients? Does age 24 years mean calendar years or to the day? What does "non-emergency visit" mean?

(2) Percentage of time each cataract surgeon in our center starts cataract surgery on or before the time the procedure is scheduled to start, for start of the day, for the next month, per our surgery log.

Benchmarking Opportunities: If you have multiple surgeons who perform this procedure at your organization, you can internally benchmark (compare performance of these surgeons). If you are a part of a larger system (hospital system, corporation, etc.) you could set up an opportunity to benchmark your organization with others.

Data Sources: You could use chart abstraction; some organizations include procedures times in patient records but these times may not be recorded in comparison to scheduled times. Your billing information may not be very helpful either. Many surgery centers include surgery schedule times and actual times on surgery logs.

Information from Key People in Your Organization: Key people in your organization will make you further clarify your terms. Are we including all cataract surgeons or only those who have a certain number of

procedures at our center in a certain time period? What clock are we using? When does the procedure officially (anesthesia? incision?) start?

Pilot Testing

Before you invest time and resources in full fledged data collection, you may want to pilot test your measures.

Many people believe that pilot testing needs to be all inclusive. However, you don't need to try your measures on everyone; a small, convenient group will usually give you the information you need. Pilot testing can accomplish several tasks that will make it easier for you to be successful in your QI activity. Pilot testing can help you:

- Ensure that your data collection tool and method is as clear as it can be and you are obtaining the data you need to understand your performance on your QI issue.
- Understand what sort of resources (time, personnel, money, etc.) will be required to collect the data (information) you need.
- Take into account important factors that may influence your results.

Here are illustrations of the type of information that may become apparent on pilot testing the examples used above.

(1) Percentage of chlamydia screening of sexually active non-pregnant female patients age 24 years and younger who have a non-emergency visit at our center in the next six months per our survey tool.

Pilot testing may reveal that a small but significant group of eligible patients refuse screening. This leads to the question about whether data are being collected on ordered tests or test results received back from the lab. If the latter, how does that change the start and end of the 6 month period? And, it looks like 6 months may not be long enough to collect enough data to feel comfortable with the results. [2]

(2) Percentage of time each cataract surgeon in our center starts cataract surgery on or before the time the procedure is scheduled to start, for start of the day, for the next month, per our surgery log.

Pilot testing may reveal that a small but significant proportion of patients arrive late, or there is extreme weather that delays everyone's arrival, and these situations are beyond the surgeon's control. Also, there was no guidance as to when the "start of the day" is; if the surgeon starts cataract procedures at 2 pm, are these cases included in data collection? It also appears that if we exclude this type of "start of the day" case or cases with late patient arrivals/extreme weather, it may take several months to collect enough data to have confidence in our results. [2]

By trying out data collection on just a few cases, organizations can usually find out if they have issues with definitions of measures and consistency of data collection. Pilot testing wastes nothing if the data collection works in this phase, since the data can be included in the overall data used for the study.

Additional References and End Notes—*please note: references to web sites or products are not endorsements.*
[1] See the Summer 2010 *IQI Insights* on setting a performance goal and the Spring 2009 *IQI Insights* on benchmarking.
[2] This may be 25 to 35+ patients per physician per Landon BE, Normand ST, Blumenthal D, and Daley J. Physician Clinical Performance Assessment: Prospects and Barriers. *JAMA*. 2003. 290: 1183-1189.