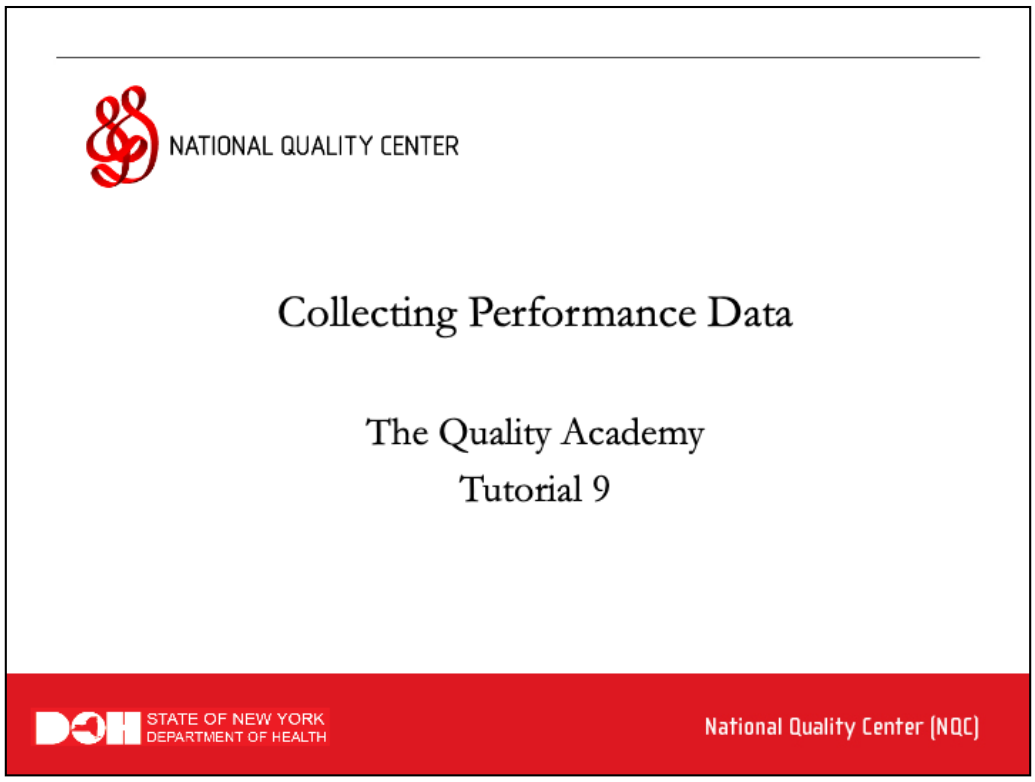
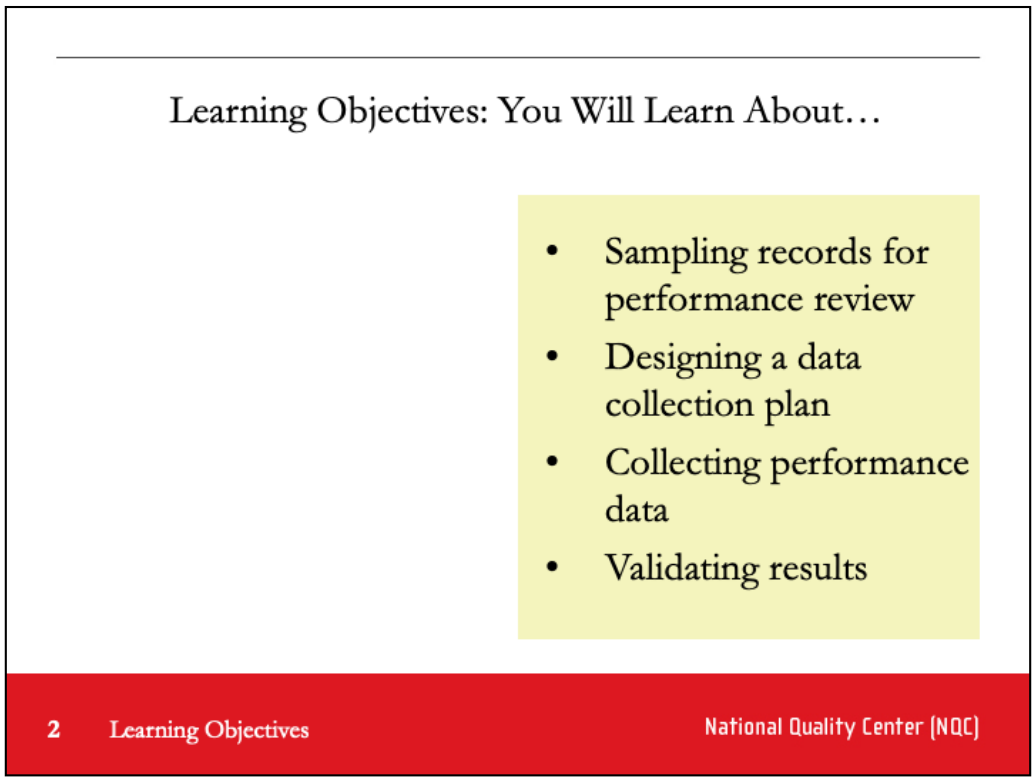


The National Quality Center is pleased to bring you the Quality Academy, an online learning opportunity on key quality management concepts. The NQC provides no-cost, state-of the-art technical assistance for all Ryan White Program grantees to improve the quality of HIV care nationwide. The Center is funded through a cooperative agreement with the HRSA HIV/AIDS Bureau and managed by the New York State Department of Health AIDS Institute.

This Tutorial is titled:

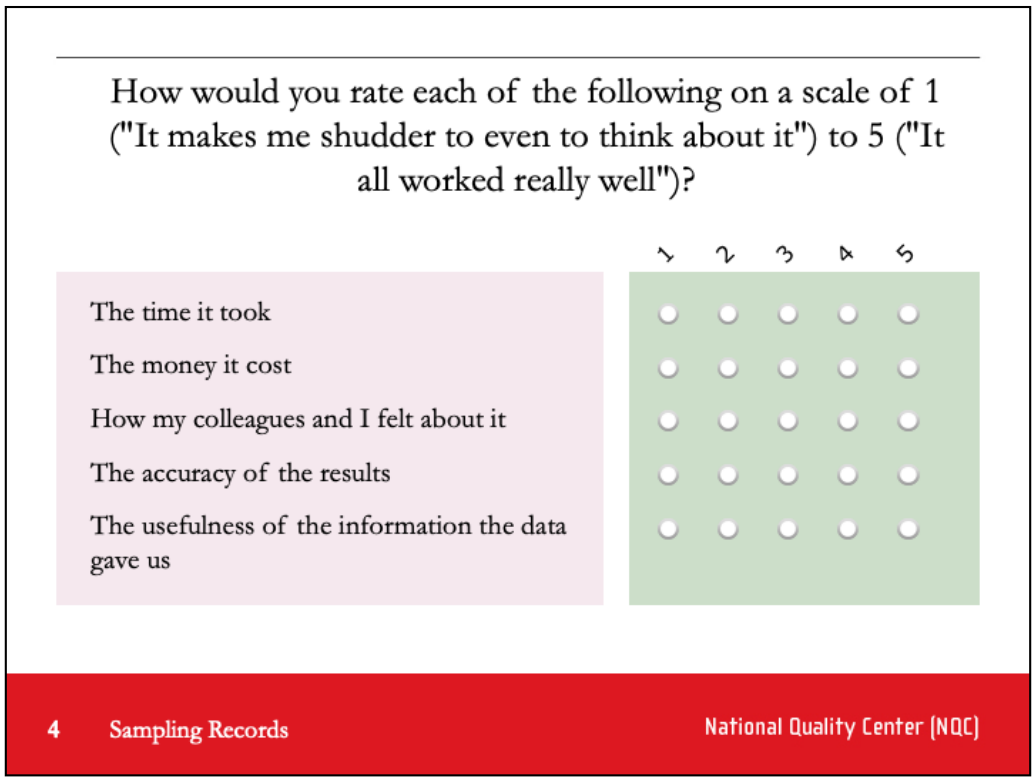
Collecting Performance Data



Hello and welcome to the National Quality Center's Quality Academy.

In this Tutorial, we are going to show you how to sample records for performance reviews by establishing review eligibility criteria, identifying minimal sample sizes and selecting a random sample. Next you will learn how to design a data collection plan that takes into account selecting key indicators, designing an effective collection tool, assigning abstractors, and conducting a pilot test before you begin. We will wrap up today by teaching you appropriate ways to go about actually collecting your data and validating your results. You may want to have handy a simple calculator for this training module.

As always, we appreciate your participation and hope that you find this training valuable to your organization's success.



Let's state your previous experience in data collection. How would you rate each of the following on a scale of 1 ("It makes me shudder to even to think about it") to 5 ("It all worked really well")?

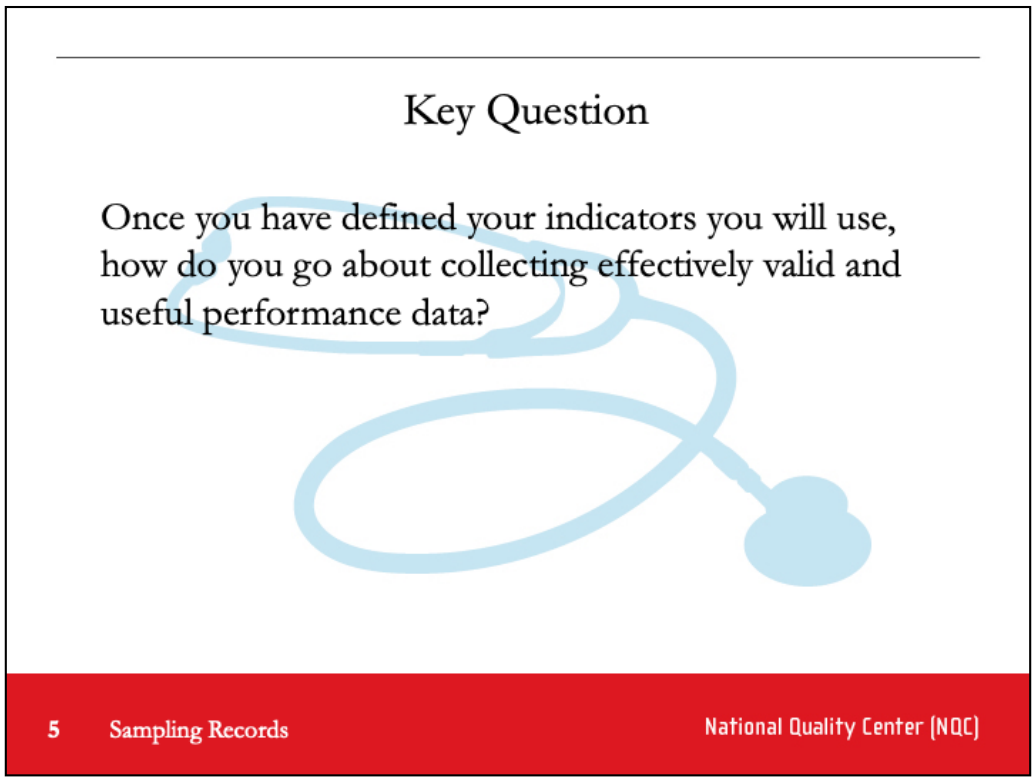
The time it took…

The money it cost…

How my colleagues and I felt about it…

The accuracy of the results…

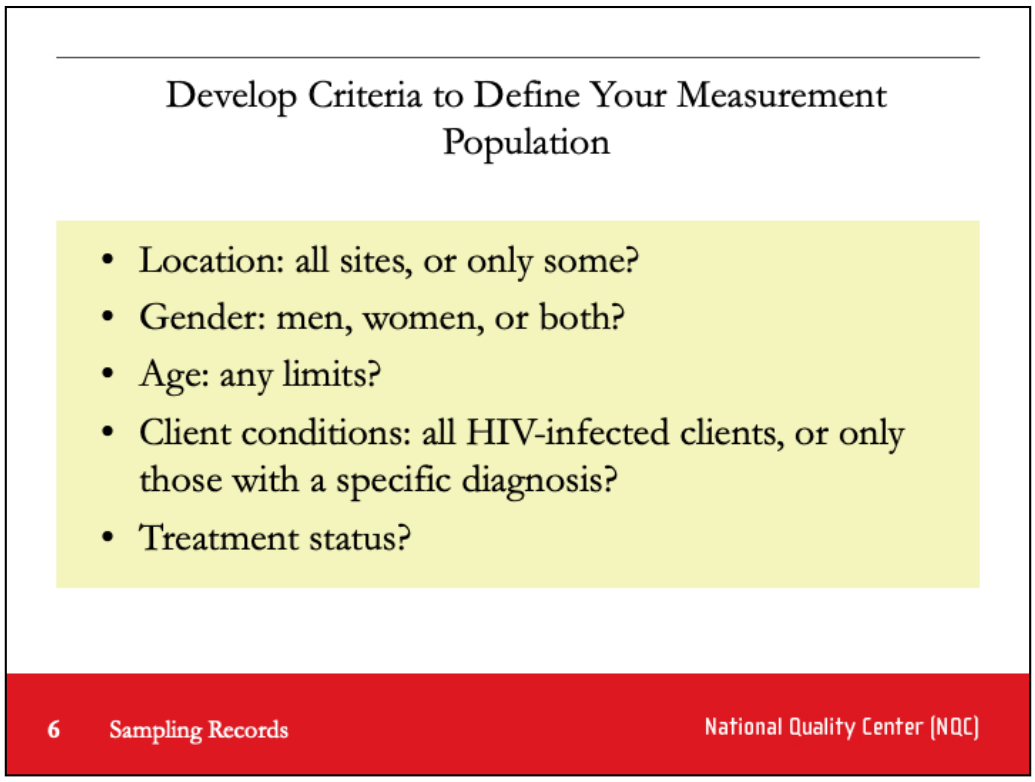
The usefulness of the information the data gave us…



It has been our experience that data collection within most organizations is not optimal. This Tutorial will help you improve and refine your data collection efforts.

Today's key question focuses on how to collect data that are valid and useful, in a way that doesn't over-stretch your HIV program's resources.

Once you have defined your indicators you will use, how do you go about collecting effectively valid and useful performance data?



To start, you need to define your eligibility criteria for the measurement population.

The measurement population consists of those patients who are eligible for measurement based on pre-established criteria. Defining a population requires identifying both which records should be reviewed and which should not. The key point here is to select the focus of your data collection efforts.

Consider the following criteria to define your measurement population:

- Location: What facilities within the care system will be included?

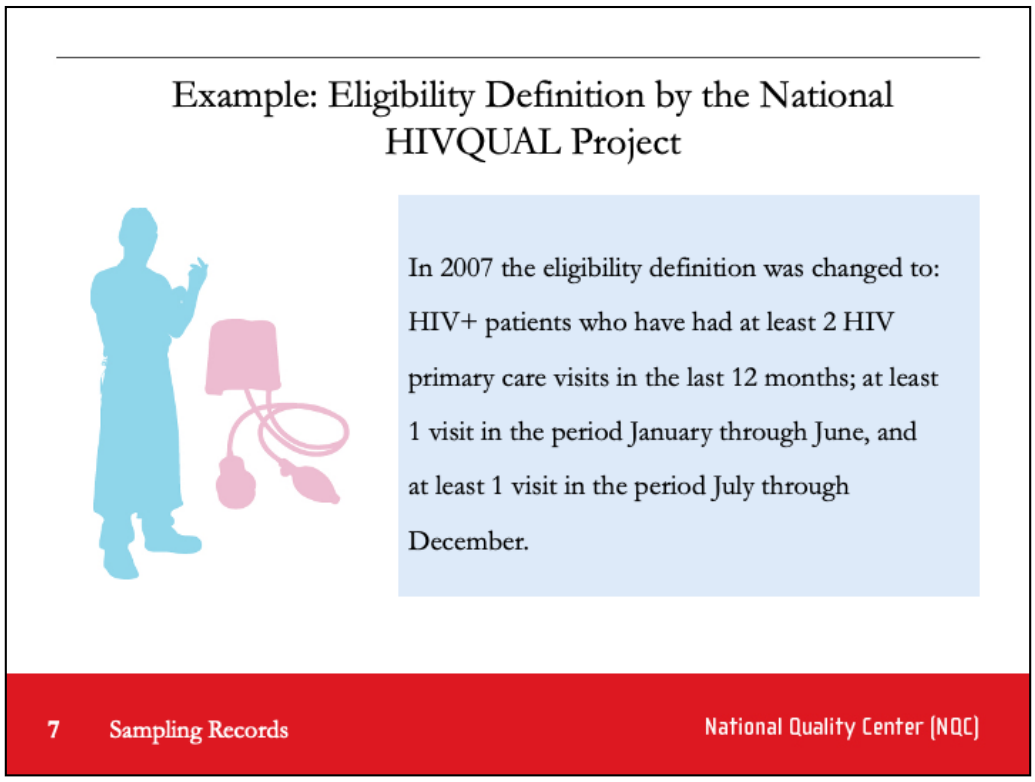
- Gender: Does the indicator apply exclusively to men or women, or to both?

- Age: Are there particular age limits?

- Patient condition: Is a confirmed diagnosis required, or simply symptoms or signs? Do certain conditions make the patient ineligible?

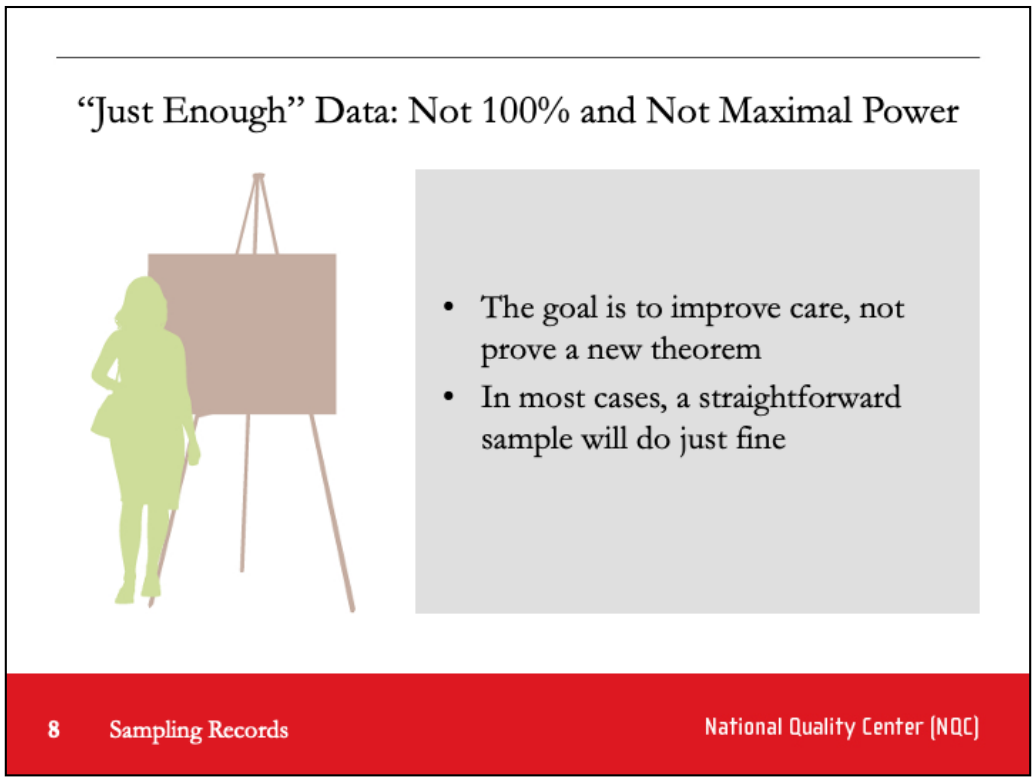
- Active treatment status: How many visits are required for eligibility? Must the patient currently be in treatment? Must the treatment have occurred within a certain time frame?

When you are finished addressing these questions, you will have a list of eligibility criteria.



HIV ambulatory care sites that participate in the National HIVQUAL Project, a national capacity building initiative by the New York State Department of Health, define the eligibility for records to be included in the measurement population as follows.

HIV+ patients, who have had at least 2 primary care visits in the last 12 months, with at least 1 primary care visit in the period January through June and at least 1 primary care visit in the period July through December.



The data you need for quality improvement are not the same as the data that drive a peer-reviewed study of a randomized clinical trial. You don't need to count every chart. In fact, the sample size is one of the biggest differences between collecting data for quality improvement versus conducting research. For the purpose of quality improvement, simple sampling techniques work quite well.

Keep in mind that in most cases, a straightforward sample will do just fine.

The HIVQUAL Sample Size Table

The HIVQUAL Sample Size Table indicates:

- The minimum number of records to be reviewed
- The number of records to be pulled to allow for over-sampling

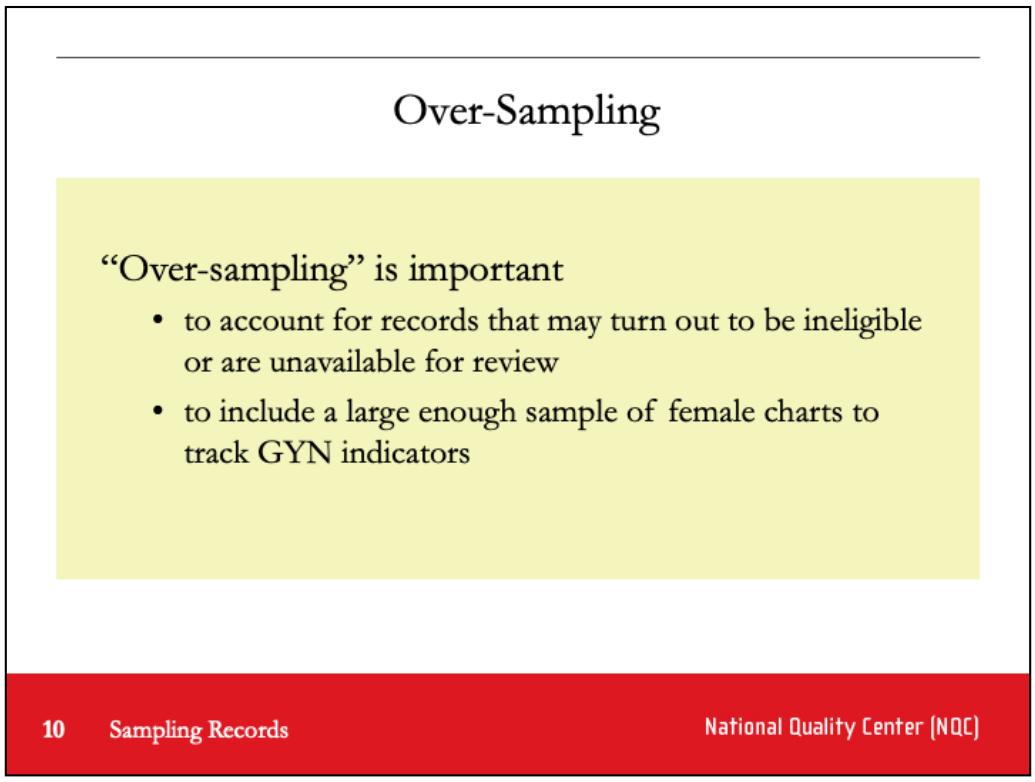
Total Sample Table

Total Eligible Population	*Minimum Total Records*[1]	*Charts to Pull**
Up to 20	All	All
21-30	24	31
31-40	30	39
41-50	35	46
51-60	39	51
61-70	43	56
71-80	46	60
81-90	49	64
91-100	52	68
101-119	57	74
120-139	61	79
140-159	64	83
160-179	67	87
180-199	70	91
200-249	75	98
250-299	79	103
300-349	82	107
350-399	85	111
400-449	87	113
450-499	88	114
500-749	94	122
750-999	97	126
1000-4999	105	137
5000 or more	107	139

The Table here shows the HIVQUAL Sample Size Table to help you decide what sample size you need. The table indicates the minimum total number of records to review based on eligible cases. The maximum number of records to be reviewed is 107 though it depends on the facility's case load. The Table also includes an additional column that indicates the number of charts to be pulled in preparation for a review, allowing for over sampling.

For example, for a clinic with 212 eligible patients, you should review at minimum 75 records and pull 23 more records (a total of 98) based on the HIVQUAL Sample Size Table.

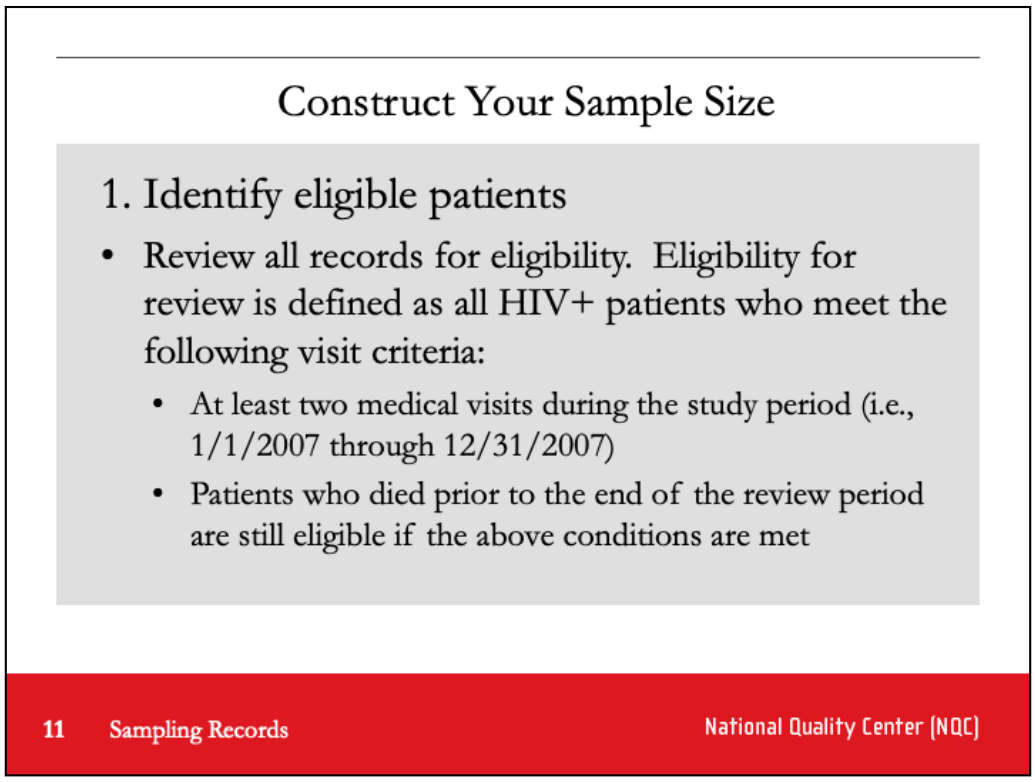
This chart is based on a 90% confidence interval with an error width of 16% when using the minimum number of records.



Over-sampling is used to compensate for the possibility that when reviewed, charts are determined to be ineligible for inclusion.

This allows for some "wiggle room" in case some of these records are incomplete, lost or in use when you do your data collection. Remember that the HIVQUAL sample size table suggests that the minimum number of records to be reviewed is 107;however, the number of 139 records should be pulled.

"Over-sampling" also ensures that the sample will include a large enough sample of female charts to track GYN indicators.



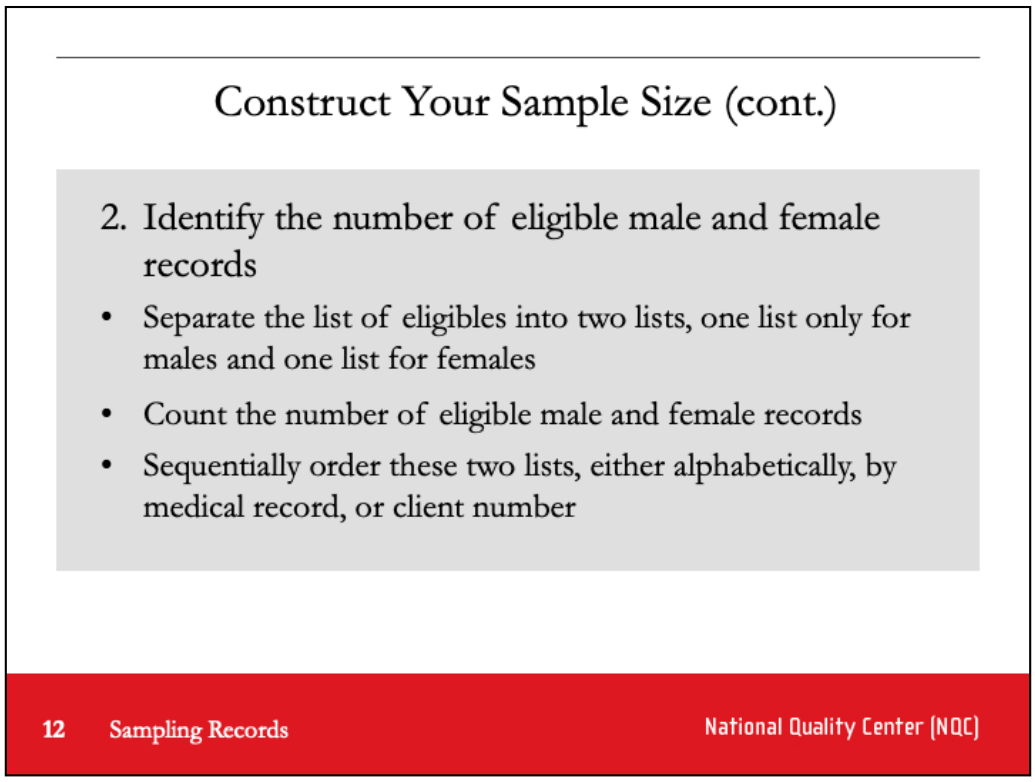
What are the steps to construct your sample size? We suggest that you take the following steps:

First, identify your eligible patients, your measurement population, by reviewing all records for eligibility.

The example provided here is based on the HIVQUAL Sample Instructions and was already mentioned in an earlier slide.

Please be aware, that HIVQUAL suggests that patients who died prior to the end of the review period are still eligible if the above conditions are met.

At the end of this step, you should have a list of all records that are eligible based on your criteria.



The next step determines the number of male and female records that are eligible.

First, the eligible patient caseload should be divided into one list only for males and one list for females.

Then, count and document the number of eligible male and female records. The total eligible population is the sum of the two lists.

Lastly, each list should be sorted sequentially, either alphabetically, by medical record or client number. Use of an Excel spreadsheet may facilitate this activity.

Construct Your Sample (cont.)

Total Sample Table

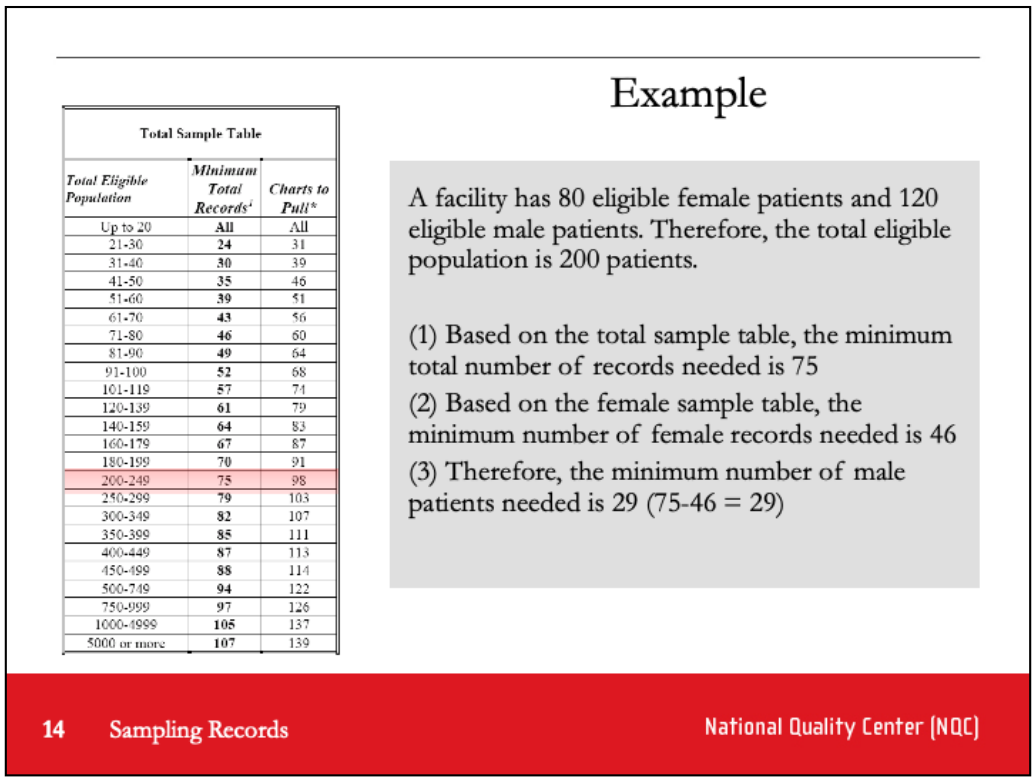
Total Eligible Population	*Minimum Total Records*[1]	*Charts to Pull**
Up to 20	All	All
21-30	24	31
31-40	30	39
41-50	35	46
51-60	39	51
61-70	43	56
71-80	46	60
81-90	49	64
91-100	52	68
101-119	57	74
120-139	61	79
140-159	64	83
160-179	67	87
180-199	70	91
200-249	75	98
250-299	79	103
300-349	82	107
350-399	85	111
400-449	87	113
450-499	88	114
500-749	94	122
750-999	97	126
1000-4999	105	137
5000 or more	107	139

3. Determine the minimum number of male and female records to be reviewed
   - Using the number of eligible female patients, determine the minimum number of female records needed from the minimum HIVQUAL Sample Table
   - Determine the minimum number of male records needed by subtracting the minimum female records from the total minimum records

The next step determines the sample size for your data collection, specifically the minimum number of male and female records to be reviewed. Sampling allows you to make inferences about a large group (total population) based on observations of a smaller subset of that group or sample.

As mentioned earlier we are over-sampling female records in this process to ensure enough accuracy for the GYN indicators.

- Using the total number of eligible female patients, determine the minimum number of female records needed from the HIVQUAL Sample Table.
- Determine the minimum number of male records needed by subtracting the minimum female records from the total minimum records (males and females combined). If the calculated number of male records needed is less than 10, *increase* minimum sample to assure that at least 10 males are included.



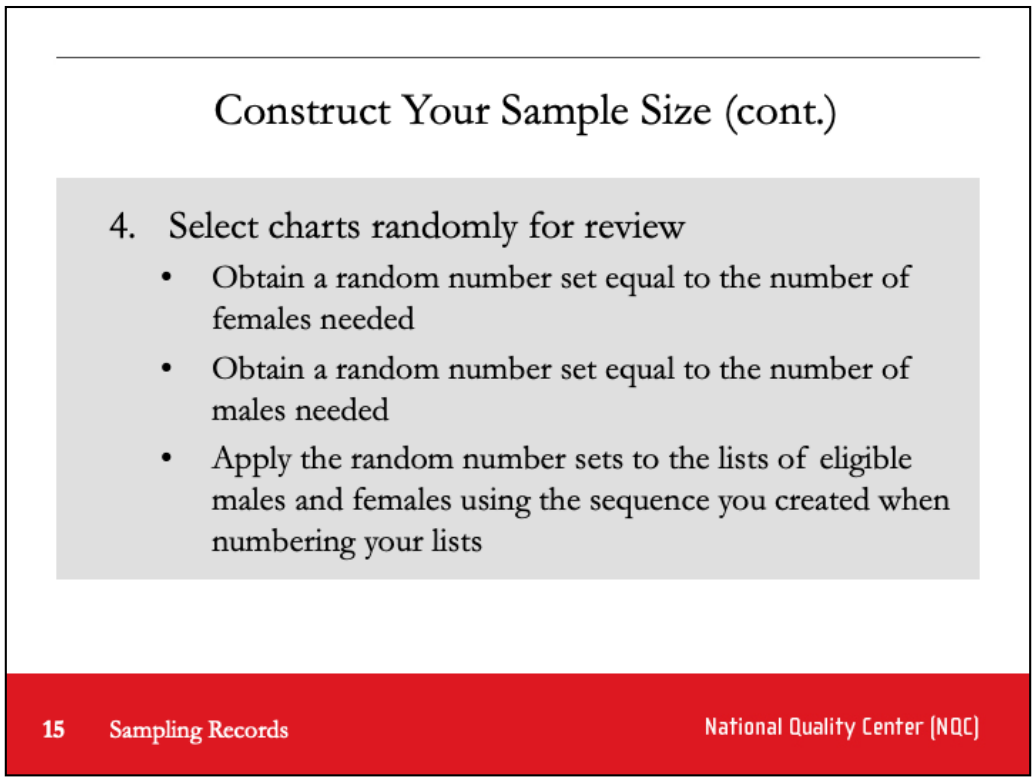
Let's go through one example:

A facility has 80 eligible female patients and 120 eligible male patients. Therefore, the total eligible population is 200 patients.

(1) Based on the sample table, the minimum total number of records needed is 75.

(2) Based on the same sample table, the minimum number of female records needed is 46.

(3) Therefore, the minimum number of male patients needed is 29. We arrived at that number by subtracting 46, our required minimum of female patients, from 75, our total number of records needed.



In the next step you select which records are to be reviewed. Charts must be selected randomly. You can't just pick out the records that you know are "good." "Random selection" means that each record has an equal chance of being included in the sample. The easiest way to select records randomly is to find a random number table and pull each record in the random sequence.

If you use random number tables, you should

1. Obtain a random number set equal to the number of females needed and a random number set equal to the number of males needed.
2. Apply the random number sets to the lists of eligible males and females using the sequence you created when numbering your lists.

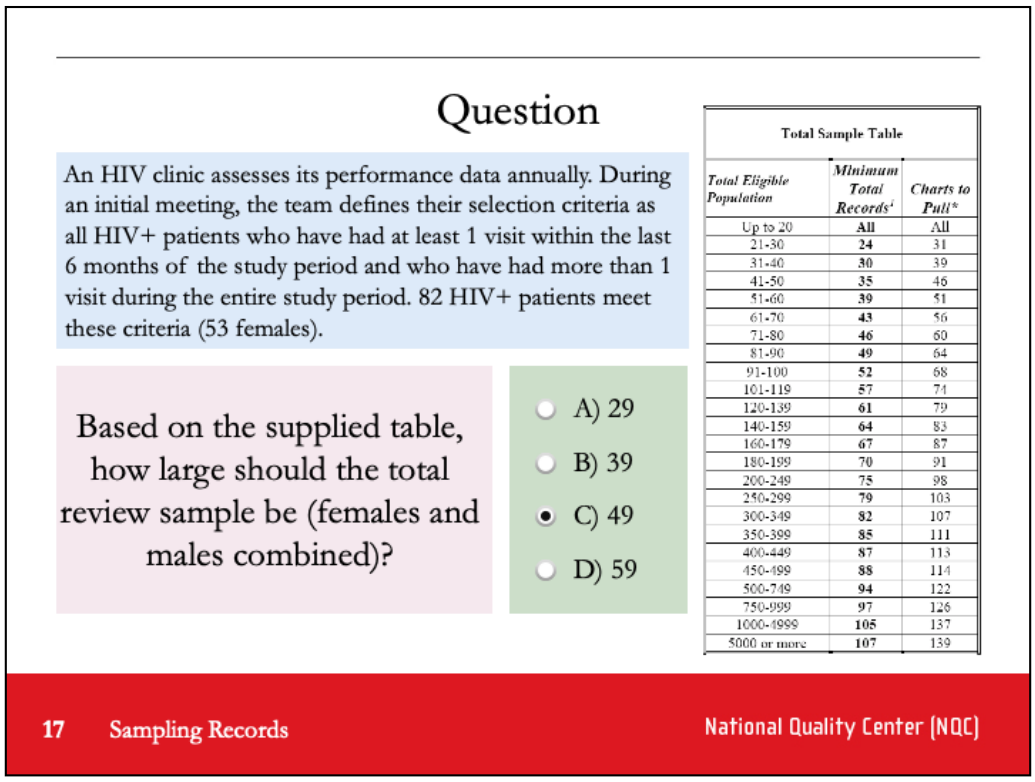
Resources to Randomize Your Records

- "Measuring Clinical Performance: A Guide for HIV Health Care Providers" (includes random number tables)
- A useful website for the generation of random numbers is www.randomizer.org

Random sampling is not hard to do. For detailed instructions, please use "Measuring Clinical Performance: A Guide for HIV Health Care Providers."

A useful website for the generation of random numbers is also: www.randomizer.org

The revised HIVQUAL software includes a random number generator. Most spreadsheet programs, such as Microsoft Excel offer random number tables as well.



Let's see what you have learned so far. Take some time to review the scenario in the blue area of the screen. You will want to hit "pause" on the video. Then, using the sample table provided, determine how large the total review sample should be including females and males. Make sure you see why C) 49 is the correct answer.

Question

An HIV clinic assesses its performance data annually. During an initial meeting, the team defines their selection criteria as all HIV+ patients who have had at least 1 visit within the last 6 months of the study period and who have had more than 1 visit during the entire study period. 82 HIV+ patients meet these criteria (53 females).

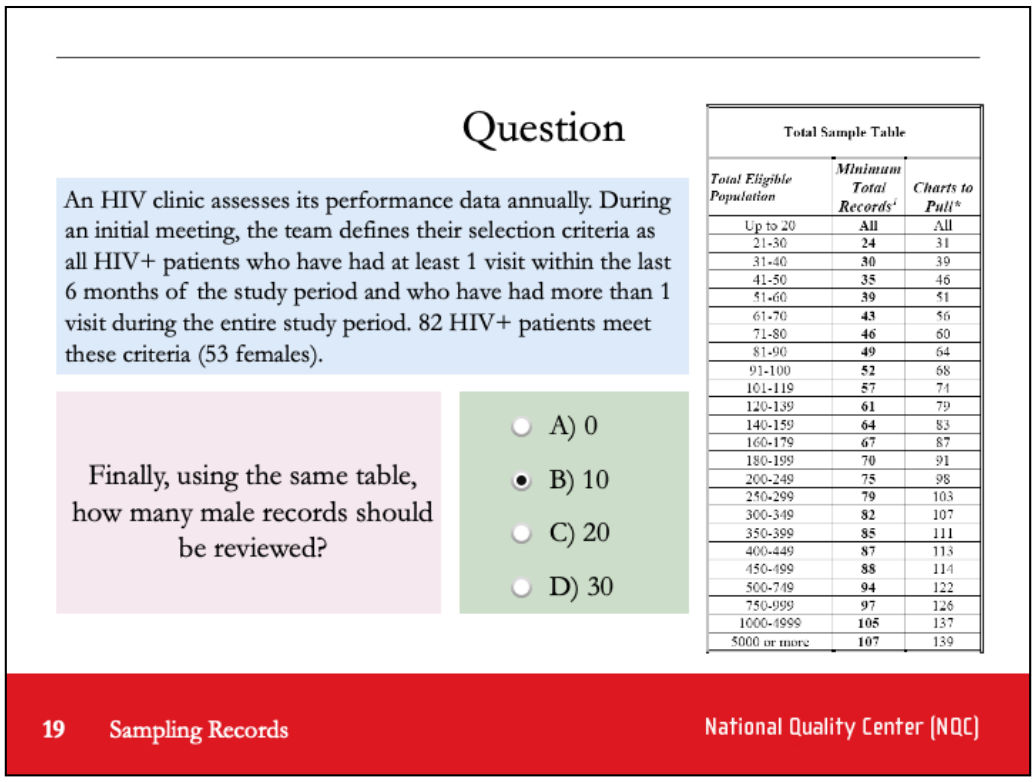
Based on this same table, how many female records should be reviewed?

- A) 19
- B) 29
- C) 39
- D) 49

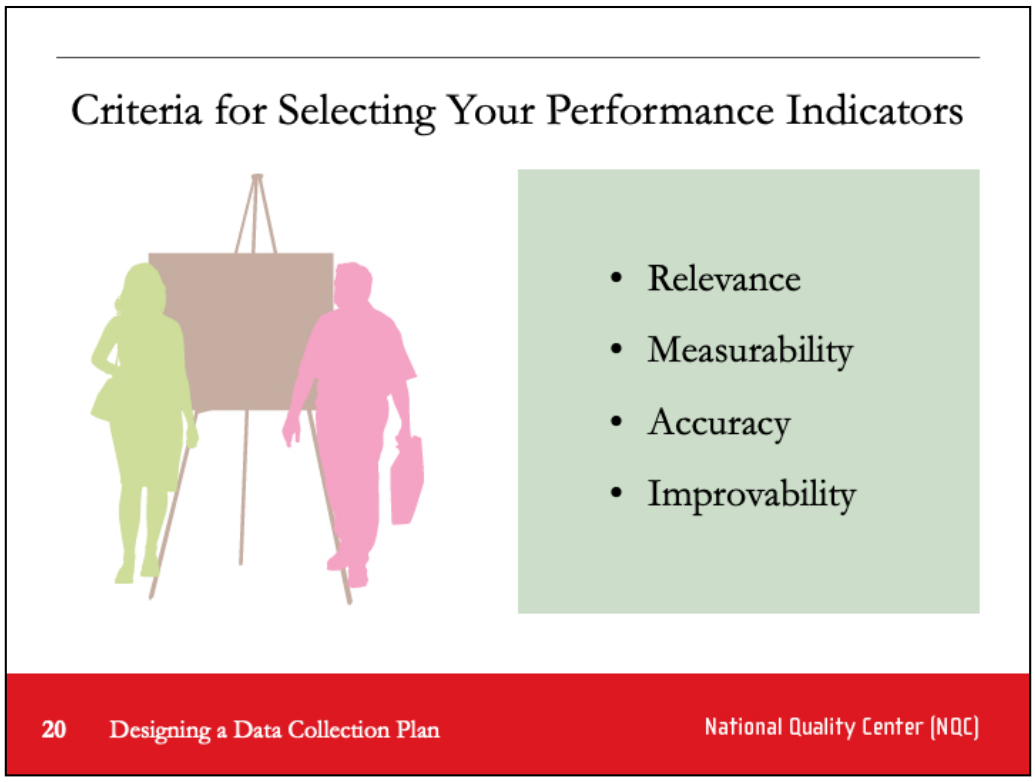
Total Sample Table

Total Eligible Population	*Minimum Total Records*[1]	*Charts to Pull**
Up to 20	**All**	All
21-30	**24**	31
31-40	**30**	39
41-50	**35**	46
51-60	**39**	51
61-70	**43**	56
71-80	**46**	60
81-90	**49**	64
91-100	**52**	68
101-119	**57**	74
120-139	**61**	79
140-159	**64**	83
160-179	**67**	87
180-199	**70**	91
200-249	**75**	98
250-299	**79**	103
300-349	**82**	107
350-399	**85**	111
400-449	**87**	113
450-499	**88**	114
500-749	**94**	122
750-999	**97**	126
1000-4999	**105**	137
5000 or more	**107**	139

Now, using the same table, how many female records should be reviewed? Take a few minutes to make sure that you understand why C)39 is the correct answer. You will want to pause the video to do this.



Finally, using the same table, how many male records should be reviewed? Again, pause the video to review the question being asked and look at the sample table. Make sure you understand why the correct answer is B)10..



Planning out your data collection helps it happen smoothly and efficiently, with less chance for error.

The first step includes selecting the performance indicators you want to measure. Identify key indicators for performance measurement, keep in mind the following four main criteria:

Relevance: Does the indicator relate to a condition that occurs frequently or have a great impact on the patients at your program?

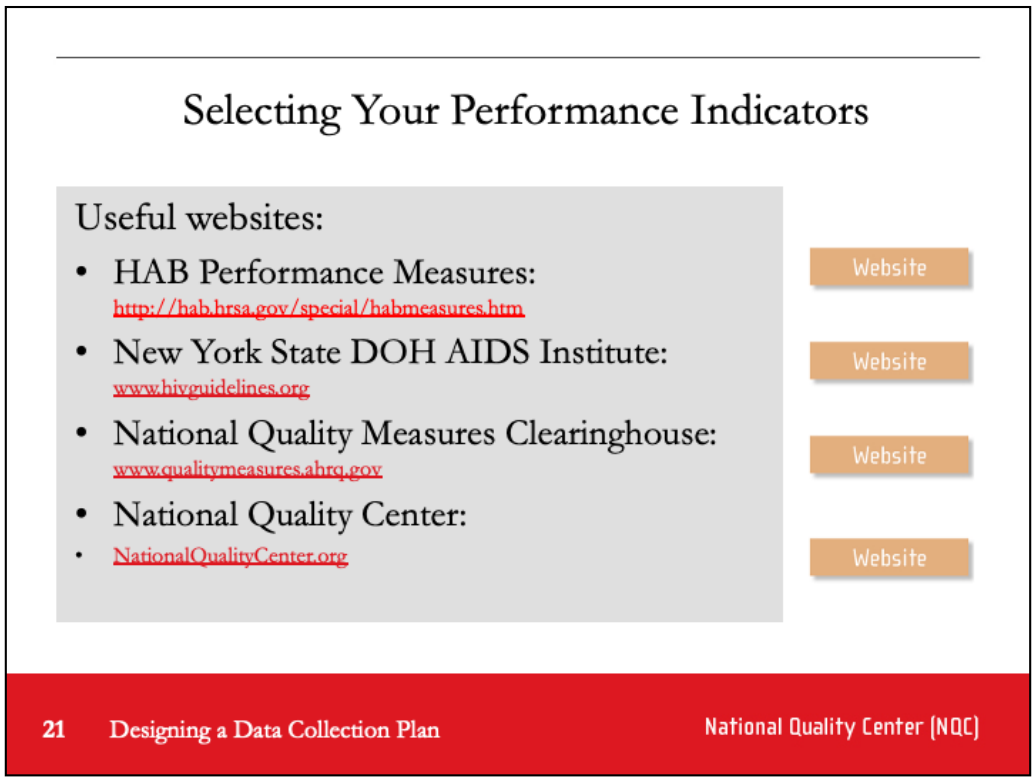
Measurability: Can the indicator realistically and efficiently be measured given the program's finite resources?

Accuracy: Is the indicator based on accepted guidelines or developed through formal group-decision making methods?

Improvability: Can the performance rate associated with the indicator realistically be improved given the limitations of your resources?

If you answer "no" to any of these questions, the indicator—while still relevant to patient care—is probably either too difficult to measure or less than critical to patient care. On the other hand, if you answer "yes" to all of the questions,

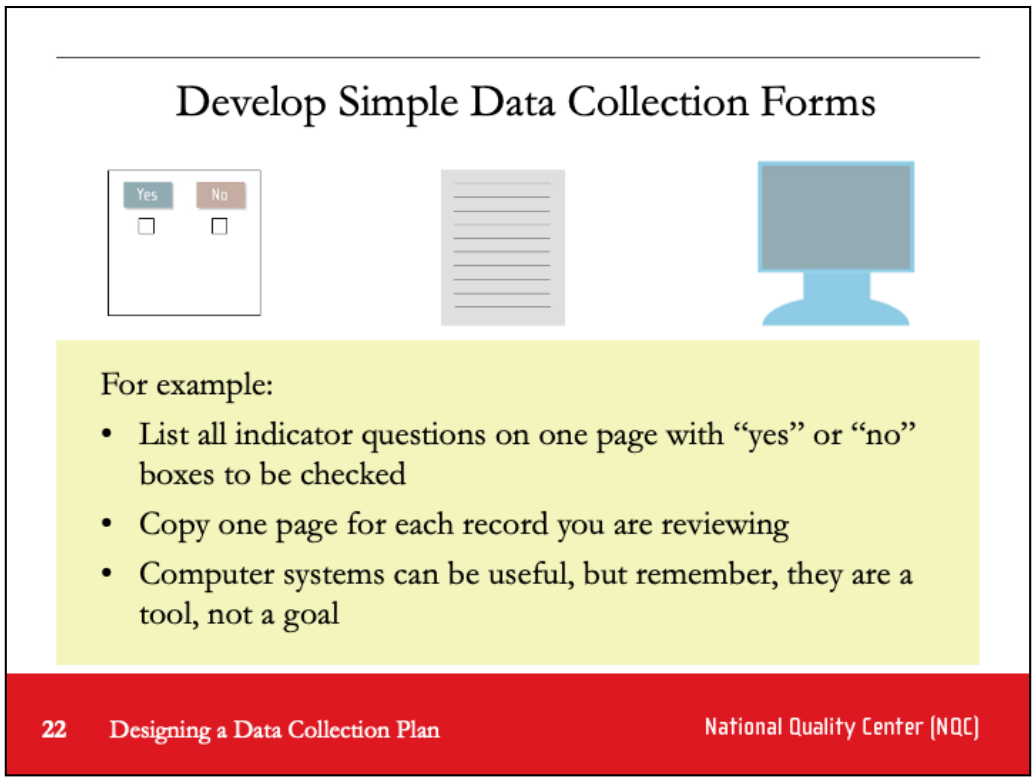
you have most likely found a viable indicator that will give you the most benefit for your limited measurement resources.



When choosing quality of care indicators, here are a few websites from which you can access a long list of indicators that have already been developed, including clear indicator definitions – 'You do not need to reinvent the wheel'

The first is the HIV/AIDS Bureau at http://hab.hrsa.gov/special/habmeasures.htm. Another is the New York State DOH AIDS Institute at www.hivguidelines.org

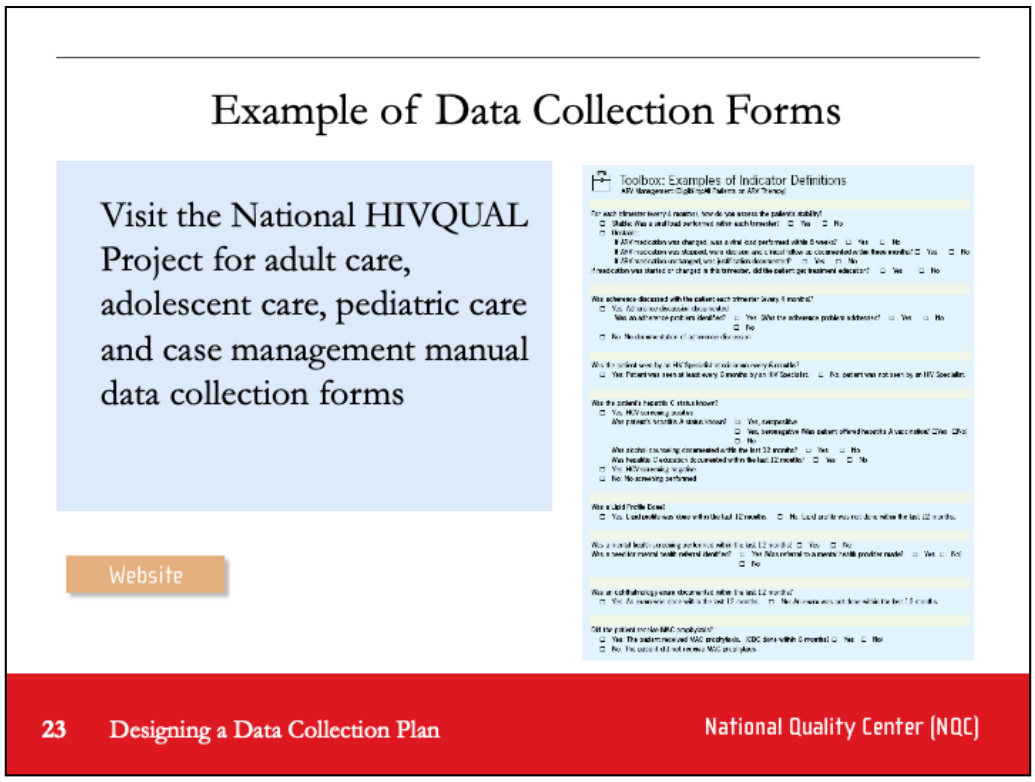
You can also visit the National Quality Measures Clearinghouse at www.qualitymeasures.ahrq.gov



One thing to keep in mind is to keep your data collection forms simple.

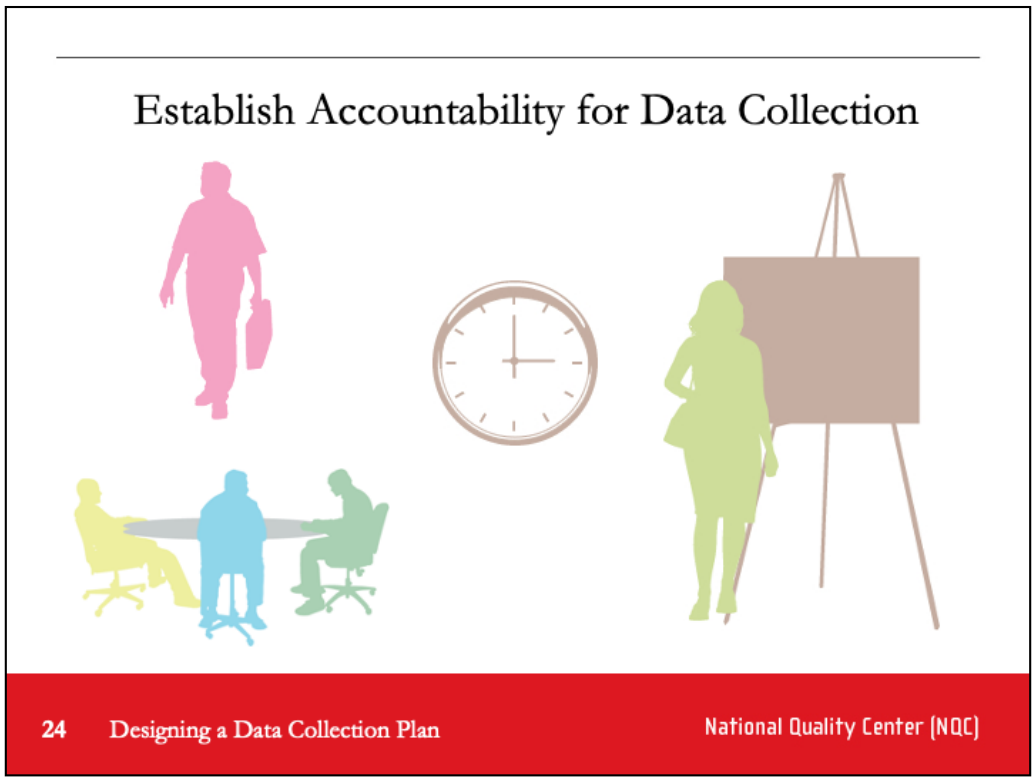
You do, however, need to be able to go back and double-check your results, so having one data collection form for each record you review is useful.

Use computers if they help but don't feel like you must. Use simple tools that help you accomplish the job easily.



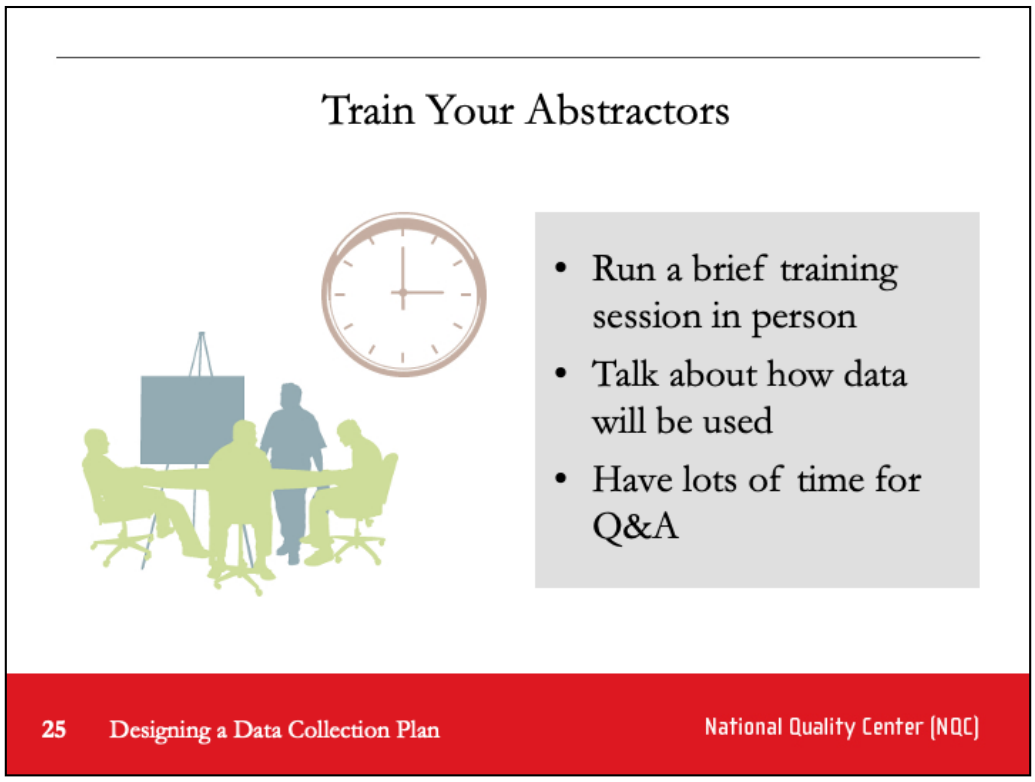
Here is an example of a Data Collection Form, developed by the HIVQUAL Project.

You can visit the National HIVQUAL Project at www.hivqual.org for adult care, pediatric care and case management data collection forms.



The quality committee might decide who will routinely and accurately measure the selected indicators. A staff person or a team can be assigned with this task. At minimum, the designated person or team should receive a brief training to review the measurement process and to fully understand each indicator on which data are collected.

Keep in mind, you should establish clear timeframes for data collection and assign a representative to report the data (and potential data collection barriers) at the next quality management committee meeting.

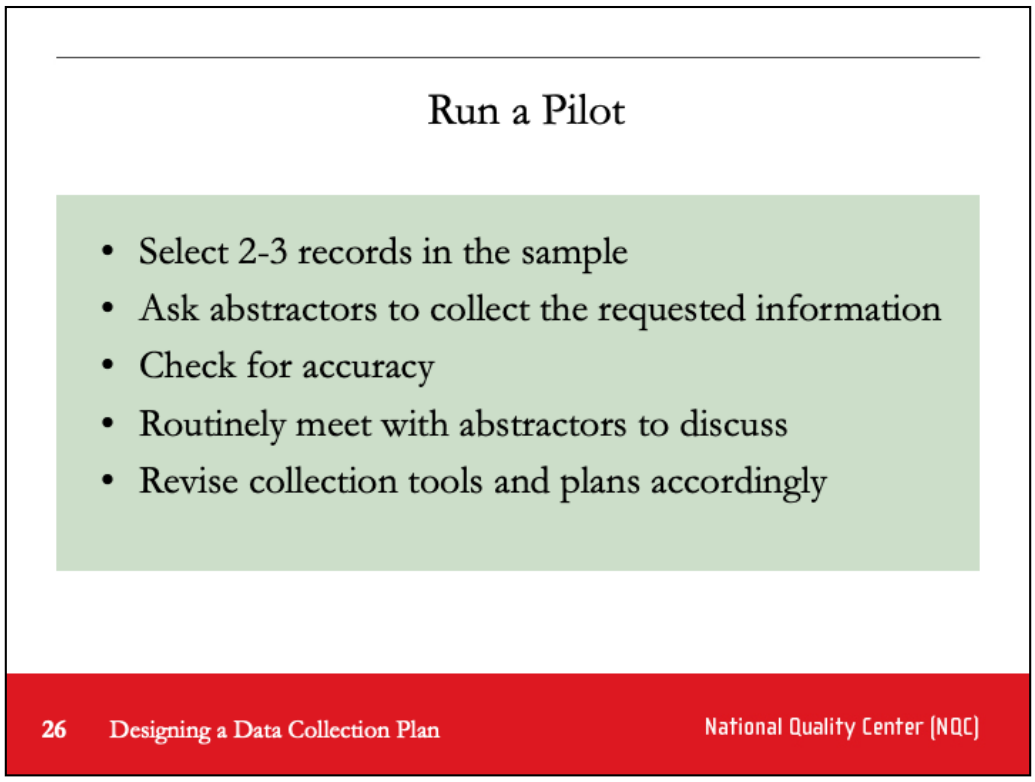


Help the people who will be collecting the data understand what they are supposed to do, and why. You'll get better results, and more people will trust that the data you collect are valid.

Run a brief training session in person with each of the people charged with helping to collect the data.

Talk about how data will be used so that everyone understands the end goal.

Also, remember to set aside plenty of time for Q & A. It is important for everyone to have a clear understanding.

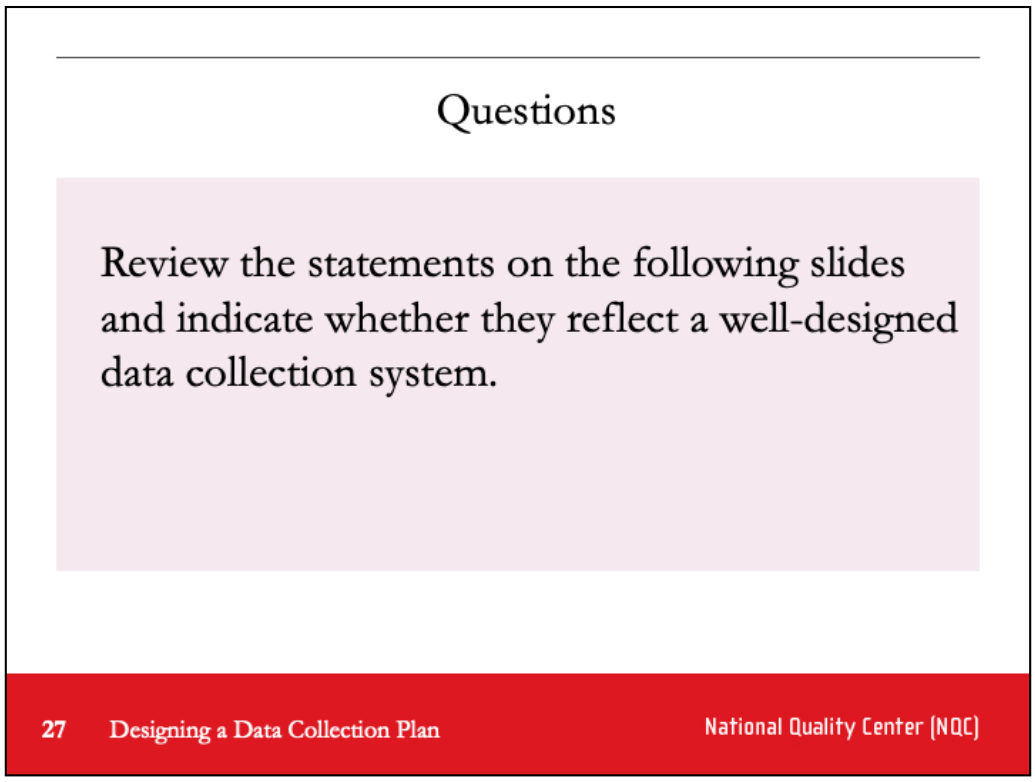


Don't forget to test your system first with a small pilot. It is better to discover that your collection form was unclear after 2 charts than after 50.

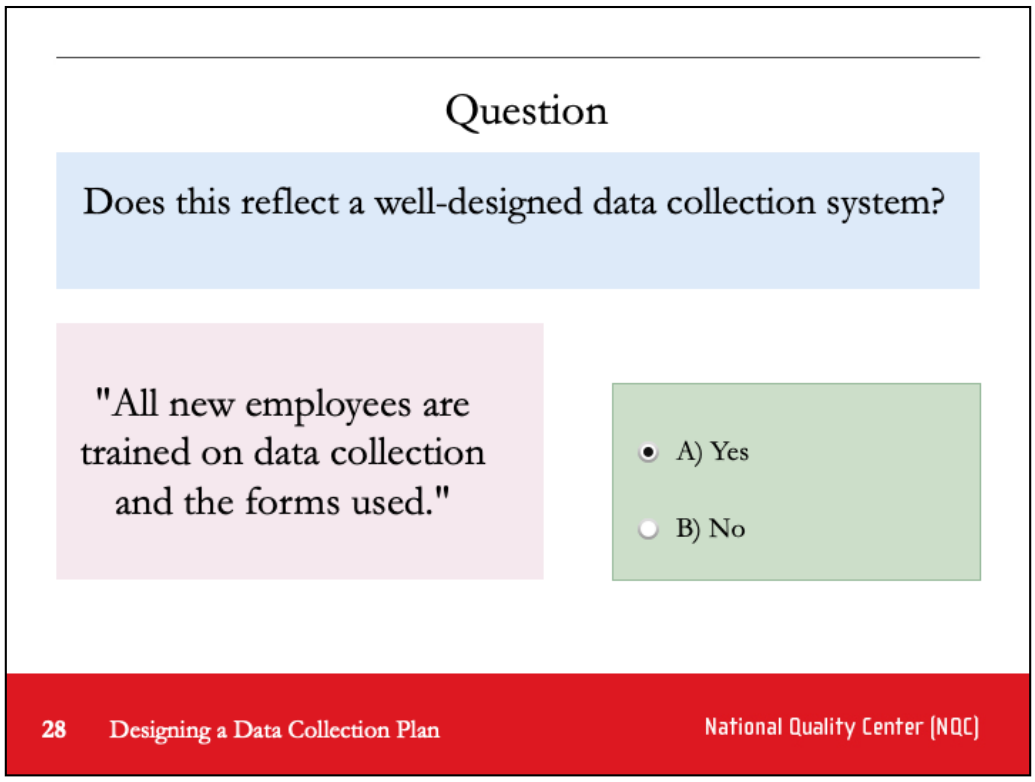
First, do a pilot test, just 2-3 records, and talk to the abstractors to see what they are finding.

Next, check for accuracy along the performance measurement process and then routinely meet with abstractors to discuss the results and their observations on the collection process.

Finally, revise your collection tools and plans accordingly to adjust for any corrections to your methodology.

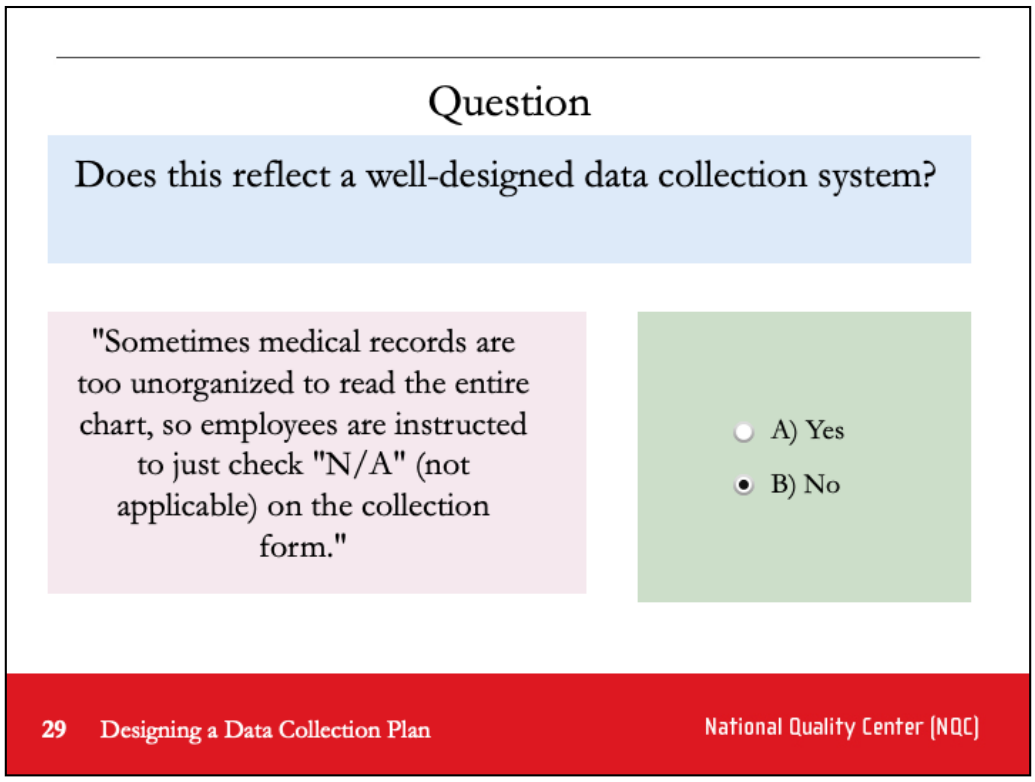


Let's see what you've learned so far. Review the statements on the following slides and determine whether they reflect a well-designed data collection system.

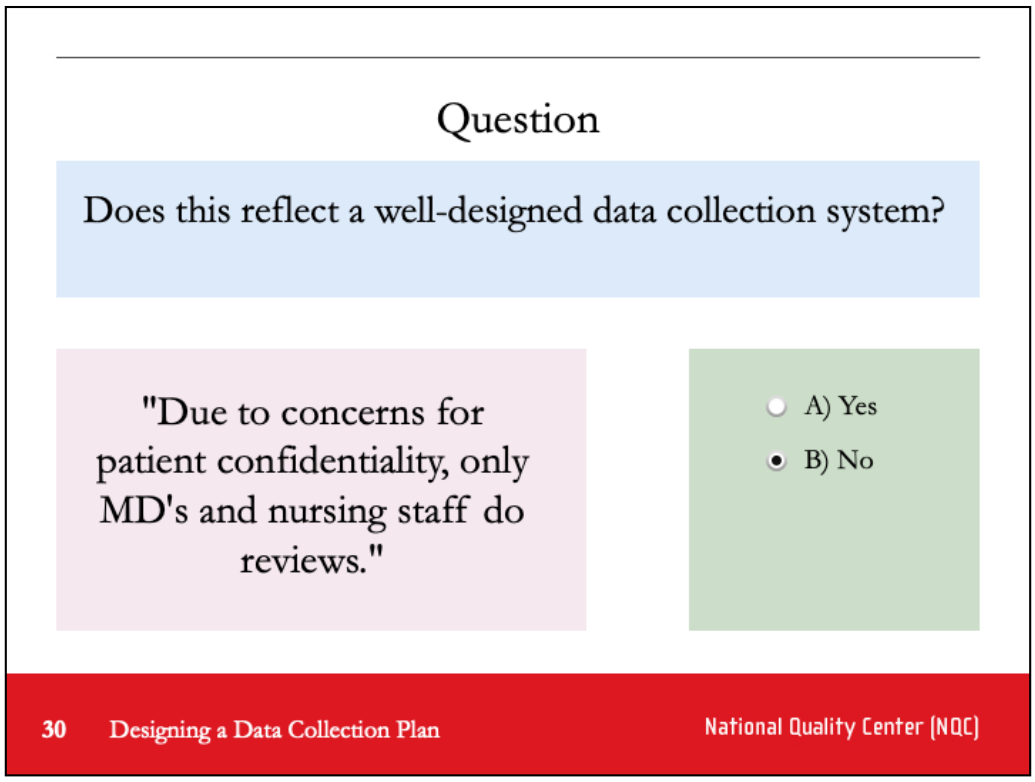


First question…

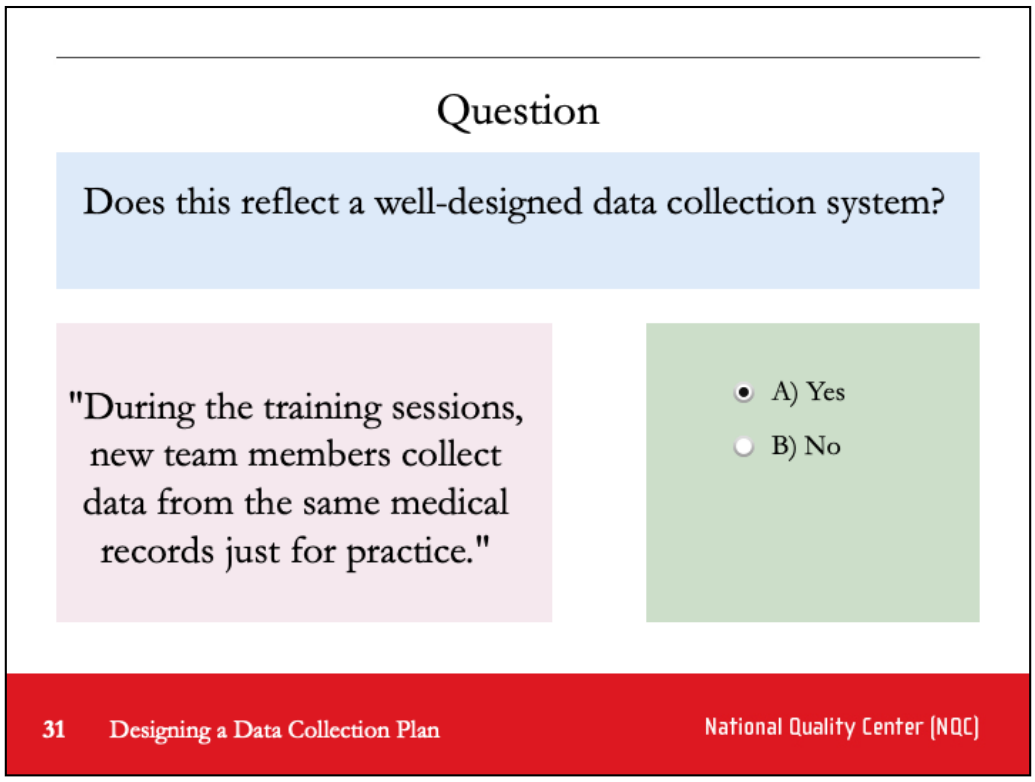
Does this reflect a well-designed data collection system? All new employees are trained on data collection and the forms used. The answer is yes.



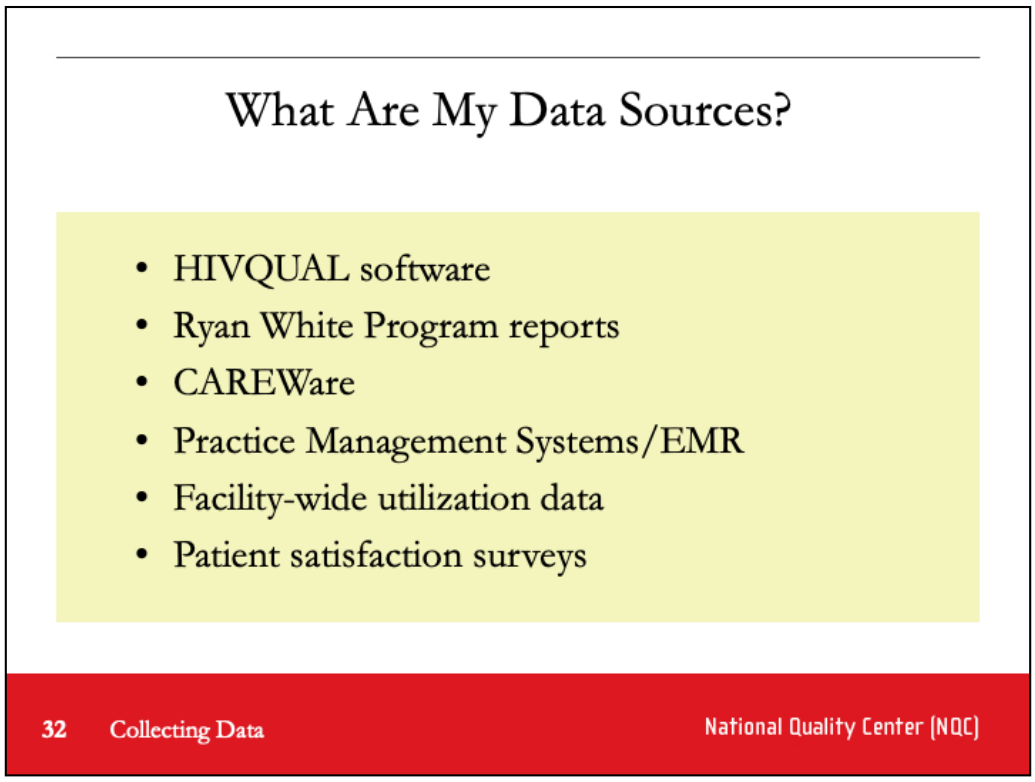
Sometimes medical records are too unorganized to read the entire chart, so employees are instructed to just check N/A (not applicable) on the collection form. The correct response is no.



Due to concerns for patient confidentiality, only MD's and nursing staff do reviews. The correct answer is no.



During the training sessions, new team members collect data from the same medical records just for practice. The correct answer is yes.



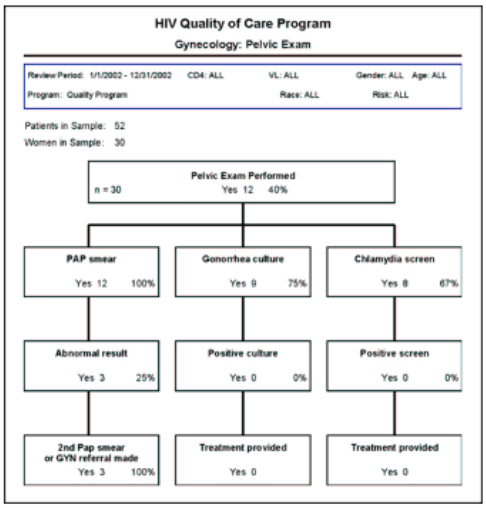
Now you're ready to start collecting data.

Determine if any data related to your indicators have already been collected. If your data sources capture the patient-specific information you are measuring and can be queried to produce information in the specified time frames, you may substantially reduce your workload. Investigate all possible sources.

If you find an existing data source, determine the ease with which you can generate specific patient-level data. More likely than not, you will be able to collect at least some data on your own through chart reviews.

Collect and Report Data

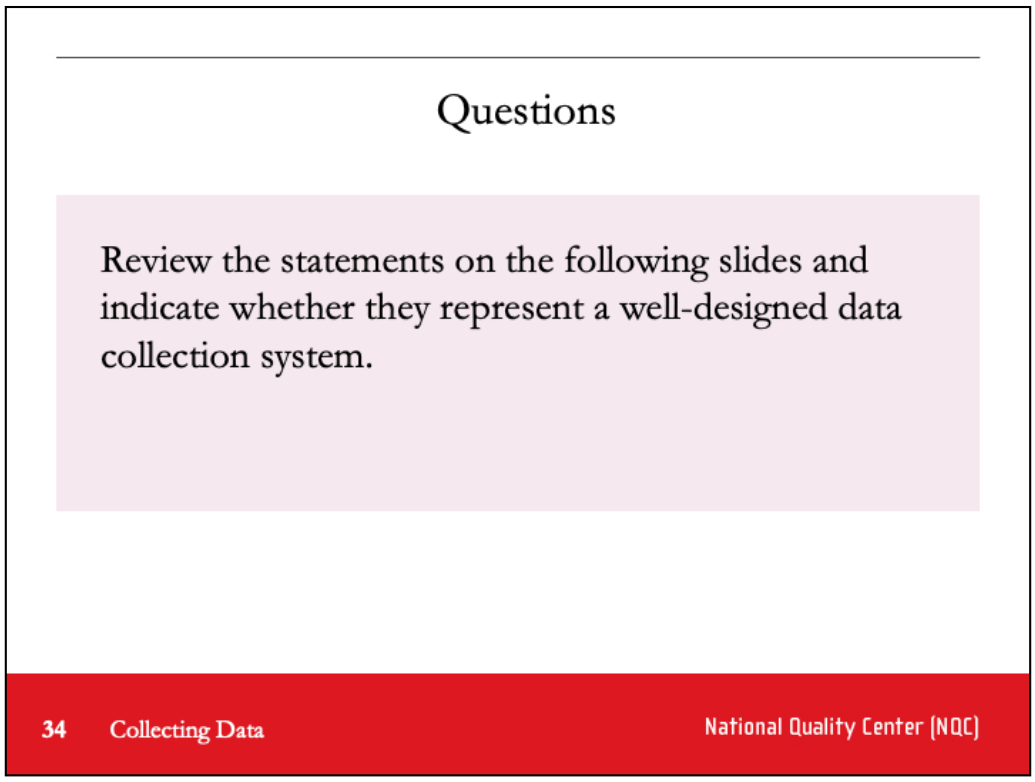
- Inform other staff of the measurement process
- Remain available for guidance
- Display and distribute data



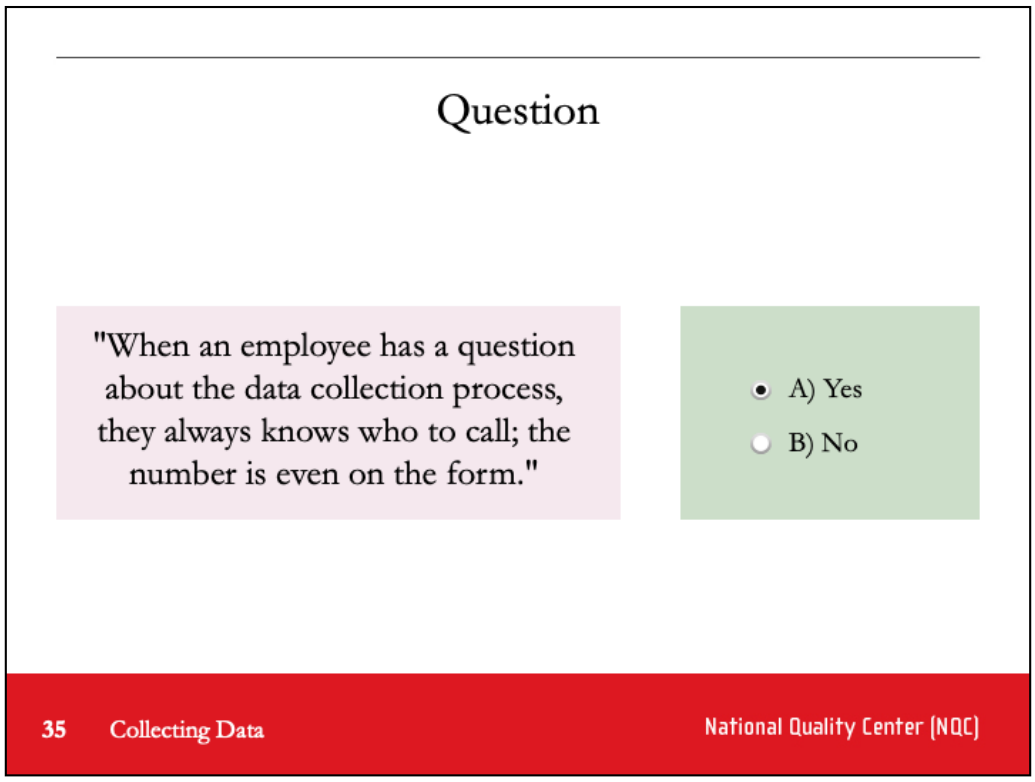
Don't keep the collection a secret. Be open about what you are collecting, and why.

Make sure your abstractors know how to reach you, in case they have questions.

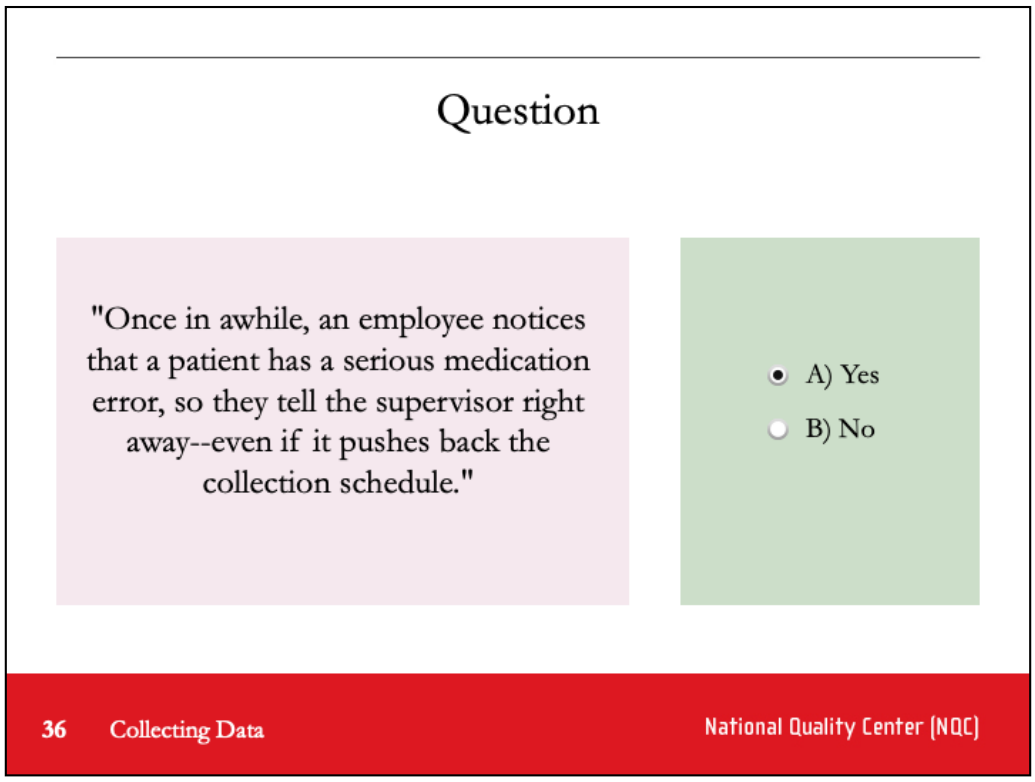
When you're done, display and distribute your data.



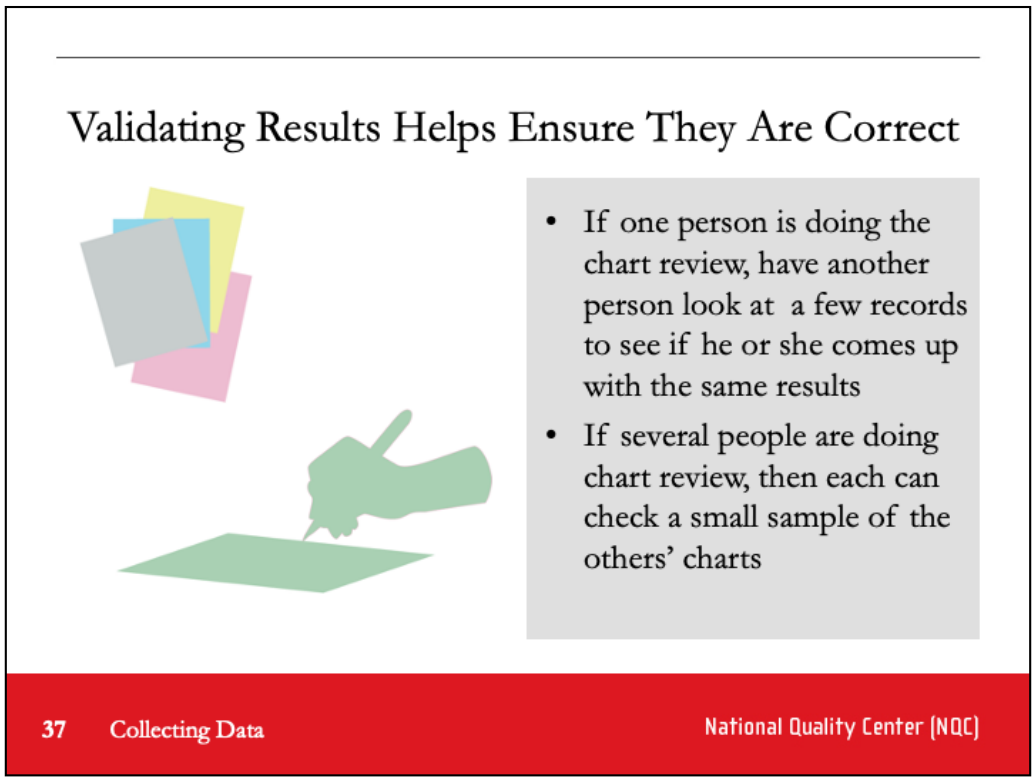
Once again, we will review the statements on the following slides and indicate whether or not they represent a well-designed data collection system.



When an employee has a question about the data collection process, they always know who to call; the number is even on the form. The correct answer is yes, that's a well-designed data collection system.



Once in awhile, an employee notices that a patient has a serious medication error, so they tell the supervisor right away – even if it pushes back the collection schedule. The correct answer is yes.



One last step: quickly validate your results, just to make sure you're right.

Validating is like a pilot test but has a different purpose. It looks specifically at whether two different reviewers will arrive at the same result. Each reviewer may think the instructions are clear and understandable (the pilot test will show this), but may not, in fact, interpret the instructions in the same way. This is what validation seeks to show.

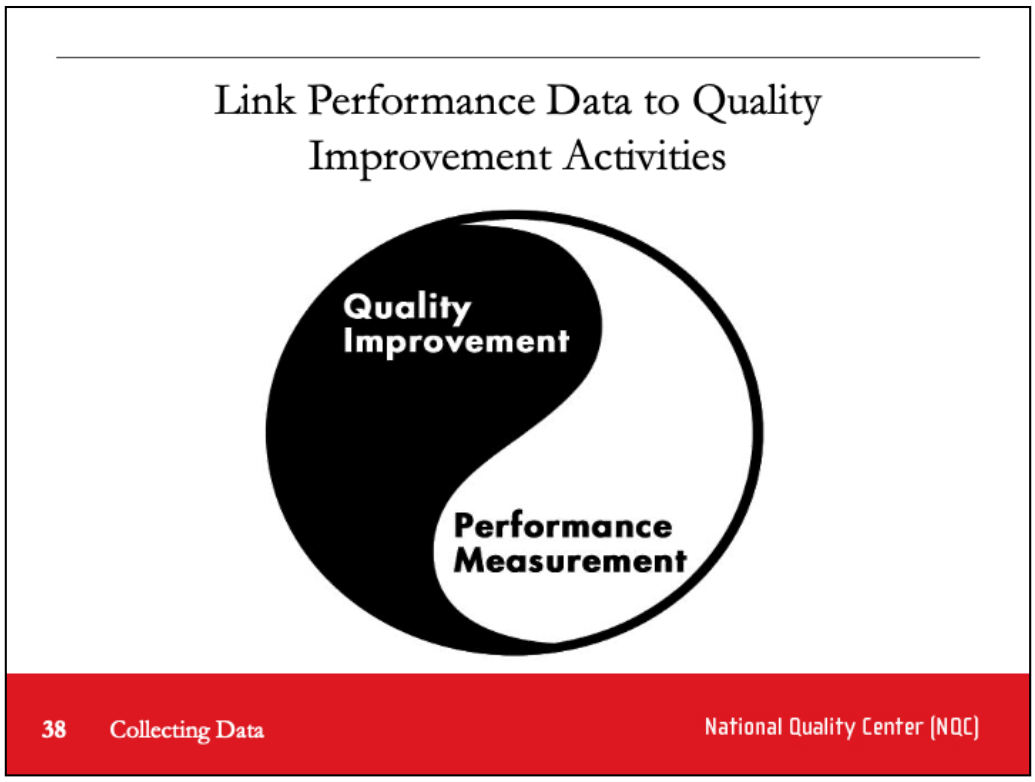
Use an inter-rater reliability testing procedure. Inter-rater reliability is defined as the reliability between two or more abstractors reviewing the same records.

Here are two simple processes as a suggestion for you:

- If one person is doing the chart review, have another person look at a few records to see if he or she produces the same results.

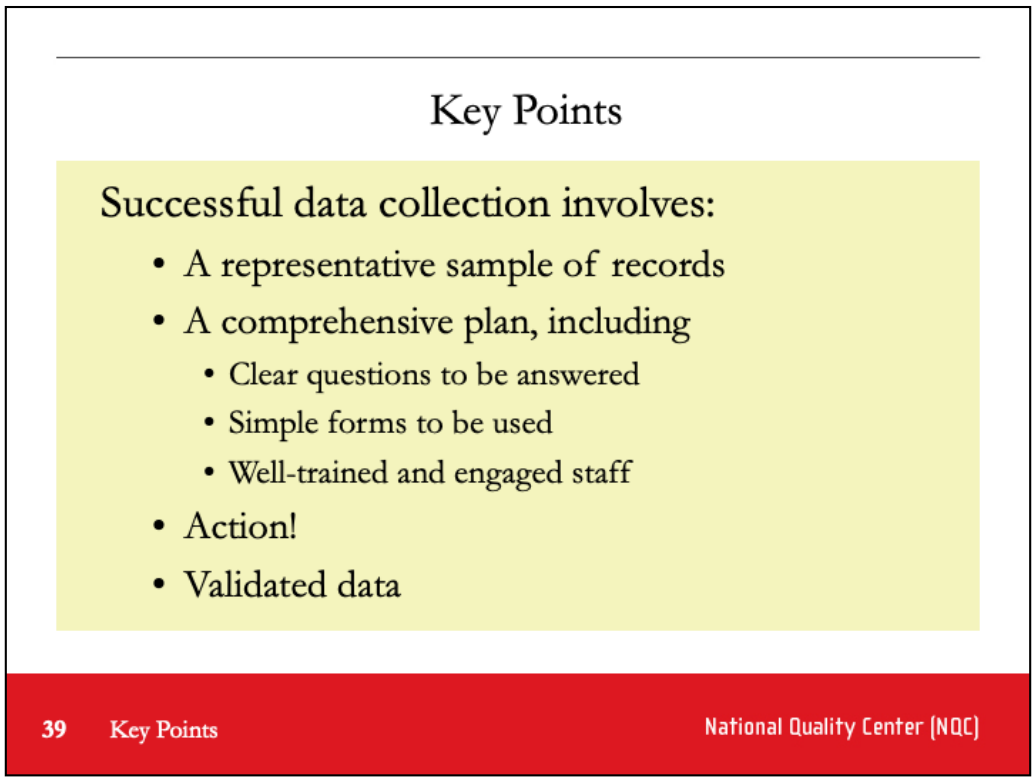
- If several people are doing chart review, then each can check a small sample of the others' charts.

If results are not consistent, revise your process to clarify instructions, and validate again.



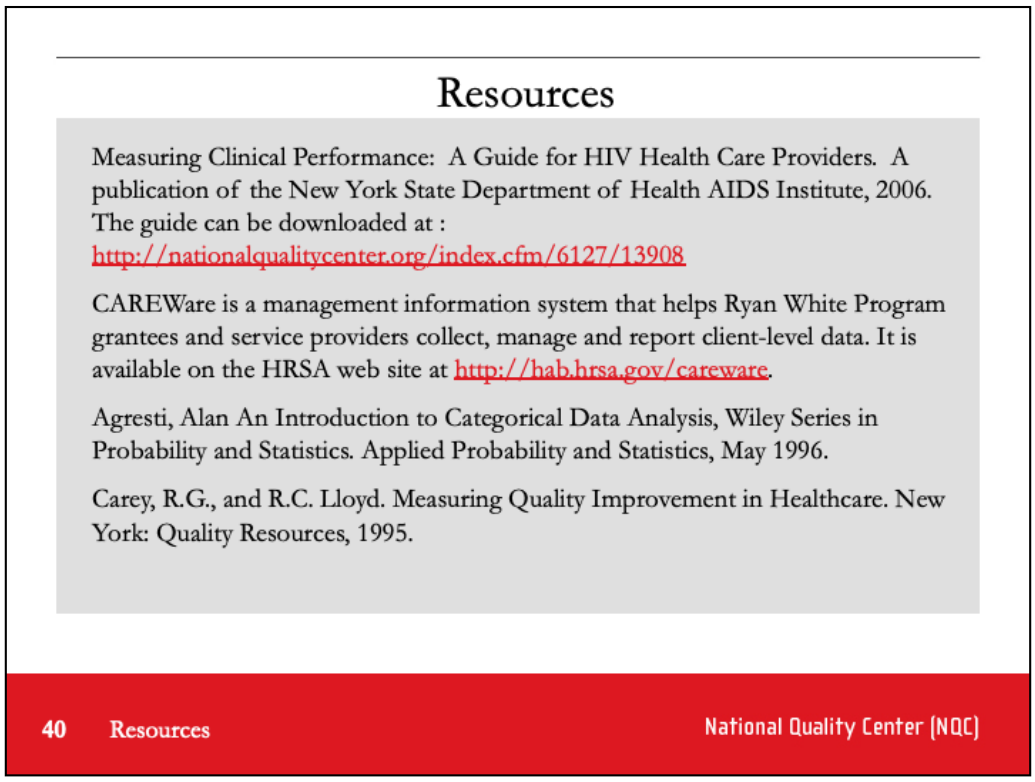
Keep in mind that “performance measurement alone is not quality improvement. However, to do quality improvement, you need performance measurement!”

The critical aspect here is to use data results and take appropriate quality improvement actions.



In summary, to get valid and useful data, without stressing out your entire HIV care program, be sure to follow these steps.

First, select a representative sample as outlined by the HIVQUAL chart. You will want to be clear on what information you want and then design simple data collection forms in order to collect your information. It is imperative that you train your staff and listen to their feedback. Remember to have one person as a dedicated contact in case anyone on the team has questions. Most importantly, do it! Nothing will get done if you do not act. Finally, validate, again, using a sample of what you've collected.



There are a lot of tools out there to help you collect and validate your data. We have referenced many of them throughout this Tutorial. You can return to this training at any time and use the search function off to the right in order to find them again if you need to. You can also contact the National Quality Center for more help, at www.NationalQualityCenter.org.

This concludes our training session.