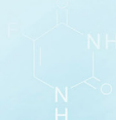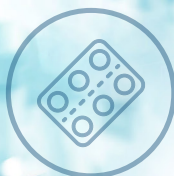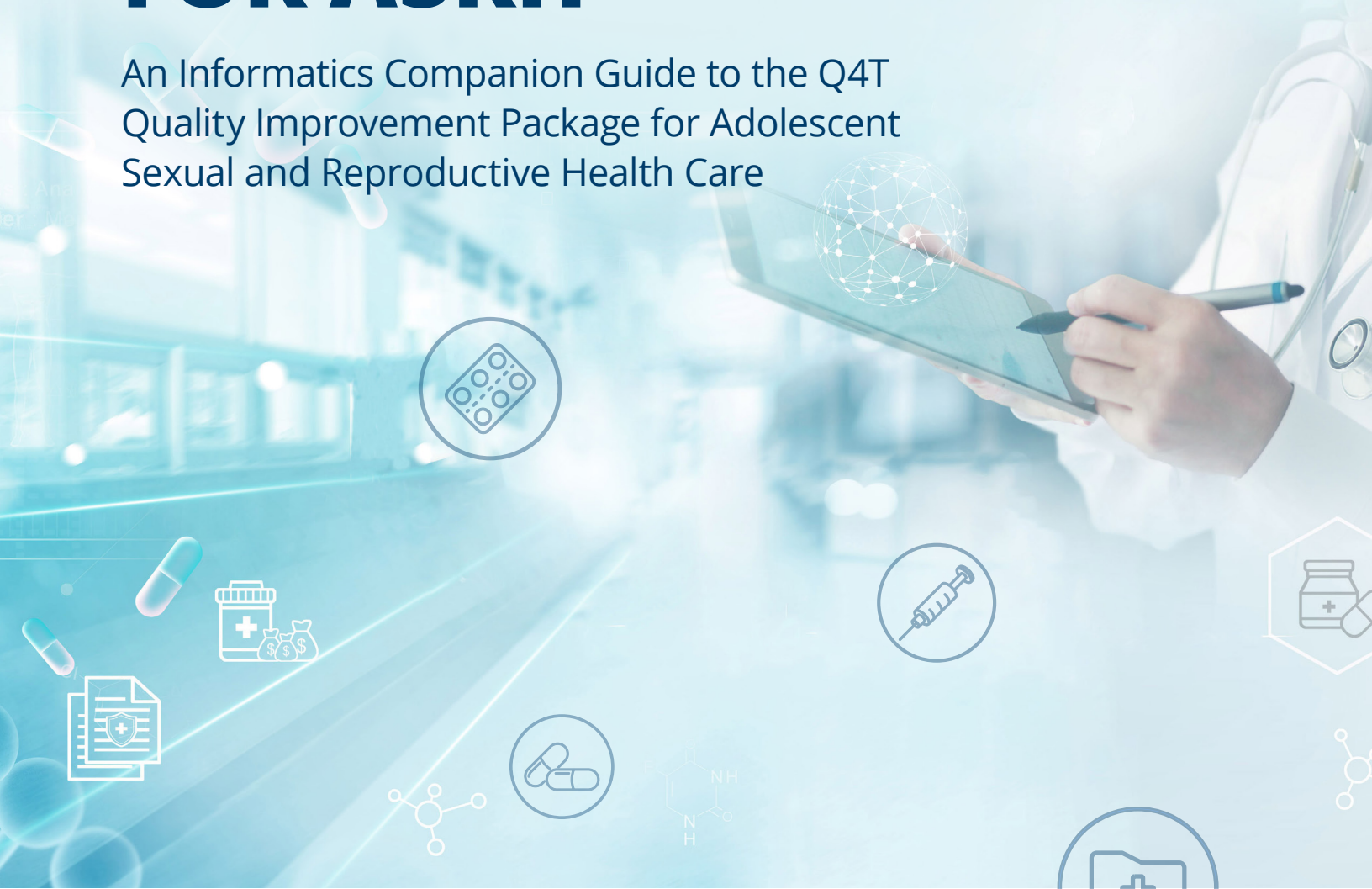# DATA QUALITY FOR ASRH

An Informatics Companion Guide to the Q4T Quality Improvement Package for Adolescent Sexual and Reproductive Health Care

INTRODUCTION

This guide supports the 5th and 6th steps for organizational readiness described in Q4T (Quality for Teens): A Quality Improvement Package for Adolescent Sexual and Reproductive Health Care developed by the National Association of Community Health Centers in collaboration with Cicatelli Associates Inc. and with support from the Centers for Disease Control and Prevention Division of Reproductive Health.

Access to high-quality, comprehensive, and equitable sexual and reproductive health care plays an important role in supporting the health and well-being of adolescents. Quality improvement (QI) efforts can help health centers provide evidence-based care and follow adolescent sexual and reproductive health (ASRH) practice guidelines.

To support evidence-based care for teens, the National Association of Community Health Centers (NACHC) offers 8 actions for stronger informatics systems. The goal is to capture necessary data about ASRH care so you can implement QI initiatives at your health center.

To illustrate how these actions work in the health center setting, we offer the following case study:

CASE STUDY

ABC Health Center is working on an ASRH quality improvement project to increase the number of adolescent patients screened for chlamydia as part of routine care, in line with CDC guidelines. As a change strategy, the health center is implementing a new clinic workflow that includes automatic opt-out chlamydia testing (meaning anyone younger than age 25 would be screened unless they decline or "opt-out"). The health center followed steps in Q4T to ensure organizational readiness for this QI project and conducted the Q4T needs assessment. Their aim throughout this process has been to identify the best way(s) to improve chlamydia screening for adolescents at their health center.

8 Actions for an Informatics Infrastructure that Supports ASRH QI

Action 1: Establish Usable Quality Measures to Reach your ASRH Goal(s)

Action 2: Evaluate and Understand New Changes to Dataflow, Workflow, and Data Quality

Action 3: Consider Health Disparities and Social Drivers of Health (SDOH)

Action 4: Build "Ideal State" QI into Data Collection

Action 5: Build a Better Future in EHR/HIT Systems

Action 6: Consider Interoperability, Care Coordination, and Value-Based Care for Reimbursement

Action 7: Build a Dashboard and Close Care Gaps

Action 8: Institute Continuous Improvement

Action 1 — Establish Usable Quality Measures to Reach your ASRH Goal(s)

1 **With your QI team, define the goals and outcomes** you'd like to achieve to identify a meaningful set of measures.

- **Review existing measures** already tracked or reported for grant and program purposes, and those that exist in the public domain or through Title X or primary care programs that are not implemented locally. (See sample Performance Measures in Q4T.)

2 **Break down the data elements** required for measurement.

- **Which patients are included and excluded?** (age, gender, diagnosis, visit within a certain time frame, etc.; look at how your EHR attributes patients and how the Uniform Data System (UDS) defines target measures)

- **What outcomes is the measure looking for?** (procedures, test results, visits, medications, etc.)

- **For each of those elements above, how is that thing defined?** For example:
  - If the measure includes transgender patients, how does your EHR capture gender identity and where?
  - For diagnoses, what value set will you use to define them? Your value set is the group of data elements used to define and assess changes in the measure you'll collect. For example, the number of reported cases of chlamydia in teens each year.
  - For test results, what are the acceptable and unacceptable results?
  - For medications, is an order required? Does the medication need to be dispensed? Can it be on the medication list historically or reported by patient?

- **For Social Drivers of Health (SDOH), are barriers to care being captured in EHR-designated fields?** Or, is the information only captured in notes? (The only way to extract SDOH data from the EHR is to ensure there are designated record sets (DRS) devoted to capturing defined SDOH elements. See Action 3.)

3 **Extract these data from the EHR** or other population health tool to look at the completeness and quality of data collected.

4 **Calculate baseline measures** and identify targets for your ASRH goal(s).

CASE STUDY

ABC Health Center's goal is to annually screen 100% of **sexually active cisgender women, all transgender men, and gender diverse people with a cervix <25 years of age** for chlamydia and treat 100% of those who test positive. The selected quality measures for this goal are:

- Percent screened.
- Percent with a positive test.
- Percent testing positive and receiving treatment.

Action 2 Evaluate and Understand New Changes to Dataflow, Workflow, and Data Quality

After your measures are defined for your goal, conduct feasibility testing to evaluate how well care team members can capture the data you need for the stated goal.

❶ **Evaluate the existing workflow and dataflow**—consider the design of your workflow and dataflow, and how it impacts other demands on care team members and interactions with patients (consider using the Human Centered Design model).

- **Workflow evaluation** can include a review of the standard operating procedure, direct observation of the clinic flow, or a process mapping activity led by members of the care team. Direct observation is the optimal approach because it captures deviations from the assumed or planned workflow.

- **Tracking dataflow** means tracking the pieces of information that are needed to track the measures from Action 1 and the processes used by the care team to collect and record data.

❷ **Evaluate strategies** to improve the collection and completeness of selected quality measures:

- **How will you enter the data** in fields that can be kept confidential to address the unique confidentiality issues facing adolescents?

- **Are all data elements desired in the EHR?** If not, are they available elsewhere?

- **If the elements exist, what proportion of patients have these data populated?** Low data completeness will significantly limit the measures' accuracy and effectiveness.

- **Run a query** (set of instructions to work with these data elements) to make sure the data is populated in sufficient quantity to make the measure function correctly.

❸ **Modify the approach (data flow and workflow)** as needed or do a quality improvement exercise to make the data collection and use easy for care team and quality improvement team members, with the aim to achieve the best results possible.

> ### CASE STUDY
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> The care team looked at the existing workflow for chlamydia screening before opt-out screening was implemented. It was assumed that the clinicians were checking the sexual history section of the medical assistant/nursing notes; however, these were not automatically visible in the EHR and often went unnoticed. The team agreed that while they transition to opt-out screening, the medical assistant/nurse would flag sexual history as automatically visible in the note template so clinicians could review it as they filled out the progress notes. They would discuss the Ideal State (Action 4) for this information at the next care team huddle.
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The care team found the initial screening rate was less than 20%; however, the care team reported they were sure they were regularly screening a much larger number of patients. On a review of the workflow and the initial measure results, it was discovered that 15% of patients were screened using a rapid test—but that test was not mapped into the measure result. Furthermore, screening results for about 6% of patients were documented in the free text fields of the record only, and not in a structured field that would be measured. With changes to the way these data are collected, the measure result improved immediately, going from 19% to 40%. This allowed the team to focus on implementing their "opt out" policy and aiming to reach 100% screened.

Action 3   Consider Health Disparities and Social Drivers of Health (SDOH)

As your team identifies metrics and outcomes, it is important to consider the ASRH health disparities in your health center and community. Once SDOH barriers are identified, action steps can be taken to make services more accessible and welcoming.

Comparing the outcomes with barriers to care experienced by some patients may indicate the need for special screening options for different locations, services, or education.

Key elements often used to evaluate social drivers and health equity are listed below. Most of these patient data elements are accessible through registration and UDS reporting requirements; however, there may be other relevant social needs and patient characteristics that you want to add for evaluation.

As part of this step, the team should identify the variables they want to analyze about health disparities or barriers to care for priority populations. The initial identification and testing of these variables will ensure data are captured and the primary measures of interest can be stratified. These data must also be built into dashboards, validated, and mapped so they are properly understood and used.

Data elements worth evaluating could be:

- Health Center
- Delivery Site
- Encounter Type (telemedicine vs in person, associated with different encounter types)
- Insurance Status or Type
- Race and Ethnicity
- Sexual Orientation
- Sex and Gender Identity

- SDOH elements:
  - Housing
  - Food Insecurity
  - Transportation Insecurity
  - Education
  - Income
  - Other domains from the Protocol for Responding to and Assessing Patients' Assets, Risks and Experiences (PRAPARE)

CASE STUDY

While the goal is to annually screen 100% of sexually active patients <25 years of age, the care team determines they want to actively prioritize patients who are LGBTQIA+, Black, and those who have unmet social needs. Research and the health center's own data suggest these patients are at higher risk but less likely to be screened for chlamydia. To close these known care gaps in screening, the team created a data dashboard for each group to see if their efforts directly improve screening rates (see Action 7).

Action 4 — Build "Ideal State" QI into Data Collection

It's helpful to start with an ideal state activity, so care team members can suggest what the perfect system would look like and how it would support them and their patients. Get creative juices flowing!

The team can engage in one or more design sessions where they propose changes to the data workflow and identify solutions for care gaps or strategies to follow up with patients who fall through the cracks. Document the proposed changes and create a plan to implement changes and train staff on adjustments in the EHR. The proposed changes should drive the EHR design and not the other way around.

CASE STUDY

The care team engaged in an exercise to visualize the ideal workflow and data flow for chlamydia screening. A medical assistant (MA) on the team noted that since they do a sexual activity assessment as part of patient rooming, they should use that same time to discuss screening using the opt-out approach and enter the order. To do this, the MA would need permission with a standing order in the EHR. This streamlines the timing for the discussion about chlamydia screening, and because MAs tend to be more representative in age and race/ethnicity of the patient population than clinicians, this could become a trusted space to broach the subject. The Chief Medical Officer (CMO) agrees and develops standing orders to permit this change in the workflow and EHR.

Action 5   Build a Better Future in EHR/HIT Systems

In line with Action 4, Action 5 takes EHR improvements one step further. Understanding the EHR improvement process in your health center early is key to getting into the queue at the right time and getting approvals needed for change. Care teams can often point out missed opportunities for streamlining care activities.

Review existing EHR tickets and proposed improvements to look for any overlap or opportunities for succinct changes. Consider shortcuts for the team that lead to more efficient workflows and fewer missed opportunities for follow-up.

Action items:

1. **Look for overlap and opportunities** to streamline planned EHR improvements.

2. **Add new proposed elements** into your queue for updates in the EHR.

3. **Test changes as they are introduced** and evaluate their impact on the measures.

CASE STUDY

The MA at ABC Health Center suggests a quick order set link would make ordering faster and easier. The nurse practitioner and CMO agree so they ask the IT team to build this in.

The care team works with the informatics department to add a shortcut to ordering chlamydia screening in the health maintenance section and asks that the section is automatically highlighted in red when the patient has not been screened in the past year. The shortcut only requires 2 clicks to enter the appropriate orders. It is also linked to ordering contraception for patients, which encourages the team to order STI testing before a new contraceptive method is started.

Action 6 — Consider Interoperability, Care Coordination, and Value-Based Care for Reimbursement

Given that many health center patients change insurance frequently and receive care outside of health centers, connecting to Health Information Exchanges and other data sources can help clarify real care gaps from data gaps. External data can add significant value to most quality monitoring efforts.

1 **Align quality improvement efforts with reimbursement** to create sustainable improvements. Work with billing, coding, and financial leaders at the organization to optimize the reimbursement of care activities in adolescent sexual and reproductive health.

2 **Aim to align with program reporting requirements** such as Title X to add value to your efforts and reduce additional reporting/documentation requirements.

3 **Build billing and reimbursement steps** in the workflow.

> **CASE STUDY**
>
> The project team reaches out to the health center's Chief Financial Officer (CFO) to learn if this activity could lead to improved revenue for the organization. They realize they can bill for the counseling associated with safe sex and STI prevention and testing. The team adds a quick link to the orders for chlamydia screening to bill for counseling, which gets automatically added to the billing section of the record.

Action 7 | Build a Dashboard and Close Care Gaps

Many care teams enter data all day long but don't see how the data is working in real-time to help them with their care processes or decisions for individual patients. Dashboards illustrate data that's been collected. They create accountability for the organization and help identify patients lost to follow-up or missed recommendations.
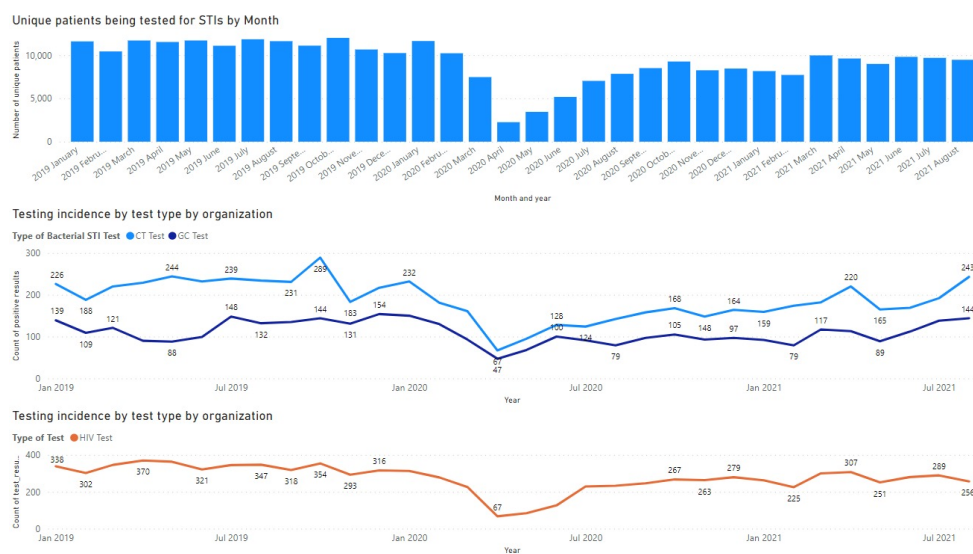
Some best practices for dashboard success:

① **The QI or Informatics team works with the care team** to understand what kind of information they need to close care gaps and build those dashboards.

② **Dashboards are made available on demand** and not on a monthly or quarterly basis.

③ **Staff time, or ideally care coordinator time, is assigned/preserved to review and respond to dashboard information** regularly (interval should depend on the guideline/measure.)

④ **Dashboards are connected, when possible, to easy action**—e.g., click on a list of patients to generate an order for a specific patient or to respond to the care gap; or click for easy billing.

For more information:

- See AHRQ guidance on health care dashboards https://www.ahrq.gov/evidencenow/tools/healthcare-dashboards.html

- Learn how to build a dashboard in excel https://www.smartsheet.com/how-create-dashboard-excel

  ○ Overview of dashboarding in health care: https://pubmed.ncbi.nlm.nih.gov/35234650/

  ○ Overview of best practices in dashboards: https://www.smartsheet.com/dashboarding-101-complete-masterclass

Example of a Health Center Dashboard

Action 8 | Institute Continuous Improvement

To make this ASRH quality improvement effort sustainable and lead you toward your ideal state, it is key to build actions like those described here into your regular operations. Many QI frameworks have been customized for health care. Lean, Six Sigma, and PDSA are some of the frameworks associated with successful value transformation.

As you move closer to your goal or hit your goal, publicly inform staff and leaders about the results of your work. Quantify benefits to your patients. Be sure to share information with partners (payers, state, and local health authorities) to gain additional support. Success leads to more success!

Additional QI Resources:

- Institute for Healthcare Improvement: https://www.ihi.org/resources/Pages/IHIWhitePapers/GoingLeaninHealthCare.aspx

- NJEM Catalyst article on Lean health care: https://catalyst.nejm.org/doi/full/10.1056/CAT.18.0193

- Johns Hopkins Armstrong Institute: Overview of continuous improvement approaches: https://www.hopkinsmedicine.org/nursing/center-nursing-inquiry/nursing-inquiry/quality-improvement.html

- PowerPoint and short discussion on Lean health care by Dr. Brent James: www.healthcatalyst.com/insights/lean-healthcare-methodologies-improvement