**Testing for Improvement Case Study**

*(Created by the Health Resources and Services Administration – HRSA)*

**The Problem**

Redline Health Clinic (RHC) provides primary care services in a rural community. The RHC Quality Improvement (QI) team monitors several quality care measures. Recently, the QI team noticed that many adult patients were not receiving appropriate influenza vaccinations per the adult immunization guidelines. The QI team met and reviewed the information collected from the practice management system. In analyzing data on adult influenza vaccinations, the team noted only 50 percent of patients aged 50 to 64 years received the influenza vaccine. This finding concerned the QI team, because annual influenza epidemics are a leading cause of death in the United States adult population. Given the risk for adults who do not receive influenza vaccinations, the team decided to focus its improvement efforts on increasing the rate of adult patients receiving an influenza vaccine. The QI team decided they would begin by setting a goal or an aim for the improvement project. The team reviewed State statistics when setting its goal and came up with the following aim statement:

*Over the next 12 months, we will redesign the care systems of RHC to ensure that 80 percent of patients aged 50 to 64 years have been screened, and if clinically appropriate, will receive influenza immunization.*

Initially, it was thought the care team members forgot to inform patients about the importance of proper vaccination for influenza, but the care team assured this point was stressed with patients. The QI team developed a simple and efficient approach to determine why patients were not receiving their influenza vaccines and decided to use sampling to further analyze the situation. To avoid burdening its overworked schedule, the QI team randomly chose 15 patients, aged 50 to 64 years, who were not vaccinated for influenza.

The team divided the 15 patient charts equally and phoned each patient to determine why he or she did not receive the influenza vaccine. Each team member had three patients to contact. The QI team successfully contacted 10 patients. Four received the influenza vaccine through a mobile van; two patients believed they would get the flu from the vaccine; two patients reported an allergy to eggs, and two patients reported "never been sick a day in their life" and felt the vaccination was unnecessary. Of the five not reached, three patients had disconnected phone numbers and two patients did not return the phone call.

**The Approach**

The following steps outline RHC's approach using the PDSA cycle and its process to improve influenza immunization rates in adults aged 50 to 64 years:

1. **Plan:** The RHC QI team agreed to test a combined approach to address the gaps in its current process. The team created a brief intervention of first asking patients if they received their vaccine this season and then expressing the importance of vaccination with an optional handout. The QI team proposed that the MA test this approach on the next three patients between the ages of 50 to 64 years who presented for care.
2. **Do:** During the morning clinic, the MA asked three patients about their influenza vaccine and reinforced the importance of being vaccinated through a verbal explanation and offered the handout.
3. **Study:** Since the practice has many patients in this age range, testing was completed during the morning clinic. Patients readily gave information about their latest flu shot and appeared to accept the information verbally. Only one patient wanted an educational handout. For patients needing an influenza vaccine, the MA administered it per standing orders. If a patient seemed reluctant or needed more information, however, the MA was uncertain how to handle the situation.
4. **Act:** The team acknowledged the change would likely cause a positive impact, but how to handle reluctant or declining patients needed more thought. The team planned the following actions:
	1. Continue testing the change with the MA for the rest of the week to see what other issues it needed to consider.
	2. Design a related PDSA to determine the best communication approach with the provider if more information or encouragement is needed from him.

**Improved Vaccination Rates**

The RHC QI team's aim was to improve adult influenza vaccination rates. The team learned that improving vaccination rates requires multiple PDSA cycles. **Figure 1.3** shows linked multiple test cycles for improving adult vaccination rates, followed by RHC's specific changes.



**Adapted from Institute of Health Care Improvement
Figure 1.3 Linked Multiple PDSDA Cycles to Test Improvement in Adult Influenza Vaccination Rates**

**Change 1: Initial query of patients:** The QI team surveyed 15 patients by phone to learn if they received the influenza vaccine. If patients said yes, the team asked where they received their vaccine, and if not, why they refused it. The team contacted 10 of the 15 patients and learned 4 received their vaccine elsewhere, 2 had egg allergies, 2 believed the flu vaccine would make them ill, and 2 thought the vaccine was ineffective.

**Change 2: Develop scripting for the MA:** Based on the survey, the QI team needed to develop patient education and inquire where patients received their influenza vaccine. The MA queried three patients about their vaccine during the morning clinic, provided education on the importance of vaccination, and vaccinated them per standing orders. However, the MA was unfamiliar with addressing patients who were reluctant to get vaccinated and wanted more information.

**Change 3: Provider education about influenza vaccine's risks and benefits:** The QI team proposed an [influenza vaccine process map](https://www.hrsa.gov/quality/toolbox/images/testingfigure41.jpg) for the MA's use when discussing influenza vaccination. The flowchart directed the MA to inform the provider when a patient needed more information. The provider discussed the risks and benefits of vaccination with the patient. The influenza vaccination flowchart was presented at the provider meeting and one provider agreed to test it with the practice team.

**Change 4: Educate staff:** The MAs and providers were educated on the risks and benefits of the influenza vaccine. The QI team gave the practice teams a copy of the new influenza vaccination flowchart to post in their work areas, and asked them to query patients aged 50 to 64 years and offer the vaccine, if needed. If the patient refused the vaccine, the provider offered more education about its risks and benefits.

**The Results**

The RHC QI team increased the adult influenza vaccine rate to 80 percent in just six months. The team continued its process, but also realized it was not finished with this quality of care measure yet. The team knew it wanted to sustain the improvements it worked so hard to achieve. To effectively sustain the improvement, the team knew it needed to regularly monitor the outcomes on the influenza vaccination rate. The team decided that quarterly reviews would provide the needed data to determine if it was maintaining a vaccination rate of 80 percent or greater. The team planned to report the quarterly outcomes at the regularly-scheduled provider meeting.