


5-2016

Population Health Improvement Through Coordination of Care

Trevey Davis
University of Southern Maine

Follow this and additional works at: http://digitalcommons.usm.maine.edu/muskie_capstones

 Part of the [Community Health and Preventive Medicine Commons](#), [Health and Medical Administration Commons](#), [Health Services Administration Commons](#), [Health Services Research Commons](#), [Interprofessional Education Commons](#), and the [Public Health Education and Promotion Commons](#)

Recommended Citation

Davis, Trevey, "Population Health Improvement Through Coordination of Care" (2016). *Muskie School Capstones*. 116.
http://digitalcommons.usm.maine.edu/muskie_capstones/116

This Capstone is brought to you for free and open access by the Student Scholarship at USM Digital Commons. It has been accepted for inclusion in Muskie School Capstones by an authorized administrator of USM Digital Commons. For more information, please contact jessica.c.hovey@maine.edu.

Population Health Improvement Through Coordination of Care

University of Southern Maine

Muskie School of Public Service

Capstone Report By Trevey Davis

Judith Tupper, First Reader

Chris Hall, Second Reader

May 3, 2016

Introduction: Measuring the Impact of Care Coordination

The objective of this Capstone Project is to work with the Mercy Gap in Care Coordinators (GCCs) to document the *value* of the care coordination at Mercy Health System. A key element of this project was to develop a workflow diagram alongside the GCC in order to track patient outcomes. Additionally, the team developed a system for documenting patient outcomes that is crucial to measuring the impact of care coordination. From the data collected there are a number of outcomes that can be measured. The number of patients who are contacted for screening is measurement of patient experience. Following initial contact, the number of patients seen for a primary care visit and CRC screening can be used to measure the population health impact. Furthermore, patients contacted by the GCC may have changed primary care providers, have been screened by another facility, or need assistance obtaining insurance coverage these outcomes were also documented.

Quality Metrics Matter in Primary Care

The passage of the Affordable Care Act (ACA) ushered in a new era of emphasis on healthcare quality. In addition to public payer initiatives like value-based purchasing and affordable care organizations, private health plans have begun to incentivize the provision of high quality care. Providers must now meet specific standards, typically a percentage of covered lives, in order to receive higher reimbursement or capitated payments. Health systems and Affordable Care Organizations (ACOs) have increased their use of care coordination nurses in order to fill in gaps in care as an approach to help improve quality (Smolowitz et al., 2015). The National Committee for Quality Assurance's Healthcare Effectiveness Data and Information Set (HEDIS), and the Centers for Medicare and Medicaid Services' Physician Quality Reporting System (PQRS) have led progress in standardizing quality reporting. However, the precise metrics used vary by payer and may even differ by health plan. Typically, plans choose ambulatory care measurements that emphasize preventative care and chronic disease management. These measurements impact primary care practices, which act as the entry point for most patients as they access healthcare. Measurement of primary care treatment processes has given added importance to developing and maintaining information systems. In addition to electronic health records, clinical workflows must be designed to

capture these metrics. Systems must also be capable of reporting metrics at various degrees of granularity, organizing data by payer, practice, provider, and medical condition. The following report documents Mercy Health System's effort to improve their primary care measurement and results.

Panel Management as a Population Health Improvement Tool

Patients access primary care for a myriad of health concerns, however much of the care they receive is reactionary. Patients may be returning to receive treatment for a chronic condition, checking in for medication management, or responding to an emergent condition. Primary care practices are built to respond to these patient's needs. However, this reactive roll can sometimes allow patients who are otherwise healthy, or who those who are non-compliant, to slip through the cracks. These patients may not receive preventative care because they have not made an office visit. Proactive health management for children includes well visits and vaccinations. Adults may be due for preventative care that includes, pneumonia and flu vaccination, cancer screening, and early detection of chronic conditions. The challenge for primary care practice is how to ensure that these patients do not miss out on this care. Mercy created the position of the *Gaps in Care Coordinator (GCC)* in response to this challenge.

Kaiser Permanente, as strategy to improve population health, has promulgated the concept of Panel Management. The concept is that while practices focus on the care of patients who seek it, the care team is also responsible for the health of patients when they are not physically in the practice. Many different definitions of "panel" have been proposed but the basic structure is the same (see Figure 2). For example: one payer might define a provider's panel as all patients who have been billed by the provider in the last year, while another payer might extend the time period to three years, or they might include patients who have self-reported the practitioner as their primary care provider. This variation in panel definition presents a challenge. Mercy's leadership recognized that they needed additional care coordination staff in order to tackle this task.

There are a variety of organizational options for panel management. Kaiser Permanente has published a report on panel management pilots of various staffing structures (Neuwirth, Schmittiel, Tallman, & Bellows, 2007). They also experimented with staffing structures, some practices used nurses others used medical assistants. They

also reported placing these staff in different locations; some were placed in the practice while others worked remotely. The subject of where to locate care coordinators generated debate and remains an open discussion as Mercy’s care coordination effort continues.

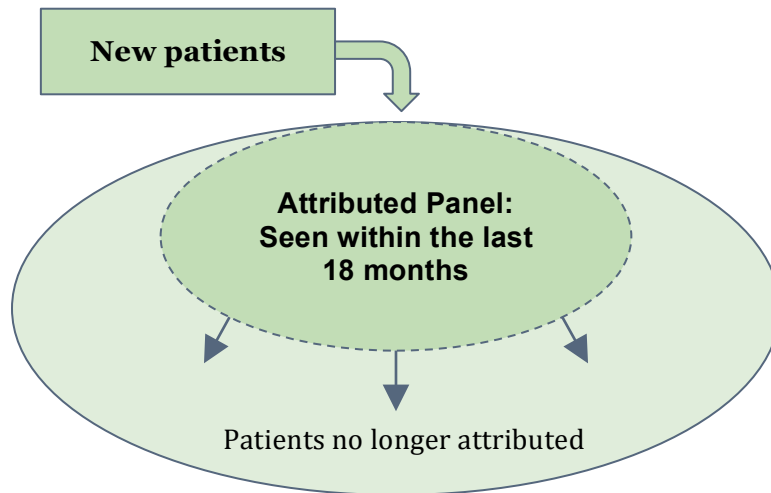


Figure 2. System Diagram of Panel Management

Utilizing the Electronic Health Record for Panel Management

Panel management is reliant on electronic data collection and management. The widespread adoption of Electronic Medical Records (EMR) could be a useful instrument for managing patient populations. However, EMRs have typically been designed around billing systems unsuited for this task. Fortunately Allscripts, the vendor for Mercy Health System’s ambulatory services, introduced a new aspect of their software in 2008 called Clinical Quality Solution (CQS). The CQS function in Allscripts allows users to organize patients by quality metric and can be used to highlight individual patient needs.

One of the benefits of using Allscripts at Mercy has been its flexibility and adaptability. Mercy created an in-house Allscripts Team that responds to the needs of the organization. The CQS software does have limitations. The CQS developers determine the case definitions for metrics. Any changes that the in-house Allscripts Team would like to make to CQS criteria require that the software creators adopt Mercy’s suggestions. Inevitably metric definitions will change—metrics already need to be adjusted to meet the definitions made by local payers—and the CQS tool will need to become more flexible.

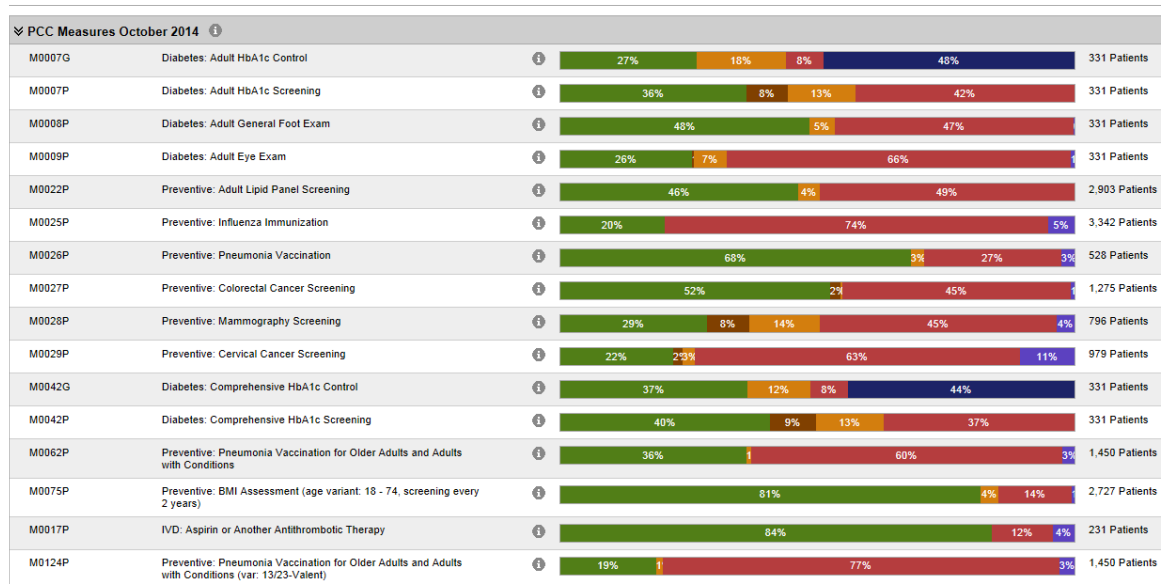


Figure 3. Sample Allscripts Clinical Quality Solution Dashboard

The Project Discussion: Panel Management and CQS in Action

Mercy’s panel management began with a practice in North Yarmouth. Initially a nurse was hired to begin working through the list of patients who were due for routine screening, primarily mammography and colonoscopy. The workflow for this process was in its infancy. The GCC would print off a list of patients who were due or near due for screening using CQS. The GCC would then enter the patient’s name into the EHR in order to pull of the patient’s file. The GCC would call the patient. In order to document the work the GCC would enter the patients name and the date they called into an excel spreadsheet along with any notes on the call. As the work evolved another GCC, a medical assistant, was hired.

The creation of a workflow and documentation method was an iterative process. Early on the Gap in Care Team ran into a few roadblocks. First, the method of recording patient names and information in Microsoft Excel presented issues when a second GCC was hired. A worksheet can only be open for editing by one user. So the team created two separate sheets. This also meant that each primary care provider would be assigned to a specific GCC. Next, the team was not entirely sure what information needed to be documented. In order to track the productivity of the program the excel workbook

needed to include three separate patient identifiers, Medical Record Number, Date of Birth, as well as the patient’s first and last name. Additionally, the Gap in Care Team wanted to collect more information about patient outcomes. It was important to learn what information was relevant. The workflow chart helped the team focus on what information was important.

The Workflow Chart Helps to Develop Documentation

A workflow chart is a tool that visualizes a pattern of work. The first workflow chart created was for the GCCs as they called for colonoscopy screening (see Figure 4). The process begins with the oval with the text “GCC call patient” and can be followed to five oval endpoints. These five endpoints provided the team with clues about what data needed to be captured by the spreadsheet.

The second iteration of the spreadsheet was created in late February and began being used by the GCCs in March. The sheet with multiple headings (see Figure 6) included a key to help guide the GCCs in their documentation. The workflow chart also served as a guide for the documentation of each potential patient pathway. The five endpoints of the workflow can be used to create a pie chart that visualizes the data (see Figure 6).

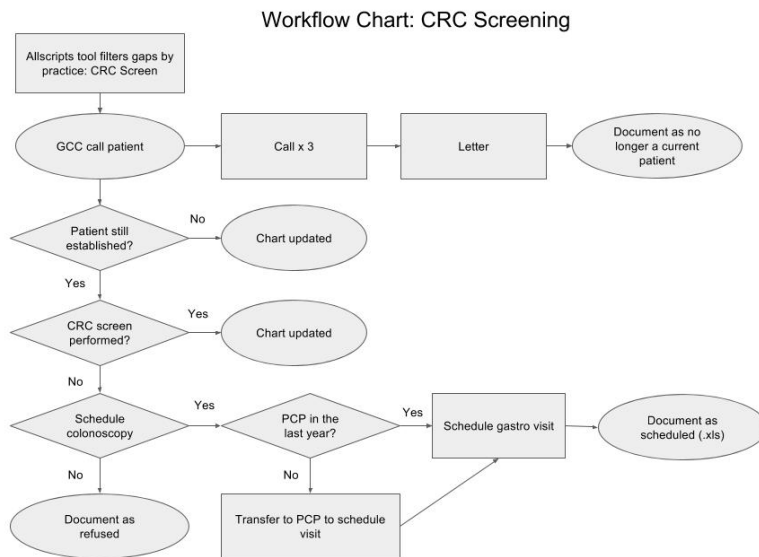


Figure 4. Gap in Care Colorectal Cancer Screening Workflow Chart

Month				Date				Date Ordered									
Provider	Patient Name	DOB	MRN	1st Call	2nd Call	3rd Call	Letter	Transferred or deceased	Lipids	HgbA1C	Mammo	Colonoscopy	C. Not Charted	C. Scheduled	C. Completed	Other Orders	Notes

Figure 5. Gap in Care Excel Workbook Headings

The First Metric: Colonoscopy Screening

While the CQS tool can identify gaps in care from immunizations and pediatric well visits to diabetic A1C labs and cholesterol panels, the first aspect of improvement for the Gap in Care Team was colorectal cancer (CRC) screening. The quality measurement for CRC is defined by the U.S. Preventive Services Task Force's (2008) recommendation that patients be provided, "screening for colorectal cancer using high-sensitivity fecal occult blood testing, sigmoidoscopy, or colonoscopy beginning at age 50 years and continuing until age 75 years." This screening is important preventative care, it has been estimated that approximately 50,000 patients will die of colorectal cancer in 2015 (Howlander et al., 2015). In Maine, the number is smaller but is consistent with national rates, "In 2010, 209 Maine adults died from colorectal cancer (Maine Cancer Surveillance Report, 2014). Between, "2008-2010, an average of 724 Maine adults were diagnosed with colorectal cancer each year" (Maine Cancer Surveillance Report, 2014). Early detection of colorectal cancer is a significant factor determining mortality.

The ACA mandates that all health plans (excluding grandfathered plans) include no cost sharing for patients seeking a CRC screen within the U.S. Preventive Services Task Force's criteria. Many patients who are considering screening need to be guided through what can be a daunting process. In addition to the screen itself, patients must first schedule a primary care visit to assess the patient's health status, and the patient must comply with what can be an uncomfortable preparation protocol. One study using the Health Belief Model as a theoretical framework suggests that scheduling is a common barrier for patients who have not been screened but are contemplative (Menon, Belue, Skinner, Rothwell, & Champion, 2007).

Improving the CQS Data

When the Gap in Care Team began their work in November 2015, the CQS tool showed wide variation in completed screening rates for colorectal cancer among providers. The CQS tool reported rates for primary care providers that ranged from a high

of 84.1 percent to a low of 47.4 percent. When the GCCs began to sort through the lists of patients they found that the CQS data was not accurate. Often patients were included who did not qualify as an attributed patient. These individuals fell into two common categories: 1) The patient had established a PCP elsewhere, or 2) the patient was deceased. Much of the CQS improvement was a result of the improved accuracy of panel attribution.

There were additional problems with the CQS list. The list included patients that had completed a colonoscopy, but upon completion, the documentation was never received, entered, or entered incorrectly in the patient's chart. As the GCCs moved through the CQS list, these patient's charts were corrected. The variation in chart accuracy between providers was also substantial. The number of corrected charts was not tallied for all providers, however among those providers counted, the percent of inaccurate charting ranged from a high of 15.4 percent to a low of 4.5 percent. Additionally, a few patients identified by the CQS tool were identified for exclusion from the screening criteria based on clinical criteria. Examples of excluded patients include: patients with total proctocolectomy with ileostomy, patients with terminal illness, and patients with dementia.

Results: Improvement in the Screening Rate

As of April 25th, 130 people have been referred for a colonoscopy after being contacted by the Gap in Care Team (see Table 1). This represents a small percentage of the more than three thousand charts identified by the CQS tool. The majority of the CQS improvement was a result of improved chart accuracy. For example, approximately one out of every four charts audited in the month of March was corrected without needing to call the patient.

In order to track improvement over time, the GCCs printed the CQS report before starting their work so that the data could be recorded in Excel (see appendix 7). The magnitude of improvement varied by provider. On average the Gap in Care Team improved the documented CQS colonoscopy completion rate by 8.9 percent with a range of 3.1 percent to 15.4 percent. The American Cancer Society goal for 2015 is for 75 percent of the population to be screened for colon cancer.

Mercy Gaps in Care By the Numbers November – March	
Charts Audited	3,434
Patients Referred	130
Average Improvement	8.9%

Table 1. Results from Mercy’s Gap in Care Team from November 2015, to March 2016

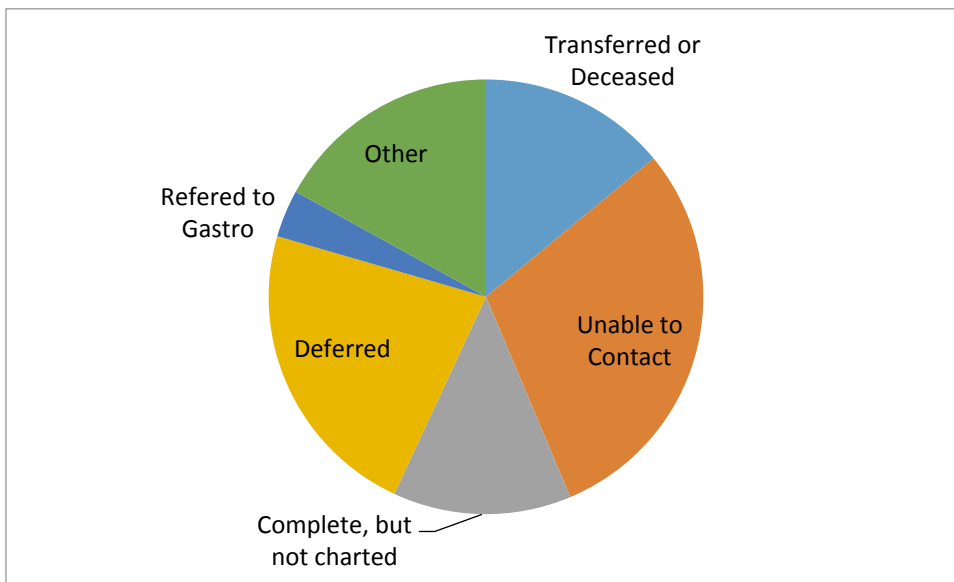


Figure 5. Mercy Gap in Care Results Organized by Workflow, March 2016

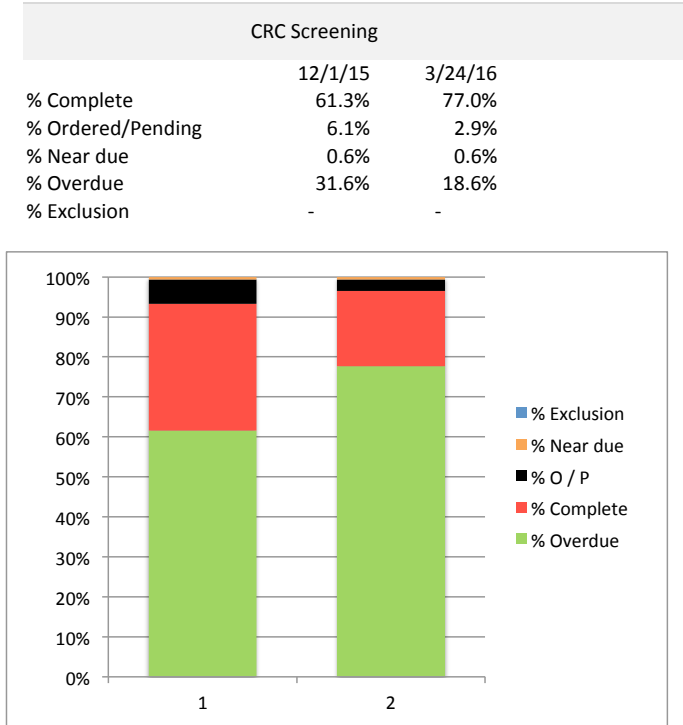


Figure 7. Sample Chart Used to Track Provider Progress

Barriers to Colonoscopy Screening Rate Improvement

The effectiveness of the Gap in Care Team is limited by the structure of how colonoscopy appointments are scheduled. First, the patient must have had a primary care visit within the previous year in order to document the patient’s health. For some patients the added wait time for these appointments is too burdensome. Another barrier for patients is the handoff between the GCC who refers the patient and the call back from the gastroenterology practice. This gap exists for a number of reasons. It would be difficult to have the GCC schedule the appointments because they would have to understand the gastroenterology practice’s schedule. Furthermore, there is concern that Stark Laws might apply to a relationship that could be viewed as anti-competitive behavior. If the GCC could book the appointment during the initial call to the patient a higher number of patients would follow through with an appointment.

Private insurance has created a billing process for colorectal cancer screening that limits access to care. The GCCs documented forty-four cases where patients noted that they would be deferring the procedure because they lacked coverage or could not afford their deductible. Lack of coverage is an obvious barrier for patients but even patients with

insurance coverage have to pay for the procedure. The cost sharing structure of many plans cause patients to forgo care. The ACA has mandated that health plans cover preventative care like colonoscopy. However, plans are only mandated to cover *preventative* procedures. The cost of any *diagnostic* procedure is not covered in the same manner. Arrangements for diagnostic tests vary but most plans share cost with the consumer through copay or a shared payment. For the patient this means that an initial screening colonoscopy is covered by their plan. However, polyps that are found during the procedure will be tested at a pathology lab. The fees from testing are often the patient's responsibility. Another scenario hinders screening rates. Health plans cover the cost of Fecal Occult Blood Tests (FOBT) or Fecal Immunochemical Tests (FIT) because they are considered *preventive* screening by the United States Preventive Task Force. However, if the patient tests positive on one of these tests, the ensuing colonoscopy is no longer considered preventive, instead it is considered diagnostic. For patients with high deductibles or shared payments this means that they are responsible for a costly procedure. Some patients contacted by the GCC in January reported that they would be interested in scheduling the procedure later in the year after they had exceeded their deductible.

The Undocumented Power of Care Coordination

The impact of the GCCs is far greater than that documented in a chart or on an excel sheet. The following story is meant to illustrate the impact the GCCs have in of extending the 'touch' of the primary care practice into the community:

One day while calling patients who were due for a colonoscopy one of the gap in care coordinators reached a patient on the telephone. After saying hello, informing the patient about what the phone call was for, the GCC realized that the patient's speech was slightly slurred and was illogical at times. The GCC asked if everything was all right and the patient let her know that they were not doing well. They were out of their psychiatric medication, feeling hopeless, and they were contemplating walking into oncoming traffic. The GCC reassured the patient that there was hope and that they wanted to help. The GCC was able to let the police know that the patient was contemplating harm and stayed on the phone

until the police arrived. As the patient answered the door the GCC hear them say, “I bet you’re here for me. I need some help.” The officer then got on the phone to confirm that he had arrived.

Patients can be isolated and that isolation makes them vulnerable. Until they walk through the door at their primary care practitioner’s office it is difficult for practices to keep track of how they are doing. We know that not all patients have the same ability to access care and those on the CQS lists are likely to be disengaged patients. Luckily, the GCC was able to contact the patient at a critical moment and was able trigger the social services that the patient needed.

After this event the team encountered a number of similar cases and they discussed what they could do in the future, especially in the cases that might not rise to the same level of self-harm. Now, when the GCCs encounter a patient who is having difficulty accessing care, or who appears to need help they can reach out to Mercy’s Community Care Team, a community based, multi-disciplinary team that helps to connect patients with services.

Conclusion: Where to Go From Here?

Continuing to improve data will increase our ability to take meaningful action. We know that each panel is different. The size and composition of the each practitioner’s panel varies, however the standard of care should not. This means that some providers will require extra support to meet the needs of the practice. The GCCs documented considerable differences in the quality of charting and the health status of panels. Improving and sharing panel data will allow leadership to add support where it is most needed. In its current state, with the data as poorly managed as it is, it is difficult to get buy-in from practitioners. Once the charting is improved, it should be easier to convince practitioners that they can and should improve their screening rates. Additionally, support staff in the practice should be in place to improve the effectiveness of office visits.

During this project I came to understand, with the help of Dr. Michael Duffy, that there are two sides to quality improvement. There are improvements to data that appear to “improve quality” and there are improvements to the clinical workflow that result in quality improvement. Thus far, our ability to improve has been limited to the former. The

true improvement will continue to lag until documentation systems are more accurate and useful. Practitioners want to improve quality; they are intrinsically motivated to improve the health of their patients. However, the top down, purely data driven, ‘merit rating’ systems that have been put in place to improve quality do not serve to motivate practitioners. In fact, it may hinder the motivation of employees, as they become ‘box checkers’. It is important that those checking boxes are given feedback so that they internalize the impact of work they are doing. When Kelly Nadeau first saw the stacked bar chart (see Figure 7) after six months of work she said, “Wow, looking at this chart I feel like I really did something.” For Kelly that was a real improvement.

References

- Howlader, N., Noone, A.M., Krapcho, M., Garshell, J., Miller, D., Altekruse, S.F., Kosary, C.L., Yu, M., Ruhl, J., Tatalovich, Z., Mariotto, A., Lewis, D.R., Chen, H.S., Feuer, E.J., and Cronin, K.A. (2015). SEER Cancer Statistics Review 1975-2012. *National Cancer Institute*. Retrieved from http://seer.cancer.gov/csr/1975_2012/sections.html
- Maine Cancer Surveillance Report. (2014). Department of Health and Human Services. Retrieved from <http://www.maine.gov/dhhs/mecdc/population-health/ccc/documents/MaineCancerSurveillanceReport2014.pdf>
- Menon, U., Belue, R., Skinner, C. S., Rothwell, B. E., and Champion, V. (2007). Perceptions of colon cancer screening by stage of screening test adoption. *Cancer Nursing*, 30(3), 178–185.
- Neuwirth, E. B., Schmittiel, J. A., Tallman, K., and Bellows, J. (2007). Understanding Panel Management: A Comparative Study of an Emerging Approach to Population Care. *The Permanente Journal*, 11(3), 12–20.
- Smolowitz, J., Speakman, E., Wojnar, D., Whelan, E.M., Ulrich, S., Hayes, C., and Wood, L. (2015). Role of the registered nurse in primary health care: meeting health care needs in the 21st century. *Nursing Outlook*. 63(2), 130-6.
- U.S. Preventive Services Task Force. (2008). Screening for Colorectal Cancer: U.S. Preventive Services Task Force Recommendation Statement. *AHRQ Publication*. Retrieved from <http://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/colorectal-cancer-screen>