

**Developing an Evidence-Based, Replicable Continuous Quality
Improvement (CQI) Plan for the Rockaway Township Division of Health**

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Acknowledgments

I wish to dedicate this project and paper to the residents of the multi-municipal jurisdiction in Morris County that I serve, whom this project is designed to benefit, and who inspired it with their expectation of and appreciation for superior governmental public health services. This includes Rockaway Township, Jefferson Township, Butler Borough and the Borough of Victory Gardens. Foremost, I wish to acknowledge Rockaway Township's Mayor and Business Administrator, whose unfettered support in my pursuit of this project and the Certified Public Manager credential made it entirely possible. Their support of my passion for public health and the work of my staff is beyond compare among municipal officials whom I have worked for, and whether we partner to tackle a 100-year global pandemic or routine day to day municipal services, I am buoyed by their commitment to the people we serve.

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Executive Summary

The Rockaway Township Division of Health is committed to services that are increasingly efficient and tailored to meet the needs of those who reside and work within its jurisdiction. Though the work of the department is largely guided by state and local regulations, as well as needs revealed by community health assessments, each Division of Health functional workgroup and each employee bears responsibility for providing quality services while realizing and improving efficiencies in their work. Recent, significant responsibilities in pandemic response and grant management have created some inertia in the area of quality improvement, and the health officer strives to reestablish a commitment to ever-improving services for the public. This recognized need corresponds with growing national trends in public health.

During the last 15 to 20 years, the National Public Health Accreditation Board has had an increased presence across the country and in New Jersey. Through well-defined continuous quality improvement (CQI) techniques, several hundred local, regional and State health departments have earned national accreditation, including five departments in New Jersey. Recognizing this important trend in public health, the Township's Division of Health has, in recent years, made an effort to move toward national accreditation, but until recently has lacked the funding, support and momentum among staff and stakeholders to make significant progress. A recent infusion of federal pass-thru grant funding has furnished the Division of Health with an opportunity to make substantial progress in the completion of foundational prerequisites for national public health accreditation, including the creation of a department Strategic Plan, a Workforce Development Plan and a CQI Plan. The overarching goal of this project is to maximize the current confluence of fiscal support and momentum in public health accreditation to produce an employee-endorsed Continuous Quality Improvement (CQI) Plan.

The health officer views the unique timing of post-pandemic funding, national accreditation trends and a desire to better serve the public as fortuitous. To address the goal of improving department services with new standard operating procedures while working toward national accreditation, the health officer has used this project to develop an original CQI Plan that may be utilized to improve any individual service provided by the Rockaway Township Division

of Health, while serving as a template for use in streamlining and improving a wider variety of municipal processes and services.

The completion of this project has provided the Division of Health with a researched and viable plan that may contribute to the improvement of any department or wider organizational activity. In addition, the CQI plan is already bearing dividends, having provided a template for the selection of vetted, consensus-driven quality improvement pilot projects in the environmental, clinical and administrative divisions of our department. Municipal administration has taken a keen interest in this project, and is evaluating the potential application of this model plan in other areas of municipal work.

This project has resulted in the creation of a comprehensive quality improvement plan and has laid a strong foundation for accelerated work improving services and seeking national accreditation through a wide examination of quality improvement practices in public health; a qualitative evaluation of existing and proposed CQI plans and their efficacy; the implementation of a diverse, multi-jurisdictional quality improvement team; and the solicitation and vetting of priority pilot CQI initiatives through surveys of staff. This project, including the detailed CQI plan and processes outlined therein, will produce viable deliverables and measurable data, and will potentially lead to new policies, programs and/or services that improve our service to the public.

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Agency Background

The Rockaway Township Division of Health has, for over 100 years, provided public health services to Rockaway Township, and for over 40 years has provided services to other nearby municipalities through shared services agreements. Presently, the Division of Health provides complete public and environmental health services to four communities, and water sampling services to an additional municipality. Through active collaboration with residents, municipal officials, quasi-governmental agencies and local organizations, Rockaway Township's Division of Health provides guidance and leadership in the promotion of quality public and environmental health services for Rockaway Township, Jefferson Township, Butler Borough and the Borough of Victory Gardens.

The organization provides environmental health, communicable disease, adult health/chronic disease, administrative and maternal/child health services consistent with State statutes and codes, as well as local ordinances and needs within its services area. In illustrating the scope of the Division of Health's jurisdiction with a few examples, the Division performs inspections annually at over 300 retail food establishments, oversees the installation of approximately 150 septic systems, provides regulatory oversight at 25 public recreational bathing facilities, and provides dozens of other clinical, educational, enforcement and administrative services. Rockaway Township presently budgets about \$770,000 in salary/wages and operating expenses to support staff and services, though its contracting municipalities provide a combined additional budget of \$678,000 for health staff and operating expenses, inclusive of animal control services. All staff and services are statutorily under the supervision of Rockaway Township's health officer (see Appendix A: Organizational Chart).

The aggregate population of the communities the Division of Health serves is 55,873 (US Census Bureau), but said services are not limited to clinics and health promotion programs for residents. Dozens of laws – from those regulating food establishments, recreational bathing, childcare centers, day camps, private wells and water quality to laws requiring emergency and hazardous materials response, communicable disease investigation, institutional sanitation, worker safety, animal welfare and myriad other issues – are within the jurisdiction of this local health department.

Through 2011, the Division of Health provided services to the residents of Rockaway Township and maintained one small shared services agreement to provide public health and environmental health services in the Town of Boonton, a small community of approximately 8,300 residents. This agreement generated about \$33,000 in offsetting revenue for Rockaway Township, and provided for complete health officer oversight of public health services, limited environmental health inspection services, nursing supervision and select health education services. During the ensuing years after my August 15, 2011 employment with Rockaway Township, the Town of Boonton Health Department saw the retirement of its full-time Health Administrator and full-time Registrar of Vital Statistics/Secretary, as well as the termination of its full-time Public Health Nurse Supervisor. Consequently, the scope of services for this shared services agreement grew considerably, as did the staff of the Division of Health to satisfactorily provide additional services.

Simultaneously, Rockaway Township began providing complete public health and environmental health services to Butler Borough and the Borough of Victory Gardens through additional shared services agreements, and in 2017, the Township entered into an agreement with Jefferson Township. This contract provided for health officer oversight, part-time environmental health services, health education services and public health nursing supervision. Jefferson Township maintains four full-time staff members and several part-time employees, all of whom are statutorily supervised by the health officer. Though Rockaway Township ended its contract with the Town of Boonton in early 2023, the Division of Health remains busy in fulfilling its existing shared services agreements, which bring in approximately \$230,000 in offsetting revenue.

My role with the Division of Health is one essentially of chief operating officer. As health officer, I am responsible for providing all public health and environmental health services to the public and business community, and I manage about 20 full-time equivalent employees in this effort. I am responsible for assuring that all relevant statutes, codes and local ordinances in my jurisdiction are adhered to, and that all staff are properly credentialed and performing quality work. Through shared services agreements, I maintain active dialogue with and serve several governing bodies, business administrators and boards of health. Besides serving as health officer, I also manage a number of cross-jurisdictional grants, from federal pass-thru funding to regional awards and allocations, and produce the Township's quarterly newsletter.

I have worked in municipal government for 33 years, serving as a department head for over 25 years, and I also have taught as an adjunct at Rutgers University for 25 years. In addition, I

serve as Faculty Coordinator of the only program sanctioned by the State to train our state's future environmental health officials, which also qualifies individuals to sit for the State's Registered Environmental Health Specialist licensing exam. I have devoted much time over my career to volunteerism and leadership with a number of regional, State and national professional organizations and associations, and consider myself lucky to have a terrific network of colleagues in my chosen field of work. These opportunities have helped fuel my passion for public health and environmental health, and have provided significant forums to learn new techniques and best practices in public health and local government.

Problem Statement

The Rockaway Township Division of Health is always striving to realize greater efficiencies in its work and delivery of services to the public. Through the activities of the national Public Health Accreditation Board, with support from the Robert Wood Johnson Foundation and the National Network of Public Health Institutes, continuous quality improvement (CQI) has had a growing presence in state, regional and local health departments across the country. The Division of Health needs to work toward streamlining and making more efficient its various programs and activities, while simultaneously improving a wide variety of organizational processes and services to the community. The Division would greatly benefit from a CQI system that provides measurable results and culture of quality improvement.

There are a few factors that have led to the need for the infusion of CQI techniques to increase efficiencies. Our department has experienced turnover in a couple of functional areas over the last few years, including the hiring and loss of three full-time nurses and one environmental health specialist, and the acquisition of two full-time grant funded professionals and one full-time clerical staff member. This has led to an infusion of new employees and some loss of institutional knowledge, which has resulted in a decrease in consistency and efficiencies in the delivery of services.

In addition to the turnover of employees, there is perceived to be a mild level of complacency among some key staff members. This statement is not intended as pejorative, but acknowledges that while some individuals are knowledgeable, accountable and excellent at their respective jobs, they have long-standing routines that do not necessarily invite a distinct pursuit of changed operations, or improvement to processes. The implementation of a CQI plan and select CQI projects would conceivably provide a model *and* motivation to all employees, including those whose performance and behaviors suggest they are reasonably satisfied with a commitment to 'business as usual.' It is anticipated that the mild lack of interest among some of the department's employees will result in diminished buy-in, which will present something of a barrier to the successful implementation of the CQI plan and its individual template-producing projects. It is hoped that the health officer and consultant's enthusiasm for this overarching project, combined with the energy of the department's more spirited employees, will inspire consensus cooperation and active engagement from the entire department team in completing this project.

The development of an effective CQI plan and corresponding multi-disciplinary CQI projects would be of great benefit to this department for reasons explained above, and also in the department's effort to satisfy the prerequisites necessary to earn national public health accreditation. This project is aligned perfectly with the Division of Health's goal to complete all of the Public Health Accreditation Board's prerequisites for this national credential, which include the development of a continuous quality improvement plan, a strategic plan, a workforce development plan, a performance management system and completion of a community health assessment (CHA). The department presently has a professional services agreement with a consultant, who will assist in the rewriting of the department's workforce development plan, strategic plan and performance management system, and the Division of Health is also working with other local health departments in the County to complete a new community health assessment.

If this project is successful, the health officer – by researching existing CQI models and techniques – will produce a comprehensive CQI plan/procedure manual, and will also develop and trial several specific CQI initiatives in the department's different functional areas. These initial projects will serve as templates for further quality improvement and performance enhancing efforts within the Division of Health, which are anticipated to streamline and improve a varied number of organizational processes and services by producing measurable results.

Literature Review

Continuous Quality Improvement and its Importance to Public Health

Continuous quality improvement (CQI) is an organization's ongoing effort to achieve measurable improvements in the efficiency, effectiveness, performance and outcomes related to quality services or processes. In terms of public health CQI, the ultimate goal is the equitable provision of quality programs and policies, and to improve the health of the community. CQI was once largely relegated to industry, but CQI practice has spread throughout other business sectors across the United States, including government, private industry, health care and public health (Verma et al., 2015). During the last 20 years, governmental public health has made a significant financial and philosophical investment in CQI for purposes of realizing efficiencies and increasing the reach of quality programs, policies and personnel.

The Rockaway Township Division of Health endeavors to provide its residents and businesses with quality programs, policies and resources, and this may best be achieved with an iterative process that continually uses a proven template to infuse the department and its staff with ever-improving services. The purpose of this capstone project was to examine an evidence base of continuous quality improvement literature, best practices and plans, in an effort to create a unique CQI plan for the Rockaway Township Division of Health. The goal was the creation of a plan that may be used as a guide for all future department quality improvement efforts. In addition, the quality improvement plan would be used as one of several established prerequisite requirements for a health department seeking national voluntary public health accreditation. The Township's Division of Health recently began efforts in earnest to satisfy these accreditation readiness prerequisite requirements, which include the CQI plan, a strategic plan, a workforce development plan, a community health assessment (CHA), a community health improvement plan (CHIP) and other methods of measuring performance.

A quality improvement plan, perhaps more than anything, demonstrates a health department's dedication to continuous improvement of its services, as well as its commitment to the community's health (Armbruster et al., 2008). CQI plans are living documents – dynamic like the field of public health, and updated at regular intervals to indicate what a department is doing, how they are doing it and what is planned for the future. Effective and well thought out quality improvement plans also assist local health departments in developing and sustaining focus.

Everyday activities and routine minutiae often keep public health officials from focusing on what is best for the overall well-being of a public health agency and community members in need. (Armbruster et al, 2008)

“Quality improvement uses a deliberate and defined process and is focused on activities that are responsive to community needs and improve population health”

(Riley et al., 2010)

Continuous Quality Improvement is a Return on Investment

A well-planned CQI process can benefit an organization in many ways and provides a significant return on investment. Local health departments, like the Rockaway Township Division of Health, may realize efficiencies in practice by studying how to do a job well with minimal waste of time, money or unnecessary steps in a process (Riley et al., 2012, CDC, 2017). Further, an organization may create and sustain highly effective programs and policies, including measurable, desired outcomes, by utilizing the techniques of CQI. The quality of work may be enhanced, services may reach a wider segment of the public, evidence-based practices may be implemented and customer satisfaction should, as a consequence, increase. According to Riley et al (2012), these improvements in efficiency and effectiveness should ultimately lead to the consolidation of certain services, the leveraging of new or increased revenue, the integration of helpful networks and stakeholders, and a new culture of pilot testing and innovations.

Each health department utilizing quality improvement techniques may have different, nuanced goals for its process. In a nationwide Centers for Disease Control and Prevention (CDC) effort entitled the National Public Health Improvement Initiative, local health departments in 48 states and the District of Columbia were provided modest grant funding over a five-year period to adopt quality improvement methods and increase efficiencies, accountability, and effectiveness of their respective programs and services. Of those grantees, 70% prioritized strategies to decrease the cost of services, 69% prioritized a goal of decreasing time in providing particular services and 54% used CQI strategies to decrease the volume of staff allocated for the delivery of services (CDC 2017). When the findings of this grant-funded pilot project were examined, it was found

that the implementation of CQI processes resulted in significant efficiencies in time and cost for the agencies involved. In one example of benefits to agency costs, as represented in the aggregate for all participating health departments, strategies were identified to save over \$1.2 million annually in internet technologies expenses. Other study results produced increased efficiencies in time, showing that laboratory data reporting from health departments to the CDC was reduced from a period of two or more weeks to two or three days (CDC 2017). In other examples from this study, the implementation of CQI processes increased enrollment in family planning programs, streamlined the flow of attendees at clinics and increased the referral of pregnant women to smoking cessation programs.

Quality improvement efforts also may help health departments and other organizations withstand the challenges of funding deficits. Public health, often viewed as low-hanging fruit by local government and the New Jersey legislature when it comes to budget cuts and the regionalization of services, has long suffered compromised funding and competition for resources. Ambruster et al (2008) emphasized that a good quality improvement plan can help mitigate some of the strain enhanced by limited and depleted resources. Dr. Paul Jarris, former Executive Director of the Association of State and Territorial Health Officials (ASTHO), articulated the benefits of quality improvement in the face of budget cuts more starkly, stating “When the money started going away, people realized that you do not have an alternative but to improve when you’re losing resources and money” (CDC, 2017). By methodically examining the efficiency and effectiveness of public health services, local health departments conceivably become better positioned to withstand dramatic cuts in funding. It would therefore not be unreasonable to state that public health has arguably invested time and effort in CQI out of necessity and as a means of survival. This aspect of CQI provides for a clear return on investment, as local health departments must have greater accountability in times of scarce support (Riley et al., 2012).

Public Health Accreditation and Continuous Quality Improvement: The Connection

In addition to the aforementioned benefits of an effective CQI plan, the implementation of such a plan, as well as documentation of completed CQI projects, is necessary if a local health department wishes to attain national accreditation (Verma et al., 2015). According to Domain 9.4.1A of the *Public Health Accreditation Board Standards and Measures, Version 2022*, health departments seeking accreditation are required to evaluate and continuously improve processes,

programs and interventions (PHAB, 2022). Further, the accreditation process requires accredited local health departments to provide annual reports demonstrating that improvements have been realized.

Armbruster et al (2008) echoes the national Public Health Accreditation Board (PHAB) in suggesting that an agency's quality improvement plan, strategic plan and workforce development plan are intended to integrate into one aligned process. The Rockaway Township Division of health, having engaged a professional services contract with a public health accreditation consultant through available grant funding, is presently working on other components of accreditation readiness. The Division's health officer and consultant have drafted a strategic plan and a workforce development plan, and while the health officer's continuous quality improvement plan will stand alone as a template to improve services, programs and policies, it also will complement the other aforementioned plans in preparing the department for eventual application to PHAB.

Creating a Successful Continuous Quality Improvement Plan & Program

It is widely recognized that the success of a continuous quality improvement program in one's agency is dependent on the use of and adherence to a formal quality improvement plan. A CQI plan helps guide an organization's quality improvement activities and also provides a framework for the establishment of a quality improvement 'council' or team within the agency (Verma et al., 2015). Butler et al (2008) provided an effective list of common themes that are essential in ensuring a successful CQI effort, including the involvement of everyone in the organization. Numerous studies show that the majority of employees come to work each day wanting to do a good job, and it is clear that the active participation of an agency's entire team in CQI efforts, including sustained employee engagement, is key. Involving more than traditional decision makers in CQI efforts allows those closest to the job – and those who are likely most knowledgeable about the process or program – to offer experiential suggestions for improvement (Butler et al, 2008). Engaging staff is of immeasurable value because staff actually perform the work, staff consent to and sustain change, and staff improve that which they embrace.

Hines et al (2015) also stress the importance of knowing one's audience when establishing and furthering CQI efforts among staff. The Rockaway Township Division of Health has 22 employees, 17 of whom are between 40 and 60 years of age, and 85 percent of whom are women.

Further, 13 staff members hold one or more professional licenses. While gender, measures of diversity, age or other characteristics may not have plausible or measurable bearing on the success of quality improvement plans and efforts, it is helpful to keep such things in mind when considering motivating factors or incentivization for engagement. Bockskay (2015) stresses that multi-level engagement is also necessary, and cross-disciplinary CQI projects that avail the larger team to different perspectives are helpful in this regard.

Incentivizing Quality Improvement: Marketing and Branding

In reviewing the literature for recommendations regarding the engagement of staff, branding and the provision of incentives were cited. Hines et al (2015) found that when CQI ‘branding’ appeared to be attractive, professional, familiar, relevant and simple, it increased employee buy-in. The researchers described the importance of ‘relevant’ CQI products, including those that may be demonstrated to help the workflow, use ‘ready-made’ templates (i.e., those found in a CQI toolkit or plan), and products or projects that can compete with an existing list of tasks. Examples of simple and desirable CQI products and branding include checklists, informative cheat sheets, games, lessons that are easy to apply, and items that identify what employees need to know or do to further the CQI effort.



Researchers have highlighted the importance of marketing and the branding of quality improvement among staff, in an effort to obtain employee buy-in, has been cited as important in literature. Individuals of a sufficient age may be familiar with a Mac ad campaign that featured a fashionable, witty young man as a human version of a Mac computer alongside an older, bitter man in a gown, representing a PC computer. The ad visually and verbally depicted the Mac computer line as a cool, must-have commodity and a PC computer as outdated and irritating. During and subsequent to this ad campaign, Mac profits soared, increasing 44% after branding Mac computers as hip and PC computers as passe (Hines et al., 2015). Researchers have indicated

that applying similar logic to the branding and marketing of quality improvement in public health is helpful in gaining engagement among staff and stakeholders.

Hines et al (2015) cited the importance of marketing to public health quality improvement efforts with an additional example: The De Beers Diamond company and its ‘Diamonds are a necessary luxury’ campaign. Prior to a late 1930s De Beers marketing study of attitudes regarding the purchase of diamonds, this luxury item was seen as an unnecessary, particularly when compared to more practical pursuits like appliances. The De Beers company hired N.W. Ayer, a United States marketing firm, to quite literally change American perceptions of diamonds, and within several years, diamonds became inextricably tied to marriage. After the campaign, marriages almost universally became viewed as incomplete without a diamond, and the ad campaign was further perfected as a marketing strategy in the 1940s. In fact, every single De Beers Diamonds advertisement since 1948 has featured the phrase ‘A diamond is forever,’ which *AdAge* magazine named its number one slogan of the century in 1999 (Sullivan, 2013). The De Beers company succeeded in monopolizing the diamond market, changing societal attitudes, and convincing people that a marriage is not complete without a diamond ring. Though public health quality improvement may not carry the same cache and public interest as quality jewelry or the institution of marriage, one may *market to the values* inherent in quality improvement, much like De Beers mastered the art of marketing to values associated with love, romance and marriage (Hines et al., 2015).

Other ways to promote quality improvement as an important endeavor among public health staff include setting up competitions between individuals, groups and/or executives, and incentivization of the process. Such incentives may simultaneously enhance and increase awareness of CQI principles and public health accreditation (Hines et al., 2015). According to the literature, organizations have reported success in promoting CQI through minor incentives like T-shirts or less tangible inspiration, such as peer pressure or bragging rights for successful CQI projects and programs. In a similar but unrelated effort, the Rockaway Township Division of Health created a staff walking challenge in October-November 2023 for the Division of Health and other municipal departments. Registration for the challenge was quickly accompanied by a department-wide competitive spirit, with 10 of 13 full time Division of Health staff members participating vigorously throughout the competition. Incentives included the aforementioned bragging rights among coworkers, as well as modest prizes like Fitbit watches, Apple earbuds and

gym bags. It is conceivable that with the inclusion of appealing incentives, the Division of Health's Continuous Quality Improvement Plan and projects could inspire similar competition and success.



Inspiring Engagement with Coaching, Training and Leadership

Coaching, including CQI distance learning, was determined to be a very effective incentive in maintaining staff participation (McKeever et al., 2014). In a study of engagement among public health workers who had been provided routine training sessions to accompany their CQI meetings and processes, Bannan (2015) found that the addition of one-hour training sessions entitled 'QI Knowledge Hour' helped increase the number of employees skilled at conducting CQI projects. Time was reserved for coaching from the CQI coordinator within workgroups if requested, and the combined coaching and training was found to increase leadership and confidence for staff working on CQI initiatives. The 'QI Knowledge Hour' sessions were also found to build a sustainable culture of quality improvement within local health departments. Coaching allowed for validation of one's work, helped employees refine the scope of their projects and made them more successful in prioritizing activities (McKeever et al., 2014).

In a CQI award program implemented by the National Network of Public Health Institutes (NNPHI) in collaboration with the Community of Practice for Public Health Improvement (COPPHI), small grants and distance-based CQI coaching was offered to local health departments. Sixty health departments received \$5,000 and CQI coaching to engage quality improvement projects that addressed accreditation standards and measures, as well as local priorities. The modest mini-grant awards were found to be incentivizing but participating health departments stressed the importance of available coaching in helping guide their projects (McKeever et al., 2014).

Perhaps the most important factor associated with a successful CQI program is leadership. Effective, continued and present leadership is considered essential to the success of any quality

improvement initiative. This requires a dedicated team, some funding considerations and necessary training (Bockskay, 2015). Using the *Roadmap to a Culture of Quality Improvement* domains in a survey of local health departments, authors of one study found that quality improvement success was most often associated with leadership commitment, employee empowerment, teamwork and collaboration (Verma et al., 2015). The study looked at barriers and facilitators that correspond with building consensus and progress toward a successful CQI program, and leadership consistently surfaced as a requirement. In a presentation at a national public health quality improvement and innovations conference, Hines et al (2015) stated that quality improvement efforts should have clear leadership, and that efforts should be ‘approachable.’ Further, it was indicated that the CQI team leader and/or accreditation coordinator should be ‘well-liked’ and trusted by staff.

Using a Consistent, Evidence-Based Model: PDSA

Another essential component of a successful quality improvement program is the use of consistent, evidence-based techniques that may be applied to any department CQI project. In this respect, public health quality improvement efforts have included formal methods of root cause analysis and the Plan-Do-Study-Act (PDSA) model for process improvement over approximately 20 years. Plan-Do-Study-Act (PDSA), a foundational component of CQI, is an iterative four-stage problem-solving model for improving a process or carrying out change. PDSA is widely used by process improvement engineers, quality improvement teams and others involved in CQI efforts, and was made popular by Dr. W. Edwards Deming, an American statistician, college professor and consultant. Using PDSA, Deming was successful in teaching others how to improve the quality of their processes and programs (Butler et al., 2008). PDSA is universally recognized as a valued framework for any CQI activities, inextricably tied to process improvement.

According to the American Society for Quality (ASQ), one of the world’s leading membership organizations for improving quality, PDSA may best be used when modeling a continuous improvement action; when developing a new or improved design of a process, product, or service; when performing data collection to verify and prioritize problems; and when implementing any change. The PDSA cycle is also commonly used in making decisions for the improvement of policies, programs and outcomes, and for managing changes within an organization (Butler et al., 2008, Turning Point, 2002).

As stated, the PDSA cycle is composed of four distinct stages, each with specific steps or actions. The purpose of the first step, the PLAN stage, is to identify a particular opportunity for improvement in one's organization or business and plan for how this might be accomplished. The PLAN stage, if conducted thoughtfully, will likely positively impact the subsequent three stages of the PDSA cycle. In completing this first step, a team of intradepartmental colleagues and sometimes external stakeholders is assembled as appropriate to determine what will be accomplished, how a change will be identified as an improvement and what particular change will create an improved process (Butler et al., 2008). In achieving this, team members are given roles and responsibilities and a timeline is created, inclusive of regular team meetings. The current practice is studied, usually accompanied by creation of a flow chart illustrating the inherent process, and baseline data points are collected as needed. In addition, trends, costs, benchmarks and other aspects of the process are evaluated.

A very important element of the Plan stage is root cause analysis. If a current process is examined with plans for improvement, it is essential to evaluate any and all possible causes of an existing deficiency by identifying the root cause of the problem. It is important to arrive at the legitimate root cause of the issue versus symptoms of the actual cause, and there are a number of models available for making such determinations (Butler et al., 2008). Popular root cause analysis models include the Five Why's, the Fishbone – or Ishikawa – Diagram, the Pareto Chart and Scatter Diagram (American Society for Quality, 2023).

The second step of the PDSA cycle is the DO stage. During this step, the theory for improvement that was developed during the PLAN stage is tested. A CQI team is, in this process, determining whether they can actually do what they stated they could do. In completing this step, a team implements the change system-wide, charts and discusses data to determine how effective the improvement was, and documents any unanticipated problems or unintended effects of the change (Butler et al., 2008). During the third stage of the PDSA cycle, the STUDY phase, team members use elements of the PLAN and DO stages to determine whether the plan led to improvement, and how significant that improvement was. Cost-effectiveness of the change, noted trends and unintended side effects are some of the leading concerns in the STUDY phase (Minnesota Department of Health, 2023).

During stage four of the PDSA cycle, the ACT step, the CQI team reflects on the plan and its outcomes, and acts on the findings. If the process has been successful on a small scale, the CQI

team works to standardize the improvement and use it more broadly. The PDSA cycle is meant to be ongoing, so some time later, the group may elect to run the PDSA cycle again to determine if further improvements may be applied to the process (Butler et al., 2008). If the change was not an improvement, the CQI team typically will use this opportunity to develop a new theory and test it. If the team feels a different approach to the problem may yield better results, the team likely will return to the PLAN stage and develop another process. With the completion of any effective PDSA cycle, it is important that CQI teams celebrate their successes and share accomplishments to internal and external stakeholders (Butler et al., 2008). Recognizing these successful improvements to processes and one's organization also provides positive encouragement and further engagement for team members.

Developing & Sustaining a Culture of Continuous Quality Improvement

It is widely recognized that building and sustaining a culture of QI is necessary to achieve something more than discrete process improvements. Organization-wide efficiencies are not likely to be realized without a culture of CQI (National Association of County and City Health Officials, 2013). The fiscal and philosophical support for continuous quality improvement from within and one's organization and among key stakeholders cannot be overstated, as an initial and sustained investment of time and funding is necessary to see improvement to performance. As with most public health professional endeavors, small investments bear long-term and significant dividends, so considerations for funding are generally modest. In an examination of data at the conclusion of the Centers for Disease Control and Prevention's National Public Health Improvement Initiative and its provision of limited grant funding to local health departments, it was found that 72% of grant awardees planned to sustain CQI activities within their organization into the future (CDC, 2017).

There is, in fact, consensus among subject matter experts regarding the leading factors that can help lead to a sustainable CQI culture. The National Association of County and City Health Officials' Roadmap to an Organizational Culture of Quality Improvement named six foundational components of a culture of QI that can help lead to a sustainable QI culture, including leadership commitment, employee empowerment, organization-wide participation, strong collaboration, use of measurable outcomes, emphasis on customers, presence of infrastructure and continuous process improvement and the pursuit of public health accreditation (National Association of

County and City Health Officials, 2013, Butler et al., 2008, Bockskay, 2015, Verm et al., 2015). The sustainability of a CQI program also requires human and fiscal resources, as well as good data upon which decisions may be made and policies may be created.

There are also recognized barriers to establishing and sustaining a culture of quality improvement in one's organization. Data shows that leading barriers include lack of staff knowledge and resistance to CQI activities. Leaders must recognize staff's frequent perception that CQI is additional work for them, is only a temporary initiative and/or poses a threat to their job security (Hines et al., 2015). Other significant impediments to a sustained CQI effort include staff turnover, budget limitations and employee perception that QI is busy work. Some study respondents identified public health crises, such as a foodborne illness outbreak, as a barrier to sustaining progress in QI efforts. Large scale public health emergencies, like the recent global pandemic, have understandably been found to place CQI projects on hold, sometimes indefinitely. (Verma et al., 2015).

In the face of these potential barriers, some factors have been identified in contributing to the successful sustenance of a CQI culture. Verma et al (2015) found, through a survey of working health officials, that a leader's direct participation in CQI initiatives and the inclusion of quality improvement as a recurring agenda item at staff meetings were significant factors contributing to success in sustaining these efforts. Additional studies confirm that leaders bear significant responsibility in sustaining engagement. Hines et al (2015) found that if quality improvement is to become a part of a public health agency's sustained efforts, leaders must have a clear vision, understand their audience, promote CQI concepts and ideas, leverage public health partners and stakeholders as necessary, and promote creativity and innovation. If leaders are successful in sustaining CQI efforts within one's agency, results likely will include reduced costs and redundancies, eliminated waste, streamlined processes, enhanced capacities to meet demands, improved employee morale, increased productivity and greater customer satisfaction (Butler et al., 2008).

Methods

Qualitative Analysis

The objective of this capstone project was to develop and mobilize an organizational CQI plan (Appendix J), which may be used to improve any number of department functions, services and processes, and which also may serve as a model plan for other departments in the organization to use in an effort to elevate their work. In addition, the CQI plan would be one of several prerequisites to public health accreditation for this department. The project, for the most part, utilized qualitative techniques and research, but also had a lesser element of quantitative research, providing this capstone with a disproportionate but suitable amalgam of research methods.

The crux of the project, the development of a CQI plan for this agency, involved a largely qualitative analysis of existing plans and guidance documents, as well as recommendations from scholarly journal articles and national organizations for creating an effective plan. It was essential to examine case studies, reports and data regarding the utility of CQI plans and practices, and this entailed a critique of the limited operational plans available and a review of literature on this subject, as presented by expert national and regional public health professional associations and academia. Through a review of these recognized models and instructional recommendations for CQI efforts in one's own organization, best practices were determined, as well as the goals and outcomes inherent in successful CQI plans. By including an additional, small quantitative analysis through the conduct of two specific surveys, the study was also informed by to solicit opinions and detailed recommendations.

It is important to emphasize that even though this project includes a sizeable narrative, including a full examination of literature, methods, results and recommendations, the most substantial part of the project was the creation of the CQI plan, itself (Appendix J). In terms of methodology for conducting this study, the CQI plan was composed and revised using an evidence base largely inclusive of the literature featured in the study. Again, this means that a qualitative analysis using scholarly journal articles, professional guidance documents and other relevant documents was key. The author of this study has a history of helping New Jersey local health departments explore accreditation readiness and the benefits of quality improvement, having been actively engaged in national, regional and statewide efforts to infuse public health practice with lessons learned from CQI practice. In fact, despite the fact the author has not yet substantially incorporated quality improvement practice into his own agency, he served as Project Director and

Lead Investigator for a substantial grant on this subject from the Robert Wood Johnson Foundation and the National Network of Public Health Institutes between 2008 and 2011.

In addition to a thorough review of the literature and model practices, the qualitative analysis included an extended series of staff meetings and focus group discussions. Staff also met independently within their functional occupational groups to propose CQI initiatives and gain consensus. During the series of staff meetings and focus group discussions, Division of Health employees were able to hold engaging discussions to begin the development of a department strategic development plan, workforce development plan and CQI plan. The department's CQI Plan was drafted by the health officer, with assistance from the Accreditation Coordinator, over a period of several months, while staff meetings provided a venue for dialogue, discussion of priority CQI projects, the completion of a department S.W.O.T. analysis (Appendix I), and other foundational discussion that assured collective input toward the development of a CQI Plan and suggested pilot projects. The prevailing subject of successive meetings was the burgeoning CQI plan. Table 1 details the dates and specific discussion topics at department staff meetings.

Table 1: Staff Meetings and Focus Group Discussions

Date	Type of Meeting	Subject of Meeting
June 12, 2023	Division of Health Staff	CQI training and preview of proposed CQI plan presented by health officer
August 14, 2023	Division of Health Staff	Started S.W.O.T. analysis toward strategic plan; CQI training continued
September 18, 2023	Division of Health Staff	- CQI plan discussed in detail; full support obtained for CQI initiative obtained from all - S.W.O.T. analysis presented and approved by staff - Root cause analysis exercise conducted by staff
October – November 2023	Focus Groups	Staff met at various times in functional groups/disciplines to discuss project proposals and priority areas for improvement
November 13, 2023	Division of Health Staff	CQI plan review and primer conducted; CQI plan approved by unanimous consent
November 27, 2023	Division of Health Staff	CQI project proposal forms issued to staff, with one-on-one meetings to discuss prioritization
November 29, 2023	Division of Health Staff	CQI plan survey issued to in-house staff, to assess satisfaction with/understanding of plan

Once the Division of Health's CQI plan was completed and vetted to employees for review and approval, The first of two project surveys was conducted by the health officer. The survey was provided to all internal department staff, plus 'satellite' staff employed directly by one of the Division of Health's contract communities, which holds a shared services agreement with Rockaway Township to receive select public health services and complete health officer oversight. The survey was largely qualitative, consisting of a questionnaire to solicit recommendations from staff for priority CQI projects. In total, 17 surveys were completed by staff. The rationale for the survey and the process for completing it was two-fold. First, the survey and the resulting dialogue helped expose potential CQI projects meriting attention and requiring improvement. Secondly, the survey also furthered a degree of engagement and investment in the overall quality improvement initiative among staff. Most importantly, the survey enabled staff to individually and collectively, within functional work groups, consider and propose future CQI projects based on need and recognized deficiencies, which could be considered for deployment using the new CQI plan as a template for all proposals. Further, the department may use successful CQI projects as templates/examples for future work. The aforementioned CQI Project Suggestion Form appears as Appendix D, and a spreadsheet summarizing employee CQI project suggestions with qualitative, categorical information including project description and benefits appears as Appendix E in this document.

The CQI Project Suggestion Form asked employees to provide their recommendation for a project that could be improved or made better or more efficient using the CQI plan and its PDSA instrument. Employees were asked to make their project selection utilizing the following criteria:

1. Will the project improve productivity/quality?
2. Will the project improve methods or procedures?
3. Will the project save the department money?
4. Will the project increase revenue?
5. Will the project improve customer service?

Employees were then asked to indicate how their suggested project would benefit the organization. All project suggestion forms were reviewed and were assembled into a spreadsheet (Appendix E) that summarized each solicited answer, and also included the employee's name and functional area.

Quantitative Analysis

As stated, the nature of this project – researching and creating a continuous quality improvement plan and program for an organization – disproportionately and rightfully utilized qualitative analysis. A modest quantitative analysis was performed via the second survey in this study (Appendix K), to assess employee understanding of CQI, project selection, root cause analysis and the PDSA cycle, as well as the measure of collective satisfaction with the process to date. The CQI plan was reviewed by employees in detail at a November 13, 2023 staff meeting, and after discussion, further review and unanimous approval of the plan, this survey instrument, entitled the Continuous Quality Improvement Process Feedback Survey, was created using Survey Monkey and was completed by all in-house, full-time staff. The survey consisted of 16 questions that were split into several categories to assess:

1. How satisfied employees were with the CQI planning process to date.
2. Understanding of the CQI project selection process and goals.
3. Familiarity with the PDSA cycle in quality improvement projects.
4. Understanding of the goals in CQI planning, and the role of teams and storyboards.
5. Recognition of root cause analysis and its necessity once a CQI project is approved.
6. Understanding that continuous quality improvement is an iterative process.
7. The value of baseline data in creating measurable CQI project goals.

Two different Likert scales and True/False answers were employed to measure and categorize responses. Likert scale response options for three questions included *Very Dissatisfied*, *Dissatisfied*, *Neither Dissatisfied nor Satisfied*, *Satisfied* and *Very Satisfied*. Response options for 10 additional questions used response options of *Strongly Disagree*, *Disagree*, *Neither Agree nor Disagree*, *Agree* and *Strongly Agree*. Three questions used a *True/False* option. This survey was completed by nine in-house full-time employees.

Results

S.W.O.T. Analysis

The purpose of this project was to examine the characteristics of successful CQI plans and programs among other health departments that have established effective plans and/or have implemented quality improvement efforts that are consistent with national public health accreditation requirements. Following are significant results of this project, including application of best practices, conduct of a S.W.O.T. analysis for aid in prioritizing quality improvement efforts, and surveys of staff. This information bridges the previously summarized literature and methodology with the project's conclusions and implementation plan, and contributed to the creation of a departmental CQI plan and further plans for project implementation.

During the process of completing this project and designing a CQI plan suitable for the Rockaway Township Division of Health, a corresponding S.W.O.T. analysis (Appendix I) was conducted. By examining the department's external and internal strengths and weaknesses, and through the S.W.O.T. analysis exercise, staff members were able to share and prioritize various factors that influence and, in some ways, define the department. The S.W.O.T. analysis also provided insights helpful in refining the department's vision, mission, guiding principles and strategic priorities. In completing the S.W.O.T. analysis, opportunities for quality improvement were recognized, some of which were featured by employees in their completion of the CQI project recommendation survey. The S.W.O.T. analysis found the following with regard to the Division of Health's strengths, weaknesses, opportunities and threats:

Strengths (internal)

- Large body of regulations to oversee
- Credentialed, experienced staff
- Newer, energized employees
- Care and stewardship for community health
- Established group of affiliated, invested stakeholders

Weaknesses (internal)

- Challenges compelling buy-in for CQI and planning from employees
- Perceptions of CQI being additional work
- Lack of time to fully integrate plan and individual related projects
- Tendency to perform work in historical fashion

Opportunities (external)

- Improved quality and quantity of services
- Improved efficiencies in delivery of services
- Temporary fiscal support through grants
- Chance to develop unique, innovative ideas
- Demonstrate to the public a commitment to improvement
- Develop better policies, procedures and programs

Threats (external)

- Need for resources from governing body
- Turnover in staff and discontinuity of services and institutional knowledge
- Niche issues that may be distracting and time consuming
- Possible negative public views/perceptions
- Expectations from community vs. efficiencies

Based on the results of the S.W.O.T. analysis, the health officer, Accreditation Coordinator and Program Development Specialist developed preliminary strategic priorities and goals and objectives at staff meetings. These proceedings and the resulting information gave context to and helped inform the department's draft strategic plan, as well as elements of the CQI plan and projects under consideration for future CQI efforts.

Project Selection Survey

Employees were surveyed with regard to CQI projects that might merit priority attention and effort, utilizing the new CQI plan as a template for standardized process. A total of 17 individual projects were recommended. Results of this survey are summarized in Appendix E. Employees cited potential improvement to productivity, procedures and effective use of the department money and time in six of the recommended projects. Three of the staff's proposed projects would increase productivity and improve customer services. Two of the proposed projects would increase revenue. Two other recommended projects would increase revenues while improving quality and employee productivity, and another suggested project would increase revenues while improving quality.

Based on these survey results, employees indicated that all 17 of the proposed projects would realize greater efficiencies for the department in terms of employee productivity, cost to the department and the quality of services. Importantly, the scope of perceived benefits for these recommended projects were all determined by staff, which would suggest that a degree of buy-in

could more easily be attained among employees. Because the S.W.O.T. analysis determined that one of the threats to the success of a CQI program is a common belief among workers that the implementation of such a project signals additional work, any factors that would enhance employee buy-in would be welcome. While there is not an inherent quantitative aspect of this survey, the results were very revealing and provide guidance to leadership regarding which projects may naturally solicit greater engagement. The above referenced common themes may be leveraged for greater participation, increased understanding and ultimate sustainability of the CQI effort among staff. These project proposals will be further evaluated by the health officer, in conference with the Accreditation Coordinator, and will be scored and ordered based on priority, feasibility and perceived benefit.

Quantitative Analysis

A continuous quality improvement (CQI) process feedback survey was conducted among full-time, in-house employees (Appendix K). After completion of training regarding the CQI plan and the procedures detailed therein, all in-house employees were surveyed regarding their understanding of the contents of the plan, the purpose of CQI and the PDSA cycle, and the process for selecting, vetting and gaining approval for CQI project proposals. The major findings of this survey are as follows:

Satisfaction with CQI Planning Process

Staff indicated they are generally satisfied or very satisfied with the CQI planning process to date. Of those surveyed, 89% of employees felt they had the opportunity for input during the CQI plan draft review and 89% felt the health officer was willing to incorporate their feedback into the CQI plan draft. All surveyed employees (100%) felt the plan and its components were clearly conveyed.

Understanding of CQI Project Selection

When surveyed about understanding of the CQI project selection process, 89% of employees agreed or strongly agreed that they were aware of the process regarding how to identify and propose a potential CQI project and 89% also felt they were sufficiently aware of the project suggestion form, its contents and how to utilize it. That said, both of these criteria were met with a lower number of employees ‘strongly’ agreeing. Seventy-eight

percent (78%) of employees indicated they were aware of the approval process for their suggested CQI projects.

Awareness of CQI Process Instruments

Next, employees were asked to what degree they understand the Plan-Do-Study-Act (PDSA) cycle in public health, as well as a corresponding root cause analysis instrument. When asked if they were aware of the PDSA cycle and its significance to a quality improvement program, 89% agreed. A slightly lower number of employees (78%) indicated that they were confident in their ability to use the PDSA worksheet during their individual CQI project process, with 22% of employees indicating they neither agree nor disagree that they are confident in their ability with respect to the PDSA cycle/worksheet. Eighty-nine percent (89%) of surveyed employees indicated they understand how to use the Five Why's tool for root cause analysis when creating CQI project goals, and one employee neither agreed nor disagreed. In addition, employees were asked in one true/false survey question whether they understood that it was necessary to work through the Five Why's instrument with their functional area CQI team once the health officer approves their project suggestion, and 89% responded favorably.

CQI Plan Goals and Objectives

Employees were asked, in a series of four questions, how well they felt they understood the overarching goals and more detailed objectives of the CQI plan. About half of the surveyed employees (56%) agreed that they understood that CQI projects are to be completed in collaboration with coworkers in their functional/service area, and an additional 33% of employees strongly agreed. When employees were asked if they understood that CQI teams must meet quarterly to review progress on their CQI project's PDSA cycle/goals, 89% agreed or strongly agreed. By comparison, 67% of employees understood that in order to determine their CQI project is complete, a storyboard must be completed and 33% neither agreed nor disagreed with this statement. Survey numbers were identical when employees were asked whether they understood that the CQI process goals and objectives would be reviewed by the CQI lead team, using a defined performance management system.

Significance of Baseline Data and an Iterative Process

Two additional true/false questions were asked in this survey, pertaining to the process of quality improvement and its iterative, baseline-dependent nature. When asked whether it was understood that the CQI process is a cycle of continuous evaluation, 89% of survey respondents replied in the affirmative. The same percentage of survey respondents also indicated that they recognize the need for baseline data in order to create measurable goals for CQI projects.

Summary Findings

The results of the qualitative and quantitative analyses were telling with regard to employee understanding, as well as the anticipated engagement of a CQI program within the Division of Health. Further, research and analysis were helpful to the health officer in creating a CQI plan that promises to be effective and easy for staff to navigate. Findings of this project, in general, revealed that staff members seem open-minded about quality improvement, and corresponding strategic planning and performance management efforts. The trend of largely favorable responses in the employee CQI process feedback survey indicates that employees received adequate training in this initiative to understand the basic purpose, tools and procedures inherent in a quality improvement process. These numbers would also suggest that the health officer's preparation of the CQI plan, and the vetting of the plan and its processes to employees, was helpful.

Based on the CQI process feedback survey returns, as well as information extracted from the CQI project suggestion survey results, it also appears that there is sufficient leadership within the Division of Health, both from the health officer and from supervisors recognized within each of the department's functional areas. To a degree, CQI process feedback survey results suggest that further training would be helpful in furthering a collective team understanding of specific objectives in completing the process of CQI for projects. The favorable results noted above provide some evidence that there is a reasonable chance of obtaining a consensus of employee buy-in and engagement, and an opportunity to pursue a sustainable CQI program for the Division of Health. The literature review of best practices in CQI planning and implementation, and this project's S.W.O.T. analysis and quantitative analysis, combined, do indicate that a health department can successfully execute a CQI process and establish a sustaining culture of quality improvement when furnished with leadership, built-in employee engagement and some incentivization.

Implementation Plan

The Pre-Implementation ‘Plan’

At the outset of this project, the Rockaway Township Division of Health had no CQI plan and had done nothing of substance in developing a detailed, prescribed process or plan in a conscious effort to improve the quality of its programs and policies. The department’s health officer had drafted a workforce development plan and part of a strategic plan – both, alongside a CQI plan, are among the foundational items necessary to apply for national public health accreditation – but no quality improvement plan had been completed and there had been zero engagement among staff toward creating such a plan or piloting CQI projects to improve efficiencies or to trial the plan’s specific procedures.

The absence of any formal quality improvement efforts over the last several years has been a disappointment to the health officer for two distinct reasons: A. It has been the health officer’s belief that the department’s staff, activities, regulations and customer service could be improved, and that an implemented, formal CQI plan could lead to a culture of routine quality improvement efforts; and B. A number of years ago, the health officer was very involved in regional and national efforts to bring the concepts of quality improvement and public health accreditation to New Jersey’s professional public health community, but has not been able make progress toward an active CQI plan and subsequent culture of quality improvement within his own organization. In fact, the health officer was Project Director and Lead Investigator for New Jersey’s participation in the 2008-2011 Multi-State Learning Collaborative III, a \$447,000 Robert Wood Johnson Foundation/National Network of Public Health Institutes grant designed to promote quality improvement and public health accreditation among New Jersey’s (and 15 other states’) health departments and officials.

The first of New Jersey’s accredited health departments received its initial accreditation in 2015, and five other health departments in the Garden State have followed suit since. A quality improvement plan and program have long been identified as a prerequisite to public health accreditation, which makes the development of a CQI plan a priority activity toward accreditation readiness. Progress toward accreditation and/or a quality improvement program at the Rockaway Township Division of Health, however, has always been precluded by the absence of qualified support personnel who are capable of developing and leading efforts toward necessary

deliverables. With a recent COVID-related application for significant but temporary federal pass-thru grant funding, Rockaway was able to contract for a part-time Accreditation Coordinator, who is now serving a contract with Rockaway Township and will have the ability through June 30, 2024 to help expedite these activities.

Moving Forward

Now that the Division of Health has grant funding and a complete CQI plan that has been shared with staff for review, modification and approval, progress presumably may continue in earnest. To that end, the health officer vetted the final CQI plan to the Township Council, which also serves as the Township's Board of Health, on December 12, 2023. The Council approved the CQI plan at that time via authorizing resolution (Appendix L). The endorsement by the Council/Board of Health is a very important collaborative step and also brings a small degree of attention to accreditation preparedness and the hard work of the Division of Health. The health officer will also share this plan with the business administrators and relevant staff in each of the Division of Health's three contractual communities. Naturally, some time will be devoted to describing the contents of the CQI plan and the ensuing activities therein.

It is anticipated that this plan and a scored series of priority CQI projects, as determined through the CQI project summary survey results (Appendix E), will be deployed, with instruction, during the next 30 to 60 days. One of the first orders of business will be to pilot several of the recommended CQI projects, to test the CQI plan and, naturally, to improve the quality of our services and policies. One priority CQI project will be selected and piloted by a team of employees in each functional area of work (i.e., environmental health, nursing/clinical, administration, animal control). Teams will meet regularly to discuss their respective projects and measures of success/change, as prescribed in the CQI plan and as stated to employees during training sessions regarding same (see Table 1). It is expected that with the successful completion of trial CQI projects, the process and CQI plan will be refined as needed, and more projects will be assigned for improvement and examination.

Into the longer term, it is planned that early Division of Health CQI projects, be they the pilot projects or a future iteration of quality improvement efforts, will produce substantive results and will provide enduring outcomes, furnishing the Rockaway Township Division of Health, as well as the Township's other departments and professionals, with replicable examples of the CQI

process and its application to real governmental services and/or processes. If successful, these pilot projects will benefit the organization indefinitely by serving as templates with quantitatively (and qualitatively) measurable outcomes. It is hoped that the CQI plan and its model practices may be used to produce many successful CQI efforts into the future. It is the health officer's hope that the finalized CQI plan and processes – including its PDSA cycle, root cause analysis and other tools – becomes a template that may be replicated within the Division of Health, interdepartmentally and possibly even by other interested stakeholders or organizations.

Within the Division of Health and into the future, employees will be asked to continue providing suggestions for CQI projects indefinitely, using the survey form found in Appendix D. Public health is a very dynamic and ever-changing field, so priorities are likely to change over time. Having just finalized the plan and having not engaged any internal CQI pilot projects yet, it is premature to plan a specific number of CQI projects or a detailed action plan over a prescribed period of time for each functional group in the department. That said, once pilot projects have been performed and the plan's full functionality has been tested, more specific expectations for timing and scope of continued CQI projects will be outlined. Besides conceiving and collaborating on worthwhile quality improvement projects with measurable deliverables, employees will also be asked to provide additional feedback and recommended changes to the plan as CQI efforts move forward. Based on best practices and the literature, soliciting this information from employees will likely foster buy-in for the plan and further employee engagement for the CQI projects that follow. Open conversation among all department employees, led by the health officer and accreditation coordinator, has been held, and will continue to be held, during regular staff meetings, which should maximize participation and understanding.

The two surveys previously discussed helped assure that: A. The CQI plan was vetted to and discussed among employees in a collaborative fashion; and B. Open-ended questions were utilized to assess which sample CQI projects employees determined to be most useful and effective in improving services and processes within the department. By providing all employees a voice in the selection and prioritization of CQI projects, further buy-in and participation is anticipated, and longevity in engagement that could support the advent of a legitimate culture of quality improvement. The health officer and accreditation coordinator will seek consensus among staff into the future regarding priority projects that may improve specific department services, and the program development specialist is likely to assist, as well. The literature repeatedly cites the

importance of leadership for CQI efforts within one's organization, and it is hoped that the Rockaway Township Division of Health has a good leadership team to fully realize the CQI plan and its benefits. We will know the CQI plan and corresponding initiatives were successful not only if we thoroughly measure baselines and outcomes to determine measurable results, but if we eventually develop and sustain a culture of quality improvement, featuring a highly engaged team of employees who can count on strong CQI leadership. In addition, a successful CQI plan should result in a measurable savings of time, money and employee effort.

Lessons Learned

The planning and development of any one process is an opportunity to learn from one's own work and the accomplishments of others. The creation of a new quality improvement system that inherently features an iterative process invites learning on an entirely different level – though many of these lessons will be revealed when the CQI plan is actually deployed with the piloting of select quality improvement processes. The research of an extensive evidence base, followed by the creation of a comprehensive plan, created such learning opportunities on a professional and personal level.

Interaction with employees is a daily activity in my regular job, but working through this capstone project required routine engagement with staff in a way that had not been explored to this point. Leading my team through an interactive unveiling of new professional concepts and plans to administer them helped me develop new approaches to communication, wherein my role started as a researcher and then largely became one of a deferential facilitator. In the process of developing a quality improvement plan, the importance of relinquishing control and oversight of a large effort was illuminated in a new way, and even though I had and have an immense investment in the work, it became critical to present ideas and thereafter immediately provide open-ended choices and broad input to the entire department. This made the development and completion of this CQI plan somewhat different than any professional supervisory activity to date. Though the researching, writing, vetting and finalization of the plan comprised this project and presented new opportunities for dialogue across the entire organization, it is evident to me that these same methods for encouraging discourse and promoting active employee engagement will become even more important as the plan is tested with priority projects.

CPM lectures, readings and ancillary sources of information proved to be very helpful resources during this process. Many of the skills and tools discussed over the course of this program helped guide my process, and hopefully in a way that will promote continued conceptualization and implementation of important programs and policies. Tools and lessons in project management were very helpful and specific to the development of this initiative. Utilizing a Gantt chart, logic model and related flow charts helped keep the project on schedule and also served as a regular reminder regarding steering principles and factors related to the project. My work on the Division of Health's CQI plan, paired with regular presentations from and

conversations with other CPM participants, provided many opportunities to communicate in new ways, in different venues and with a very diverse group of government officials. Lessons learned in this respect not only enhanced communication skills, but also provided unique opportunities for me to manage and lead, using new perspectives and different techniques in communicating with a terrific team of employees.

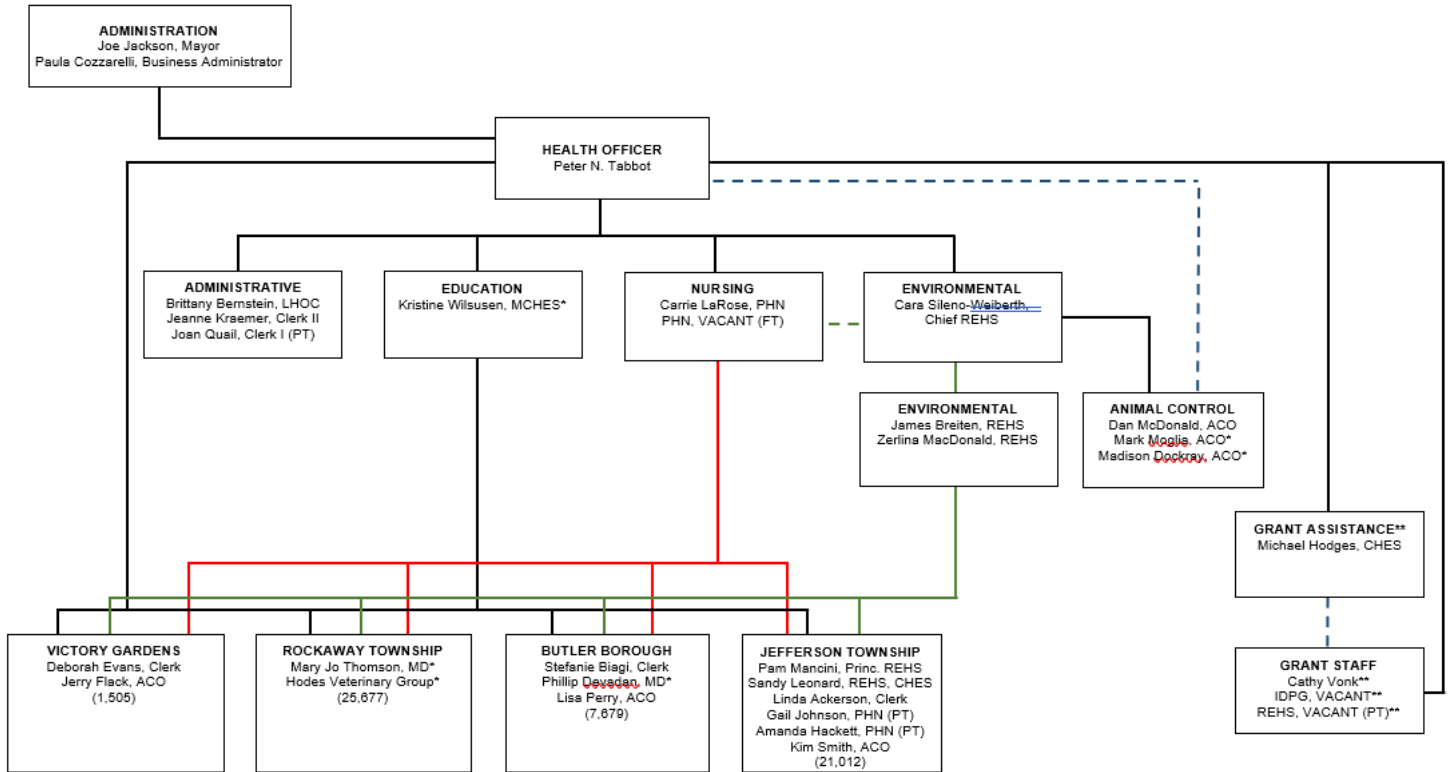
Another aptitude that was tested and essentially relearned through this process was work/time management. As a full-time health officer managing a regional health department, the average work week typically requires 50 or more hours of effort. After hours meetings and events occur on a regular basis, as well as time-sensitive, priority work that sometimes cannot be completed in a 35- or 40-hour work week. In addition to a very demanding full-time job, I have been an adjunct instructor at Rutgers University for 25 years and generally teach evening courses twice per week, year-round. Incorporating a very intensive project of nearly a year in duration into one's very busy work schedule has challenged any previous notions of time management, and it has provided me with some unanticipated and interesting ways to multi-task and sustain the organization of multiple competing, detailed initiatives. I have worked in municipal government for over 32 years and have managed a department for 25 of those years, but it has very clearly been demonstrated to me that regardless of experience in management and leadership, one must be open to learning and integrating new ways of thinking analytically, as well as new, novel approaches toward completing work.

In completing this project – or, more aptly stated, in completing this major *phase* of the project – I have routinely been reminded of the simple but sage words written by John Hanlon and George Pickett many years ago in their influential graduate level text, *Public Health: Administration and Practice*: ‘Public health is an iterative process.’ While this concept is by no means novel or unique to public health, the nature of my day-to-day work in public health is cyclical and requires regular critical thinking and change. This project, both in its conception and completion, and, importantly, in the nature of the plan that was completed for roll out in my department, is founded in repeated iterations of trial and error, improvement and concession, and ultimately success in creating more efficient workplace processes, policies, procedures and personnel.

Finally, a number of my personal/professional competencies – some advanced and some less refined – were magnified and either confirmed or ‘exposed’ for helpful revision. This program

has indulged my love of lifelong learning, and brought necessary focus back to the very processes that guide and sustain everyday work in a very dynamic and changing field of work. I have been reminded that reading journals and government advisories, and conferring with colleagues in an up, down and linear fashion is not always enough to further workplace efforts or excellence. This process has made it clear that moving the dial on one's work, professional relationships and contributions toward serving the public requires a different kind of commitment to learning from others, and often in real time, creative ways. My personal management style has undoubtedly been impacted in positive ways through this project, as the frequency of staff meetings, focus groups and dialogue has increased intra-departmentally in meaningful ways. It is without question a form of personal and professional growth that I would not have had the chance to explore and establish without the CPM experience, and a significant variation of managing and communicating that I didn't expect to encounter and incorporate over three decades into my career. These new approaches to managing my team and our projects, learning from group processes, communicating new ideas and compelling consensus have all richly contributed to my perspectives as a leader and as a member of a professional collective.

Appendix A: Rockaway Township Division of Health Organizational Chart (population served: 55,873)



* Contractual provider
** Grant funded employee

Appendix B: Vision, Mission Statement and Values

Vision

A healthy community and environment, leading to longer and healthier lives in Rockaway Township.

Mission Statement

The mission of the Rockaway Township Division of Health, through active collaboration with residents, municipal officials, quasi-governmental agencies and local organizations, is to protect and improve the health and well-being of residents and the environment within its service area.

Core Values

The Rockaway Township Division of Health's core values are:

Collaboration: We use teamwork to achieve goals and solve problems.

Diversity: We actively seek to understand the lives, work experiences, skills, talents, cultures, ancestries and histories of our employees and of the public to better serve everyone.

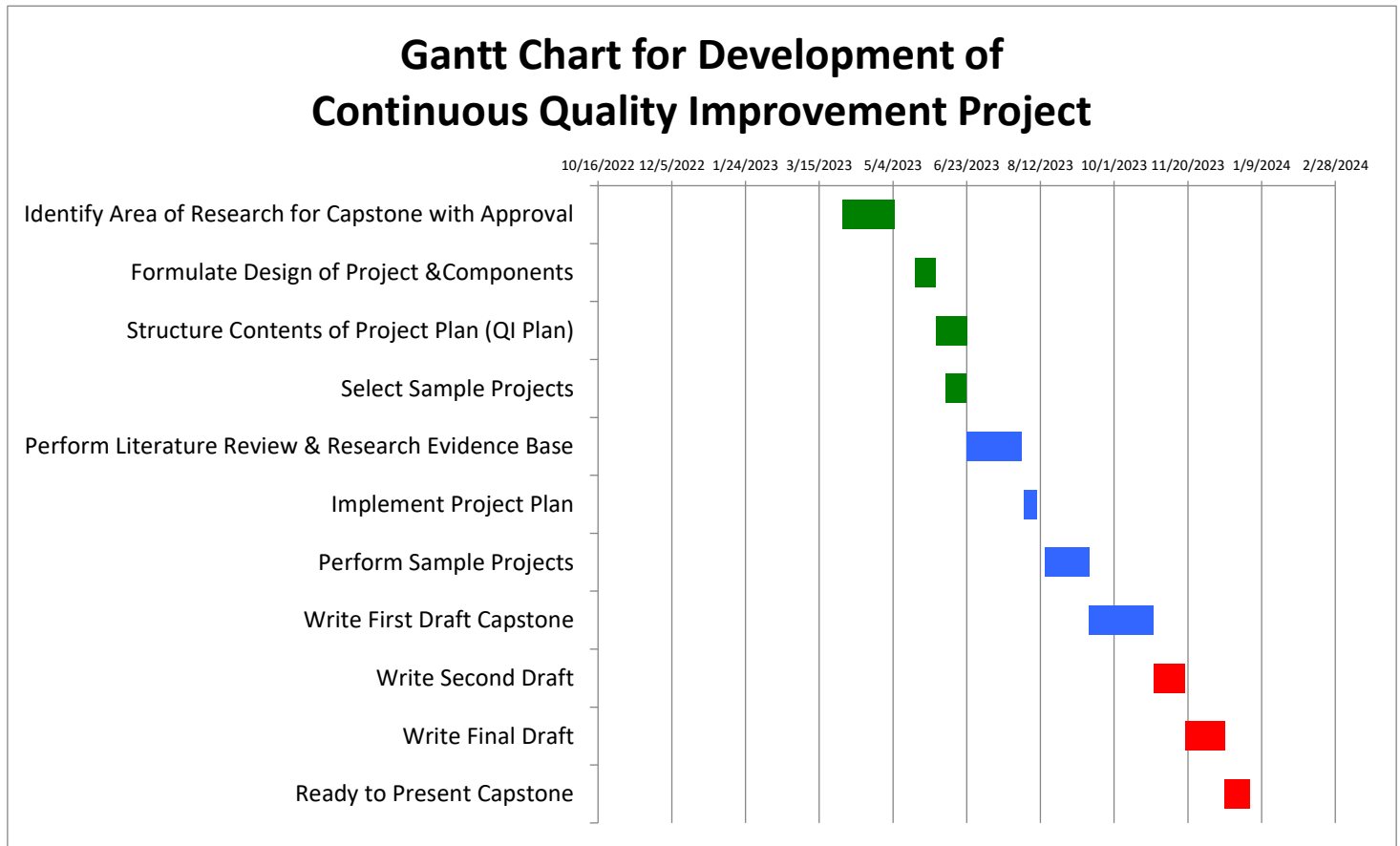
Excellence: We promote quality outcomes through continual learning and continual performance improvement.

Innovation: We search for creative solutions and manage resources wisely.

Integrity: We uphold the highest standard of professional conduct in all endeavors.

Engagement: We endeavor to engage and interact with all stakeholders and members of our community, in an effort to address and meet the needs of the populace we serve.

Appendix C: Gantt Chart



Appendix D: CQI Project Suggestion Form

Name: _____

Department: _____

Date: _____

Please provide a brief description of the project:

INSERT TEXT HERE:

I believe this suggestion will: (check all that apply)

☐ Improve Productivity/ Quality

☐ Improve Methods/Procedures

☐ Save Cost

☐ Increase Revenue

☐ Improve Customer Service

☐ Other: _____

Explain how your idea will benefit our organization:

INSERT TEXT HERE:

☐ Comments: _____

Reviewed by: _____

Date: _____

Appendix E: CQI Project Suggestion Summary

DIVISION	NAME	DESCRIPTION	BENEFITS
Administrative	Jeanne Kraemer	Get closer to 100% compliance on pet license renewals	• Help public understand benefits of licensing fees • Keep public safe • Locate lost pets
Administrative	Cathy Vonk	Providing SDL and scanner access to each clerk in the Division of Health will increase employee availability to complete tasks, thus improving productivity and customer service	• Decrease crowding at counter • Decrease delays in service • Increase scanning frequency • Decrease paper piles
Environmental	Pamela Mancini	Change the reinspection fee for Retail Food Establishments who receive a conditional rating at the time of reinspection of their establishment	• Proposed fee schedule • Increased fee for reinspection after consecutive conditional ratings • Additional reinspection fee for an establishment who receives a conditional rating in a set number of years after the initial conditional rating
Administrative	Jeanne Kraemer	To get more residents to take advantage of our free rabies clinics	• Keeps residents and pets safe • Reminds residents to license pets
Administrative	Jeanne Kraemer	I would like to streamline the process of submitting payroll for the Division of Health	• Streamline process • More timely, productive • Health Officer will still have final review • Save time and aggravation • Save paper
Administrative	Cathy Vonk	I would like to suggest adding confirmation calls to the flu and rabies clinic preparation procedures	• Decrease number of "no shows" • Save time during initial clinic • Save time during second clinic prep • Eliminate problems for residents that cannot access/don't regularly check email

DIVISION	NAME	DESCRIPTION	BENEFITS
Environmental	Pamela Mancini	Establishing a fee schedule for the review of plans for septic designs and retail food establishments	• Provide a method for applicants to track progress of their plans • Provide Township with revenue to cover cost of review process
Nursing	Amanda Hackett	Computer software for clinics to input patient information and demographics, and schedule appointments	• Ease of scheduling • Ease of locating patient information and scheduling appts across the health department • Decrease time spent looking for charts • Appointments can be made remotely • If residents come in for licenses, Health Dept does not need to "chase" them down
HLEO/ACO	Dan McDonald	How to get more Animal Licensing compliant out of the residents	• Operator needs to provide info: • Contact for bathing facility • Name of lab doing weekly testing
Environmental	Pamela Mancini	Requiring recreational bathing facilities to apply for a license to operate their facilities each year. The Township currently only requires operators of swimming pools to apply for a license.	• Increase revenue • Help pet licensing process
HLEO/ACO	Dan McDonald	How to get more animals at our rabies clinics and make them go smoother	• Temporary vendors/coordinators will gain a better understanding of requirements for a successful, safe event and inspection • Shorter duration of inspections • Less violations/on-site issues • Properly completed applications
Environmental	Cara Sileno-Weilberth	Create a food handler program for temporary retail food vendors and coordinators by either requiring them to take a short educational class or watch a prerecorded training	• Get the program to interface with other programs and work off-site
HLEO/ACO	Daniel McDonald	How to make the animal licensing program more user-friendly	

DIVISION	NAME	DESCRIPTION	BENEFITS
Environmental	Zerlina MacDonald, Cara Sileno, James Breiten	Educating and improving Rockaway Township "Sanitation in Retail Food Establishments Food and Beverage Vending Machines and Cottage Food Operations," decreasing violations found during annual routine food inspections.	• Increase knowledge and training of establishment food handlers (inc. bilingual) • Decrease number of re-inspections due to follow-up or unsatisfactory ratings • Decrease complaints of public interactions or concerns • Revenue increase for Food Handler/ServSafe certification training • To Protect, Promote, and Enhance the safety of our community
Environmental	James Breiten	Suggested project is to update, adopt, and/or create ordinances and fees. • Adopt ordinances establishing licensing requirements and fees for tanning salons and body art establishments • Adopt an ordinance containing requirements pursuant to the newly adopted state lead law, as well as fees • Amend retail food establishment ordinance to include fee for plan reviews • Amend septic system ordinance to increase fees. Amend ordinance to include pumping requirement including obtaining a permit • Amend well water ordinance to increase fees and reflect current standards • Amend noise ordinance to reflect the new model ordinance • Review, correct and/or clarify existing ordinances where needed	• Increase revenue • Help inspectors more efficiently and effectively enforce codes • Protect the environment • Decrease septic issues/failures

Appendix F: Plan – Do – Study – Act Worksheet

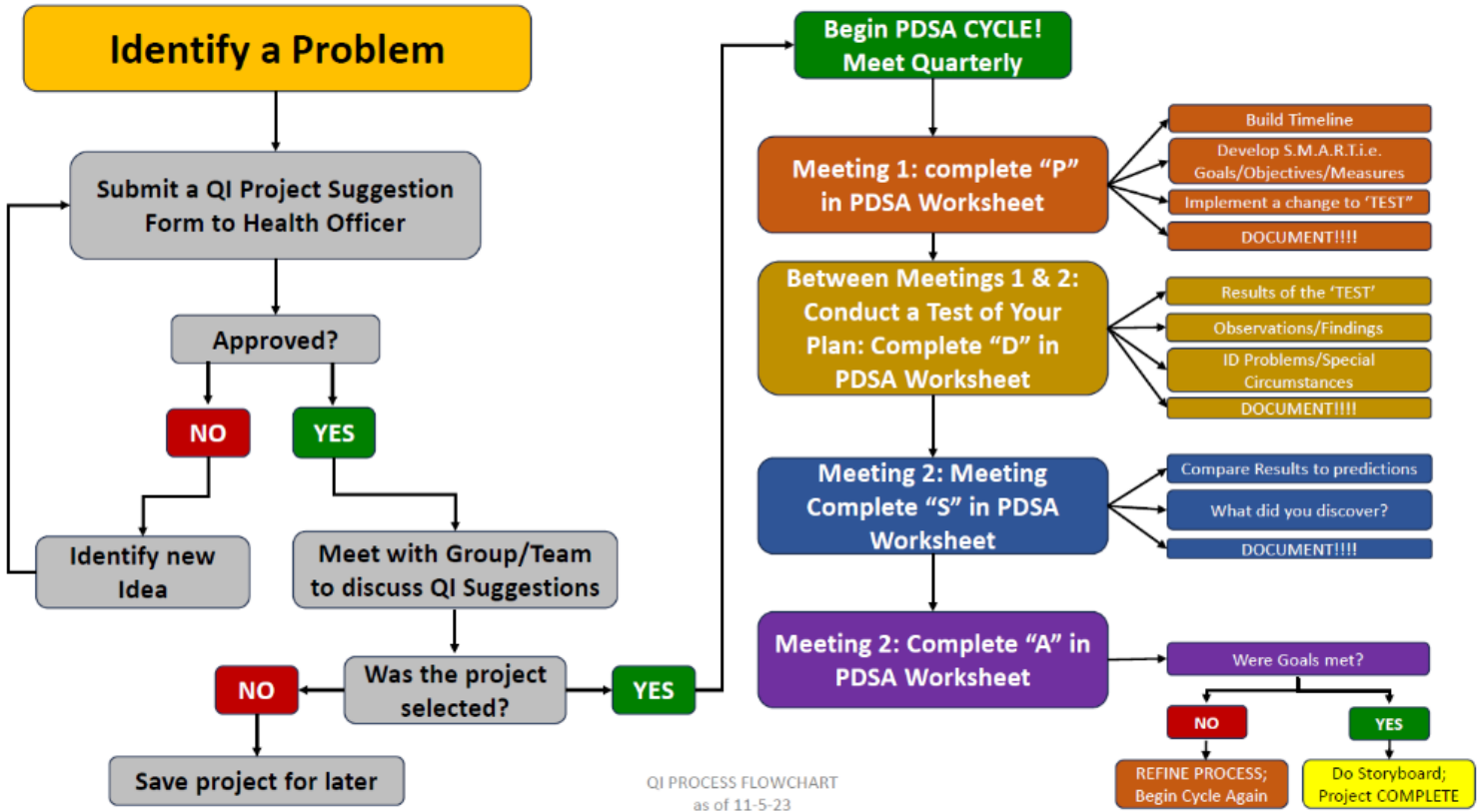
	PLAN . DO . STUDY . ACT Model for Improvement – PDSA Planning Worksheet	
Project/ Team Name:		
Cycle Identification:		
Cycle Start Date:		Cycle End Date:
PLAN: PROTOTYPE COMPONENT – LEARNING Describe the change you are testing and state the question you want this test to answer: What do you predict the result will be? What measure will you use to learn if this test is successful or has a problem? Plan for change or test: who, what, when, where? Data collection plan: who, what, when, where?		
DO: REPORT WHAT HAPPENED WHEN YOU CARRIED OUT THE TEST – Describe observations, findings, problems encountered, special circumstances. 		
STUDY: COMPARE YOUR RESULTS TO YOUR PREDICTIONS – What did you learn? Any surprises? 		
ACT: MODIFICATIONS OR REFINEMENTS FOR NEXT STUDY CYCLE – What will you do next? 		

Appendix G: CQI Logic Model

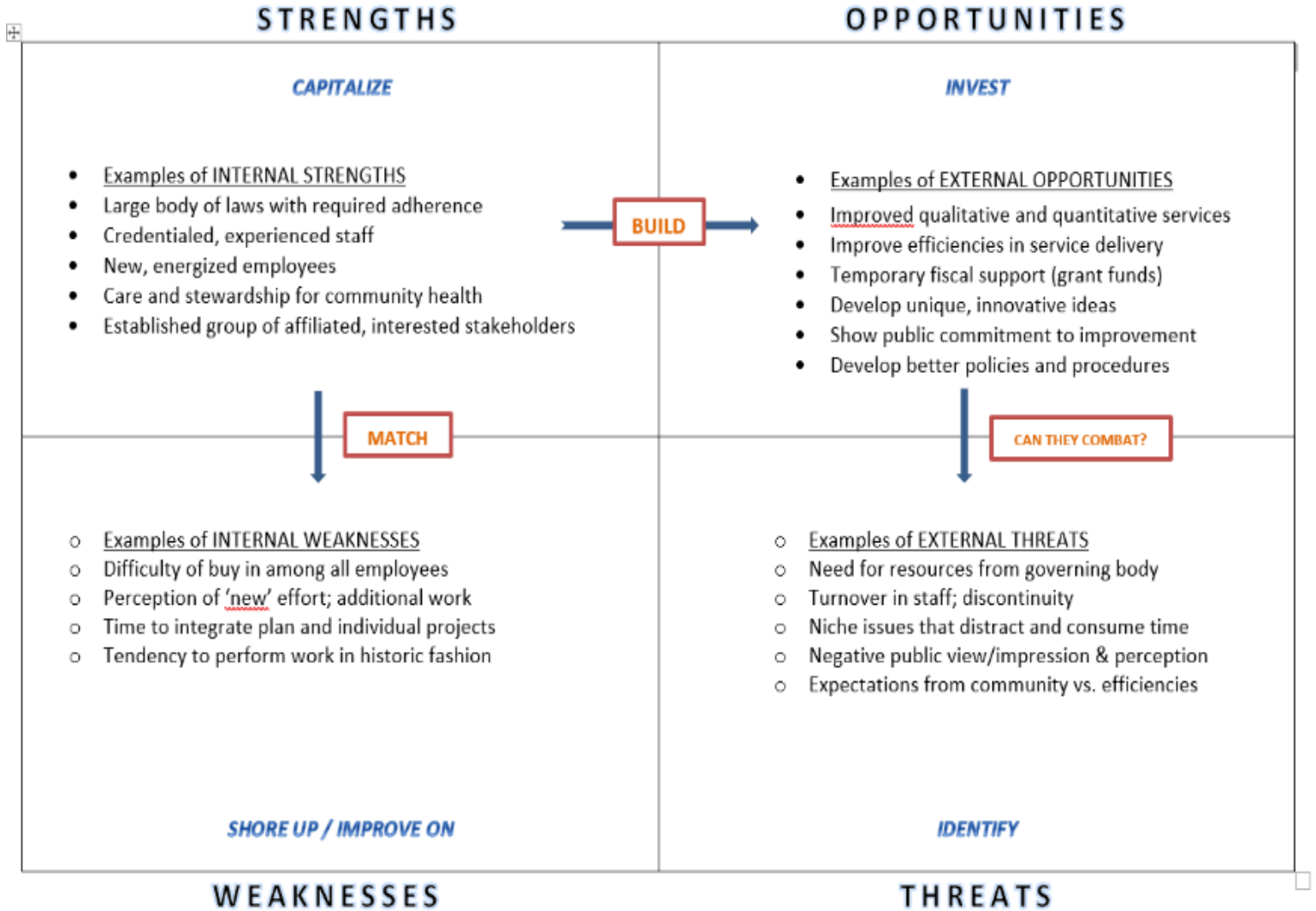
Student Name:	Peter N. Tabbot	Capstone Project:	Developing an Evidence-Based, Replicable Continuous Quality Improvement (CQI) Plan for the Rockaway Township Division of Health.
Problem Statement:	The Division strives to realize greater efficiencies in its delivery of services to the public, and will develop a continuous quality improvement plan to address this.	Goal:	This project is designed to become more efficient, improve services and create a culture of quality improvement among staff, while creating a replicable template.

Inputs	Outputs			Outcomes - Impact		
	Participants	Activities	Direct Products	Short	Medium	Long
What is invested?	Self	Develop evidence base of CQI	Current, relevant policies	Overall CQI plan	Buy in from staff for enhanced efficiencies	Culture of quality improvement
Employee Time	Supervisors	Perform evaluation of existing plans	Overall CQI plan	Template for QI processes	Produce measurable data/deliverables	Increased productivity
Cross-jurisdictional collaboration	Employees	Establish quality improvement team	Efficiencies in work and services	Greater collaboration among staff	Perform specific QI processes	Better serve the public
Key stakeholders	Boards of health, Mayors, Councils	Determine priority areas for CQI initiatives	Template for CQI process	Establish baseline information		
Administrative and governing body cooperation	Business community					
	Residential community					
Assumptions: An effective continuous quality improvement process will streamline work, increase efficiencies among staff and the organization, and increase public satisfaction with services.			External Factors: A well-constructed continuous quality improvement plan will be well utilized by new hires, and will create a usable model for programs and projects that benefit the larger community.			

Appendix H: CQI Project Flow Chart



Appendix I: CQI Project S.W.O.T. Analysis



**Appendix I: Rockaway Township Division of Health
Continuous Quality Improvement Plan**

Rockaway Township

Division of Health

Continuous Quality Improvement Plan

2023

Adopted on: _____

65 Mt. Hope Road, Rockaway NJ 07045

973-983-2848

health@rockawaytownship.org

The Rockaway Township Division of Health Continuous Quality Improvement (CQI) Plan meets the approval of the Health Officer and Board of Health and is hereby approved.

This CQI Plan supersedes any previously written CQI Plans.

Peter N. Tabbot
Rockaway Township Health Officer

Date

Date	Revision Number	Description of Change	Pages Affected	Reviewed or Changed by
9-18-23	1	General formatting and editing	All	PNT
11-13-23	2	Approval of final draft plan	All	PNT & Div. of Health staff

For questions about this plan, please contact:

Peter N. Tabbot, Rockaway Township Health Officer
ptabbot@rockawaytownship.org
973-983-2848

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Section 1: Introduction

Background

The Rockaway Township Division of Health (RTDH) recognizes that continuous quality improvement (CQI) is a never-ending quest to improve processes by identifying root causes of problems. Process improvement involves making gradual improvements in everyday processes to reduce variation and redundancies, improve quality of services, and increase customer satisfaction. There are many models used for CQI. The most widely used improvement process model in public health today, and the one used by the Rockaway Township Division of Health, is successive PDSA (Plan, Do, Study, Act) cycles.

Continuous Quality Improvement is a concept that has always been practiced in an informal fashion at RTDH. In 2017, the health officer developed an incomplete CQI instrument. Staff meetings were conducted to discuss the plan, process, procedures and forms used, and simple examples were provided – but the CQI process was not implemented and no further progress was made at this time. At the same time the CQI process was begun and postponed, the Health Officer, the Public Health Nurse Supervisor and a graduate intern crafted the RTDH workforce development plan. The workforce development plan, along with this CQI plan and several other foundational guides, serve as prerequisites to national public health accreditation.

Key Terms

To ensure the effectiveness and use of this plan across the department it is important that common terms and acronyms are identified and defined.

- **Aim Statement:** a concise, specific written statement that defines what the team hopes to accomplish with its CQI efforts. It includes a numerical measure for the future target; it is time specific and measurable, and it defines the specific population that will be affected; may lead to the improvement theory in PDSA cycle.
- **Baseline Measurement:** the beginning point, based on an evaluation of output over a period, used to determine the process parameters prior to any improvement effort; the basis against which change is measured.
- **Best Practice:** a superior method of innovative practice that contributes to the improved performance of an organization, usually recognized as best by other peer organizations.
- **Brainstorming:** a technique teams use to generate ideas on a particular subject. Each person on the team is asked to think creatively and write down as many ideas as possible. The ideas are not discussed or reviewed until after the brainstorming session.

- **Customer:**
 - **External:** a person or organization that receives a product, service or information but is not part of the organization supplying it.
 - **Internal:** the recipient (person or department) within an organization of another person's or department's output (product, service, or information).
- **Cycle:** a sequence of operations repeated regularly.
- **Effect:** the result of an action being taken; the expected or predicted impact when an action is to be taken or is proposed.
- **Evaluation:** a systematic collection of information about the activities, characteristics and outcomes of programs designed to make judgments about the program or to improve the program effectiveness. A tool for making informed decisions about future program development.
- **Flowchart:** a graphical representation of the steps in a process. Flowcharts are drawn to better understand processes.
- **Goal:** a broad statement that describes a desired future condition or achievement without being specific about how and when.
- **Improvement:** the positive effect of a process change effort.
- **Objective(s):** step(s) to be taken in pursuit of a goal; outline(s) in measurable terms the specific changes that will occur in the target population at a given point in time because of exposure to the service, process, program or intervention.
- **Plan, Do, Study, Act (PDSA) Cycle:** a four-step cycle for carrying out change in a CQI process.
- **Quality Improvement (CQI):** refers to the establishment of a program to manage change and achieve enhancement of public health policies, programs or infrastructure, based on performance standards, measures and reports.
- **Quality Improvement (CQI) Tools:** tools designed to assist a team when solving a defined problem or project. Tools will help the team get a better understanding of a problem or process they are investigating or analyzing. General CQI tools identified by RTDH are included in this plan. Additional CQI tools may be in:

- *Public Health Quality Improvement Encyclopedia*; Moran & Duffy, 2012
- *The Public Health CQI Handbook*; Bialek 2009
- *The Public Health Memory Jogger II: A Pocket Guide of Tools for Continuous Improvement and Effective Planning*; Brassard et al, 2007
- **Rapid Cycle Improvement:** an improvement process based on the Plan-Do Study-Act (PDSA) model. The Rapid Cycle Improvement model entails four steps: set the aim (goal), define the measures (expected outcomes), make changes (action plan) and test changes (solution). The concept behind RCI is to try to change an idea on a small scale to see how it works; then modify it and try it again until it works well for staff and customers and becomes a permanent improvement.
- **S.M.A.R.T.I.E. Format of Evaluation:** acronym used to ensure evaluation and research objectives are specific, measurable, achievable, realistic, time limited, inclusive and equitable.
- **Stakeholder:** any individual, group or organization that will have a significant impact on or will be significantly impacted by the quality of a specific product or service.
- **Storyboard:** graphic representation (using simple, clear statements, pictures and graphs) of a CQI team's quality improvement journey.

CQI Principles

CQI is a systematic approach to assessing services and improving them on a priority and ongoing basis. RTDH's approach to CQI is based on the following principles:

- **Customer Focus:** high quality agencies focus on their internal and external customers and on meeting or exceeding needs and expectations.
- **Employee Empowerment:** effective programs involve people at all levels of the organization in improving quality.
- **Leadership Involvement:** strong leadership, direction, and support of CQI activities by the Board of Health are key to performance improvement. This involvement of departmental leadership assures that CQI initiatives are consistent with our mission and strategic plan.

- **Data Informed Practice:** successful CQI processes create feedback loops, using data to inform practice and measure results. Fact-based decisions are likely to be correct decisions.
- **Prevention over Correction:** continuous CQI entities seek to design good processes to achieve excellent outcomes rather than fix processes after the fact.
- **Continuous Improvement:** processes must be continually reviewed and improved. Small incremental changes do make an impact, and providers can almost always find an opportunity to make things better.

Continuous Quality Improvement (CQI)

CQI activities emerge from a systematic and organized framework. This framework, adopted by the department, is understood, accepted and utilized throughout the organization because of continuous education and involvement of staff at all levels. CQI involves two primary activities:

- Measuring and assessing performance objectives through the collection and analysis of data.
- Conducting CQI initiatives and acting where indicated, including the design of new services and/or improvement of existing services.

Prioritization of Projects

The CQI Team will prioritize potential projects for implementation based on information from the following sources:

1. Opportunities for improvement identified by Public Health Accreditation Board (PHAB) or local governing body (i.e. Board of Health {BOH}, Administration, Council etc.)
2. Official After-Action Report Improvement Plan
3. Findings from NJDOH and/or programmatic audits (i.e. NJDOH VFC audit)
4. Data analysis of current services, processes, programs, and protocols
5. Customer/ participant satisfaction surveys
6. Departmental meetings

Section 2: Leadership & Functions

The key to success with the Continuous CQI process is leadership. The following describes the role of the RTDH leadership to provide support to CQI activities.

Board of Health

The Board of Health (BOH) provides leadership, support, and resources for CQI initiatives by establishing CQI as a priority.

Board of Health members will receive CQI information and updates as applicable at monthly Board of Health meetings, and in the Annual Division of Health Report, which is presented publicly each year at a Township Council meeting, at a Board of Health meeting and which is posted on the RTDH page of the Rockaway Township website.

CQI Supervisors

RTDH Supervisors provide leadership, support and resources for CQI initiatives by:

1. Promoting utilization of CQI
2. Identifying potential CQI projects
3. Approving CQI Projects in their service area
4. Participating in CQI projects
5. Scheduling staff time for projects
6. Updating BOH and all departmental staff

CQI Supervisors include:

- The Health Officer
- The Program Development Specialist
- The Public Health Nurse (Supervisor)

CQI Team Leaders

CQI Team Leaders are appointed annually by department Supervisors. The Team Leaders provide ongoing operational leadership of CQI activities and are rotated every two years. Through planned quarterly meetings and shared communication approaches, leaders ensure that the CQI process is continuous. Functions of Team Leaders are as follows:

1. Direct selection of projects
2. Develop and implement CQI activities
3. Set yearly CQI goals and objectives
4. Communicate results of CQI initiatives

CQI Team Leaders for 2023-2024 include:

Jeanne Kraemer	Administration Team Leader
Carrie LaRose	Nursing Team Leader
Zerlina MacDonald	Environmental Health Team Leader
Brittany Bernstein	Community Health Education/Social Services Team Leader

Section 3: CQI Process Summary

RTDH recognizes that there are costs to everything one does or does not do. Until complete satisfaction is reached with public health funding levels and accomplishments, staff should continually seek quality improvements that reduce costs and improve outcomes. CQI methods can help document evidenced-based costs, identify outcomes of activities, and provide ways to make improvements that will ultimately improve the health of all and meet the expectations of customers. When conducting CQI activities, the primary focus involves a process, program, protocol, or service that can be improved.

Project Selection

CQI projects are selected based on data obtained from customer satisfaction surveys, event/program evaluations, staff surveys, the community health assessment and improvement plan, strategic goals, policies/protocols, after action reports, compliance issues and measures within the departmental performance management system.

The suggestion for a CQI project may originate from various sources:

1. Anyone in the department can suggest a potential CQI project by submitting a **CQI Project Suggestion Form (Appendix B)**.
2. Supervisors and/or team leader may make suggestions for projects; feasibility of these ideas may be explored at CQI quarterly meetings.
3. Customer/participant satisfaction surveys – satisfaction surveys are requested from participants following RTDH programs/ presentations/ clinics/ outreach events. Results are gathered via paper surveys or online surveying tools (i.e. Survey Monkey, Survey Planet, etc.). Suggestions considered feasible and/or worthy of exploration are then recommended to the respective service area.

The CQI team will review/use the CQI Project Suggestion Form and any recommendations from Supervisors to make decisions of what projects will be selected. The selected project will align with the department's vision, mission, and strategic goals. Following communication with the CQI team, team leaders will complete the PDSA worksheet (Appendix C).

Project Implementation

The purpose of a CQI project is to improve the performance of an existing process, program, protocol, or service. The model utilized by RTDH is called Plan-Do-Study-Act (PDSA) and is described as follows:

- **Plan** – There are several steps in the planning stage:
 1. Assemble a CQI team – the team will consist of staff that will be directly affected by the outcomes of the project. For example, the Environmental CQI team will consist of employees from this the Environmental service area.

2. Identify the problem – identify opportunities/priorities that are meaningful and are identified by staff as an issue; should be supported by data.
 3. Utilize the **PDSA worksheet (Appendix D)** to document all decisions related to the project.
 - a. Develop/discuss an aim statement – What? How much? By when? For whom? Describe the current process using a flow chart, process map, or other appropriate CQI tools. The aim statement can go on to inform the improvement theory.
 - b. Identify root causes and potential solutions. Teams may choose to brainstorm using CQI tools such as the 5 whys (Appendix C).
 - c. Develop an improvement theory – if we do X, then Y will happen.
- **Do** – take small steps to implement the solution on a limited scale, collecting data along the way. This is a time to test the plan for a limited time, on a limited basis, and in a limited area. Follow the plan carefully to ensure minimal deviation. The goal is to show whether the change is effective and to avoid widespread failure if it is not. Data should be collated prior to moving on to the next step.
 - **Study/Check** – take time to determine if measurements used to determine success are adequate. If not, define required measurements and how/where data can be found or developed. Analyze the data and assess for success or unexpected outcomes.
 - **Act** – if the change resulted in the desired outcome, it can be fully adopted by standardizing and/or expanding it to other areas of the agency. If some improvement resulted, adapt the change to achieve desired outcome and begin the PDSA cycle over again. If the change did not result in improvement, abandon it and begin the PDSA cycle again.

Project Summation & Communication

Once the project is complete, each team leader completes a summative/ evaluation report or a storyboard. This will be shared with leadership, and BOH members to assess CQI projects.

Results of CQI projects and performance measures will be shared throughout the department and among stakeholders to encourage the department's quality culture. Opportunities to share and fully engage staff/stakeholders include: Staff meetings; Community Health Impact meetings (with stakeholders); Informally through story boards and celebrations of completed projects: VMSG Dashboard Public Health Performance Management System; and on the Division of Health server under shared docs.

When appropriate, results of quality improvement initiatives will be communicated to the public through electronic newsletters, departmental newsletters, department website, and social media posts.

Section 4: Performance Management System

The CQI Supervisors identify and define general goals and specific objectives to be accomplished each year. These goals include training of administrative, environmental, human services and nursing staff regarding both continuous CQI principles and specific quality improvement initiative(s). Progress in meeting these goals and objectives is an important part of the annual evaluation of CQI activities.

VMSG Dashboard

RTDH utilizes a performance management system – the Vision, Mission, Services & Goals (VMSG) Dashboard – to align and integrate the department’s approach to improving results through evidence-based decision-making, continuous organizational learning, and performance improvement. The department’s strategic plan is the primary driver of the performance management system.

VMSG enables the department to integrate all aspects of management, policymaking, and transformative processes, allowing the department to focus on achieving improved results and better health outcomes. Following project selection and updates to BOH, the CQI plan goals and objectives are input as measures into the VMSG dashboard. This system is then utilized to steer and guide quality improvement in the health department.

The CQI teams implement a set of process(es) to assess the effectiveness of their project performance measures. Performance measures enable RTDH to understand: (i) if the department is improving the health of Rockaway Township residents, and (ii) if service areas are implementing efficient and effective processes and programs. The VMSG Dashboard is used by CQI teams to guide their respective projects throughout the entire project timeline:

- First, each CQI team chooses a project based on data review.
- The previous year’s baseline is then placed into the VMSG Dashboard along with project goals, objectives, and performance measures.
- Quarterly performance measure updates and progress made about baseline data and objectives are input into the VMSG Dashboard.
- Quarterly, each team completes a Plan-Do- Study-Act (PDSA) worksheet indicating status of measure milestones; these are uploaded and tracked in VMSG.

The performance management system is utilized to review project progress quarterly by CQI Supervisors. The VMSG dashboard is logged into and consulted during Supervisors and CQI meetings. Recommendations that come out of these meeting sessions and directly from service area clients will inform any modifications made to projects; this will be reflected with relevant updates/ comments to the VMSG Dashboard. In this manner, the department’s performance management system monitors, informs, and guides CQI project completion. RTDH has developed **The CQI Method Flow Chart (Appendix A)** to provide staff with the path to the CQI process.

Goals and Objectives

Below are the Goals and Objectives of the plan. Service area-specific projects are included on the VMSG performance management system on a rolling basis. Refer to the VMSG dashboard for up-to-date project goals and objectives.

Goal 1: All CQI Projects comply with the CQI plan's processes.

Objective 1a: Using the VMSG dashboard, the health officer and Program Development Specialist verifies the project selection form has been used by each service area team associated with each project on a quarterly basis.

Objective 1b: Using the VMSG dashboard, the health officer verifies the PDSA form is completed for each step of the CQI project on a quarterly basis.

Objective 1c: Using the VMSG dashboard, the health officer verifies the CQI team meeting minutes are uploaded into VMSG on a quarterly basis.

Objective 1d: Each CQI team will complete a story board for their completed CQI projects at the time the project is considered complete.

Objective 1e: The health officer or designee will share approved storyboards with the community via the Township Website and social media platforms on a quarterly basis.

Goal 2: the Performance Management Team (PMT) will meet regularly to establish an efficient CQI project review process.

Objective 2a: the PMT meets 4 times a year.

Objective 2b: the PMT utilizes agendas at 100% of their quarterly meetings.

Objective 2c: the PMT reviews the VMSG dashboard CQI project reports at 100% of their quarterly meetings.

Objective 2d: the PMT provides a written report of each CQI project review at 100% of their quarterly meetings.

Goal 3: All CQI projects will include an equitable and inclusive approach

Objective 3a: 100% of CQI project selection forms will include a discussion of inclusivity and equity.

Objective 3b: 100% of CQI project PDSA forms will consider how the project is considering equitable and inclusive outcomes.

Objective 3c: 100% of CQI project story boards will consider the impact on equity and inclusion.

Goal 4: Complete 2 CQI projects per year
Objective 4a: A minimum of 1 should be related to internal (administrative) processes
Objective 4b: A minimum of 1 should be programmatic in nature
Objective 4c: 100% of completed projects have utilized all required documents have been uploaded to VMSG and shared with stakeholders and community via the website

Each CQI team's ongoing CQI project's goals and objectives will also be monitored using the Performance Management System. Immediately following the "Planning" in the initial project meeting, goals and objectives must be input into VMSG.

Section 5 – Evaluation

An evaluation is completed at the end of each calendar year and a VMSG report (with details regarding progress on project goals and objectives) will be presented to the Council (BOH) annually. The annual evaluation is conducted by RTDH t and is kept on file along with the CQI Plan.

The evaluation summarizes the goals and objectives of RTDH's CQI Plan along with the CQI activities conducted during the past year. This includes the targeted process, the performance indicators utilized, the findings of the measurement, data assessment and analysis processes, and the CQI initiatives taken in response to the findings.

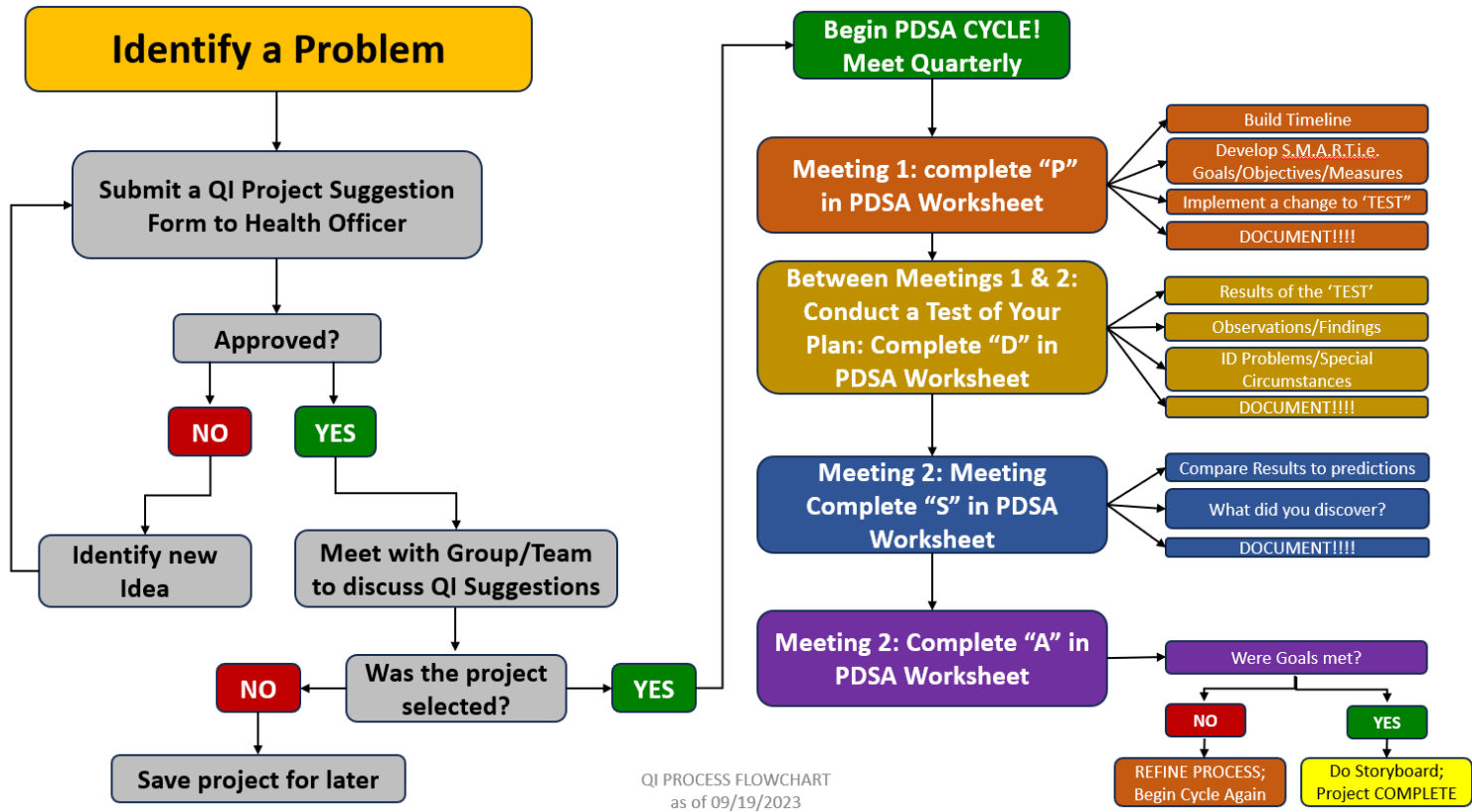
Evaluation components include:

- Summarize the progress towards meeting each annual goal/objective.
- Complete process and summative evaluations for each objective.

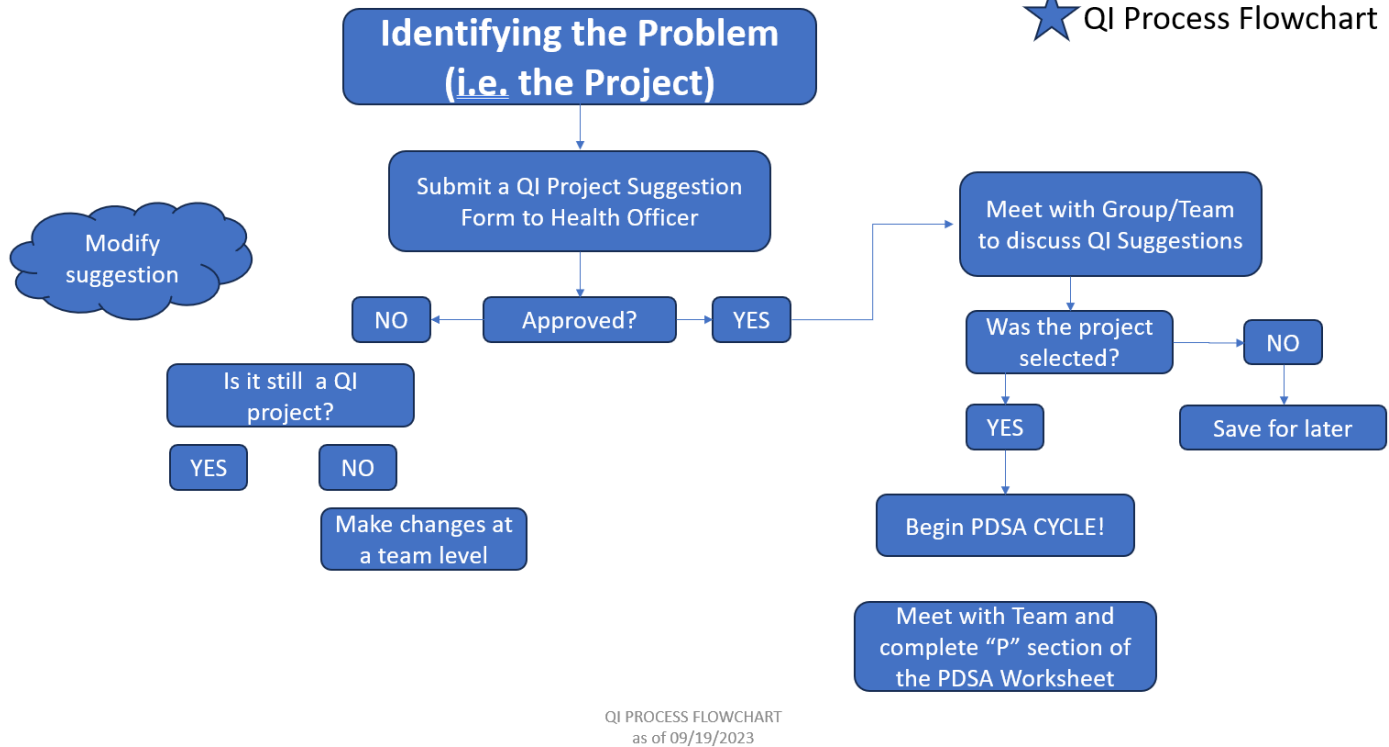
Section 6 – Training

Training for CQI proficiency for Department staff will be conducted annually according to the workforce development plan training schedule. Additionally, all RTDH staff shall be trained and oriented to this CQI plan.

Appendix A: The CQI Method Flow Chart



★ QI Process Flowchart



Appendix B: CQI Project Suggestion Form

Name: _____ Division/Service Area: _____

Date: _____

Please provide a brief description of the project:

INSERT TEXT HERE:

I believe this suggestion will: (check all that apply)

☐ Improve Productivity/ Quality ☐ Improve Methods/Procedures ☐ Save Cost

☐ Increase Revenue ☐ Improve Customer Service ☐ Other:

Explain how your idea will benefit our organization:

INSERT TEXT HERE:

☐ Comments: _____

Reviewed by: _____

Date: _____

Appendix C: Five Why's Template

What Is a Five Why's Template?

A Five Whys template provides a structured format for conducting the analysis. The template typically includes a series of questions to guide you through the process of identifying the root cause of the problem at hand. A basic Five Whys template might look something like this:

- What is the problem?
- Why did the problem occur?
- Why did the reason in question 2 happen?
- Why did the reason in question 3 happen?
- Why did the reason in question 4 happen?

Thanks to the iterative nature of the model and by answering these questions in sequence, you can trace the problem back to its root cause and develop effective solutions to address it. You may include additional questions or tailor the template to align with specific types of problems and requirements.

Five Why's Analysis Example:

Here is an example of applying the Five Whys:

Problem: We didn't send the newsletter about the latest software updates on time.

Questions:

1. Why didn't we send the newsletter on time? Updates were not implemented until the deadline.
2. Why were the updates not implemented on time? Because the developers were still working on the new features.
3. Why were the developers still working on the new features? One of the new developers didn't know the procedures.
4. Why was the new developer unfamiliar with procedures? He was not trained properly.
5. Why was he not trained properly? Because CTO believes that new employees don't need thorough training and they should learn while working.

You can notice that the root cause of the initial problem turned out to be something completely different from most expectations.

Further, it is obvious that it is not a technological but a process problem. This is typical because we often focus on the product part of the problem as we neglect the human factor. Therefore, the *5 Whys analysis aims to inspect a certain problem in depth until it shows you the real cause.*

Keep in mind that "5" is just a number. Ask "Why" as many times as you need to complete the process and take appropriate actions.

Appendix D: Plan - Do - Study - Act Worksheet

This worksheet is to be utilized by each CQI Team during their quarterly meetings. Ideally, each part of the cycle is an agenda item.

 PLAN . DO . STUDY . ACT Model for Improvement PDSA Planning Worksheet 	
Project/ Team Name:	
Cycle Identification:	
Cycle Start Date:	Cycle End Date:
PLAN: PROTOTYPE COMPONENT – LEARNING Describe the change you are testing and state the question you want this test to answer: What do you predict the result will be? What measure will you use to learn if this test is successful or has a problem? Plan for change or test: who, what, when, where? Data collection plan: who, what, when, where?	

DO: REPORT WHAT HAPPENED WHEN YOU CARRIED OUT THE TEST
Describe observations, findings, problems encountered, special circumstances.

STUDY: COMPARE YOUR RESULTS TO YOUR PREDICTIONS
What did you learn? Any surprises?

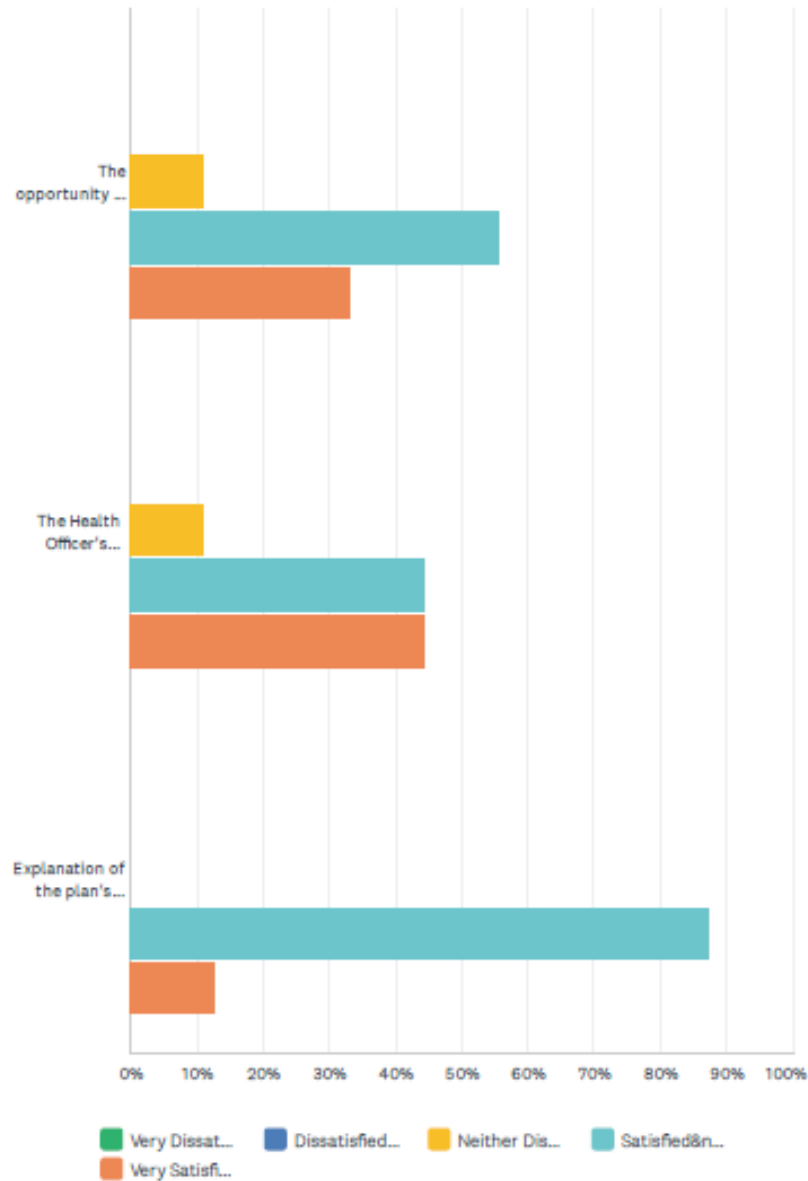
ACT: MODIFICATIONS OR REFINEMENTS FOR NEXT STUDY CYCLE
What will you do next?

Appendix J: Continuous Quality Improvement Process Feedback Survey

Continuous Quality Improvement Process Feedback

Q1 How satisfied are you with the Quality Improvement Planning process so far?

Answered: 9 Skipped: 0



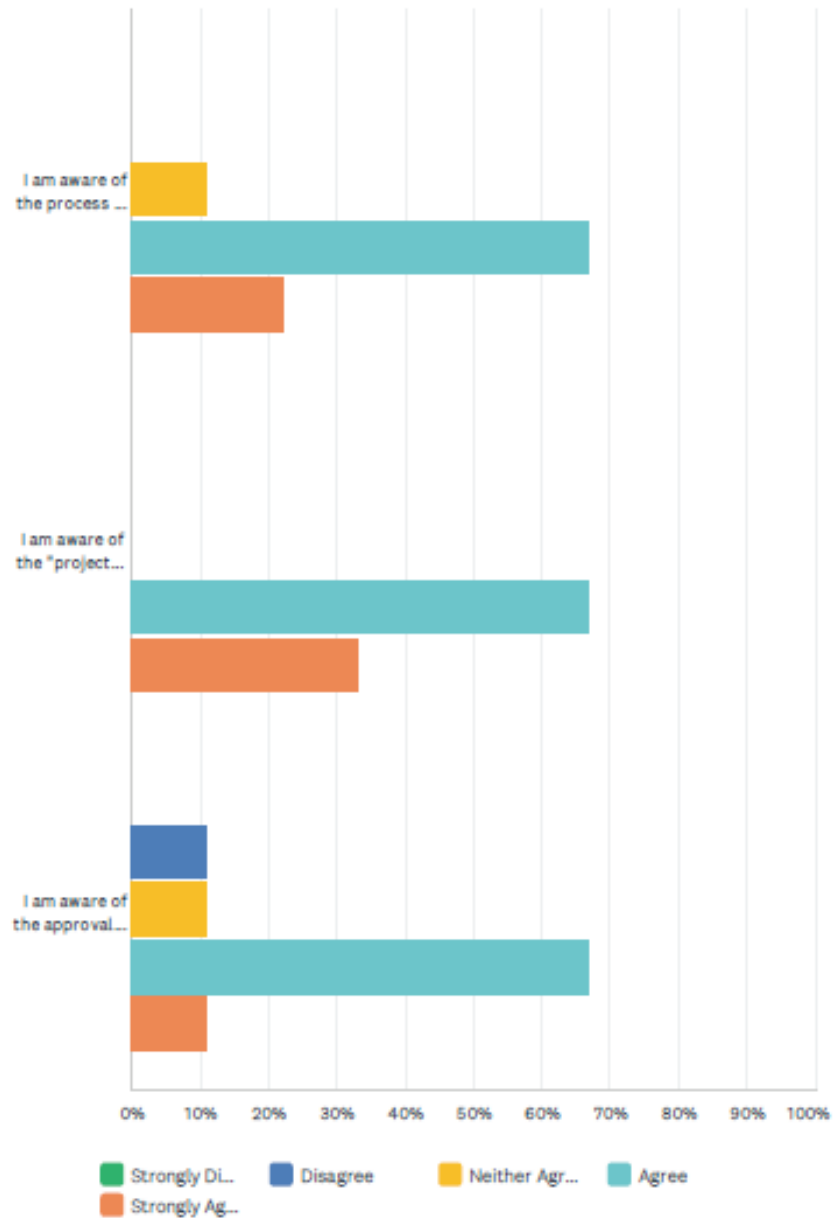
Continuous Quality Improvement Process Feedback

	VERY DISSATISFIED	DISSATISFIED	NEITHER DISSATISFIED OR SATISFIED	SATISFIED	VERY SATISFIED	TOTAL	WEIGHTED AVERAGE
The opportunity for input during the QI Plan draft review.	0.00% 0	0.00% 0	11.11% 1	55.56% 5	33.33% 3	9	4.22
The Health Officer's willingness to incorporate feedback into the QI Plan draft.	0.00% 0	0.00% 0	11.11% 1	44.44% 4	44.44% 4	9	4.33
Explanation of the plan's components were clearly conveyed.	0.00% 0	0.00% 0	0.00% 0	87.50% 7	12.50% 1	8	4.13

Continuous Quality Improvement Process Feedback

Q2 QI Project Selection

Answered: 9 Skipped: 0



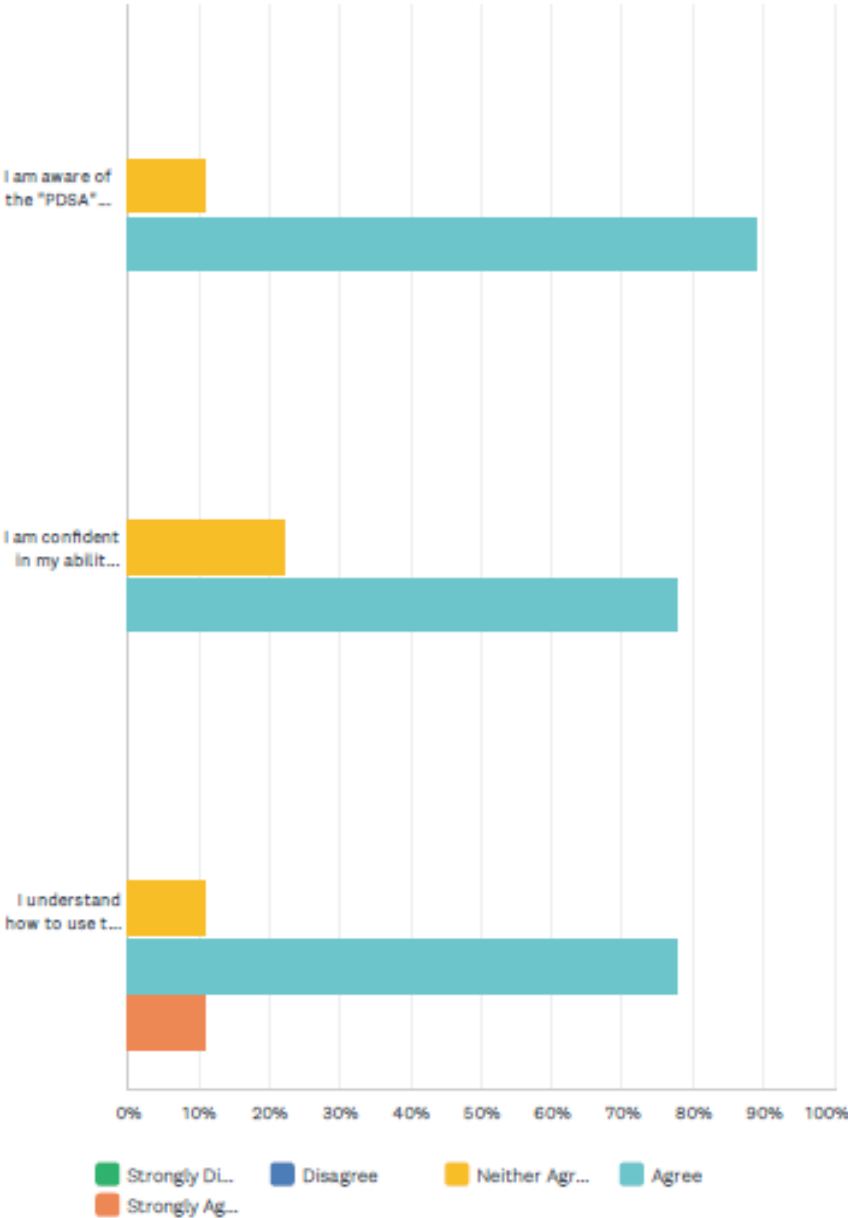
Continuous Quality Improvement Process Feedback

	STRONGLY DISAGREE	DISAGREE	NEITHER AGREE OR DISAGREE	AGREE	STRONGLY AGREE	TOTAL	WEIGHTED AVERAGE
I am aware of the process on how to identify and propose a potential QI project.	0.00% 0	0.00% 0	11.11% 1	66.67% 6	22.22% 2	9	4.11
I am aware of the "project suggestion form" and how to use it.	0.00% 0	0.00% 0	0.00% 0	66.67% 6	33.33% 3	9	4.33
I am aware of the approval process for a suggested QI project.	0.00% 0	11.11% 1	11.11% 1	66.67% 6	11.11% 1	9	3.78

Continuous Quality Improvement Process Feedback

Q3 Plan, Do, Study, Act (PDSA)

Answered: 9 Skipped: 0



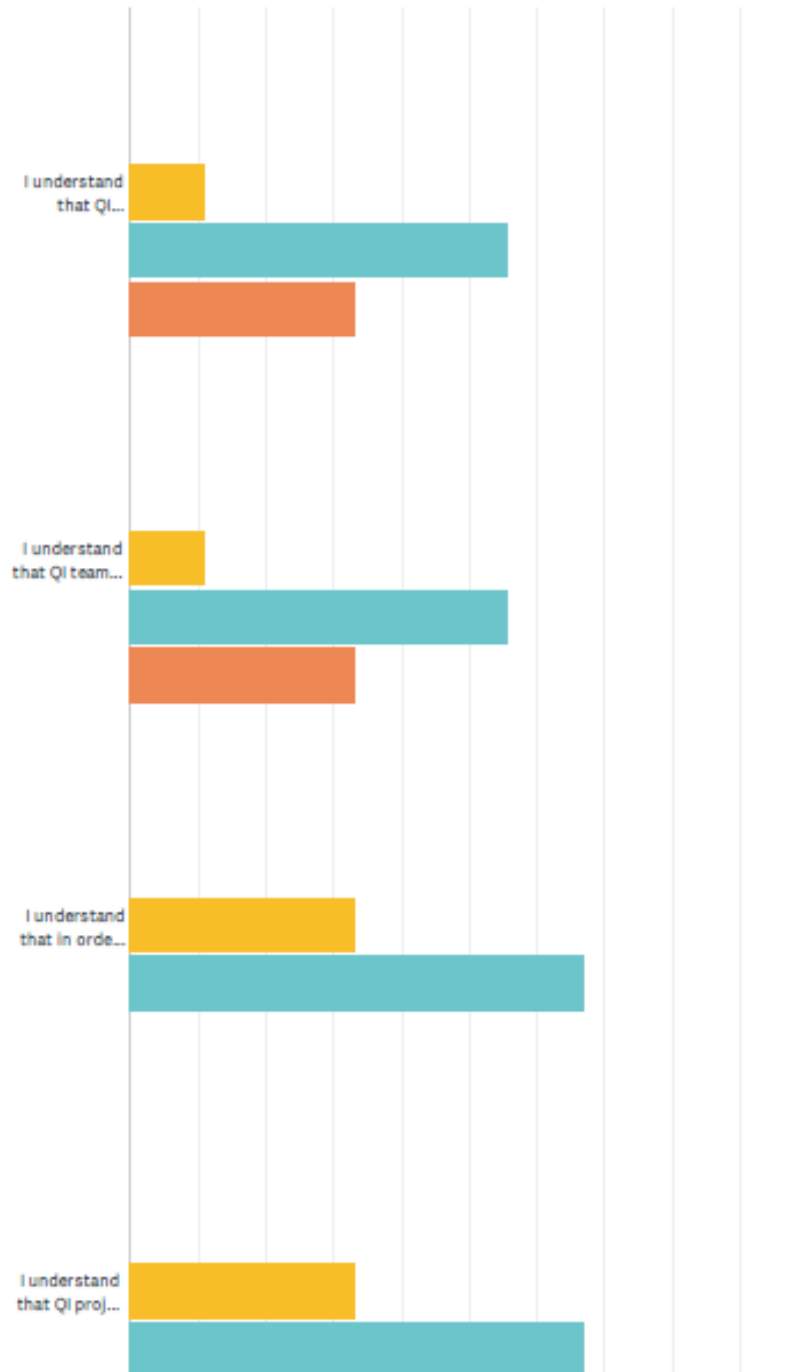
Continuous Quality Improvement Process Feedback

	STRONGLY DISAGREE	DISAGREE	NEITHER AGREE OR DISAGREE	AGREE	STRONGLY AGREE	TOTAL	WEIGHTED AVERAGE
I am aware of the "PDSA" cycle and it's importance in the QI process.	0.00% 0	0.00% 0	11.11% 1	88.89% 8	0.00% 0	9	3.89
I am confident in my ability to use the "PDSA" worksheet during my QI project process.	0.00% 0	0.00% 0	22.22% 2	77.78% 7	0.00% 0	9	3.78
I understand how to use the "5 Why's" in order to create QI project goals.	0.00% 0	0.00% 0	11.11% 1	77.78% 7	11.11% 1	9	4.00

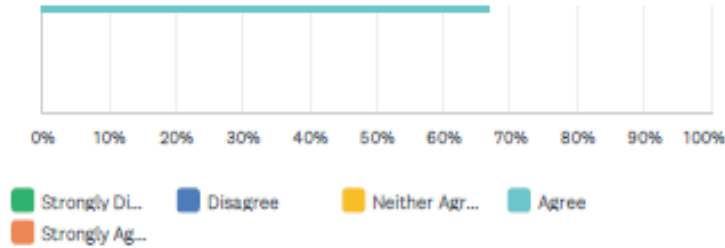
Continuous Quality Improvement Process Feedback

Q4 QI Plan Goals

Answered: 9 Skipped: 0



Continuous Quality Improvement Process Feedback

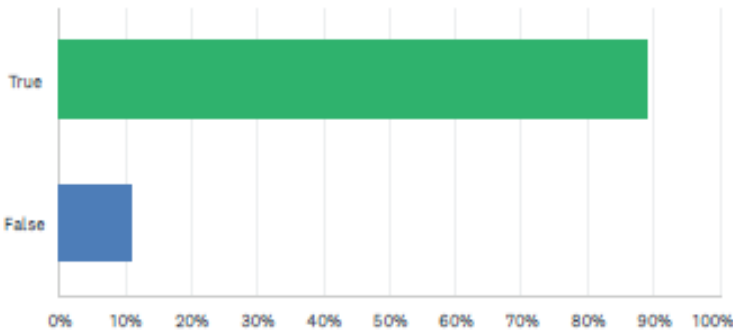


	STRONGLY DISAGREE	DISAGREE	NEITHER AGREE OR DISAGREE	AGREE	STRONGLY AGREE	TOTAL	WEIGHTED AVERAGE
I understand that QI projects are to be completed in collaboration with my service area team.	0.00% 0	0.00% 0	11.11% 1	55.56% 5	33.33% 3	9	4.22
I understand that QI teams are required to meet quarterly to review their QI project's PDSA cycle.	0.00% 0	0.00% 0	11.11% 1	55.56% 5	33.33% 3	9	4.22
I understand that in order to call my QI project "complete," a story board must be completed.	0.00% 0	0.00% 0	33.33% 3	66.67% 6	0.00% 0	9	3.67
I understand that QI project process goals and objectives will be reviewed by the QI Lead Team via the Performance Management System.	0.00% 0	0.00% 0	33.33% 3	66.67% 6	0.00% 0	9	3.67

Continuous Quality Improvement Process Feedback

Q5 I understand the necessity of working through the "5 Why's" with my QI team once a project suggestion is approved by the Health Officer.

Answered: 9 Skipped: 0

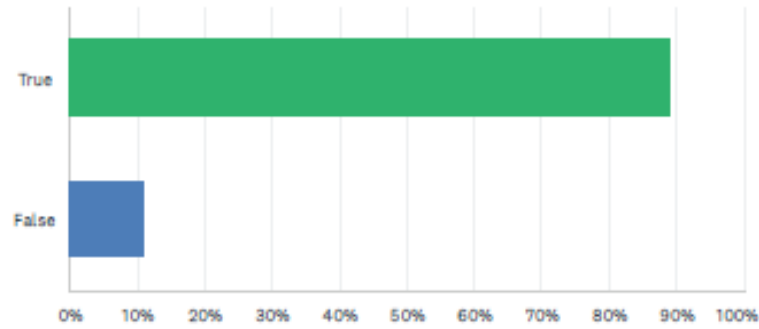


ANSWER CHOICES	RESPONSES	
True	88.89%	8
False	11.11%	1
TOTAL		9

Continuous Quality Improvement Process Feedback

Q6 I understand that Continuous Quality Improvement (CQI) is a cycle of constant evaluation.

Answered: 9 Skipped: 0

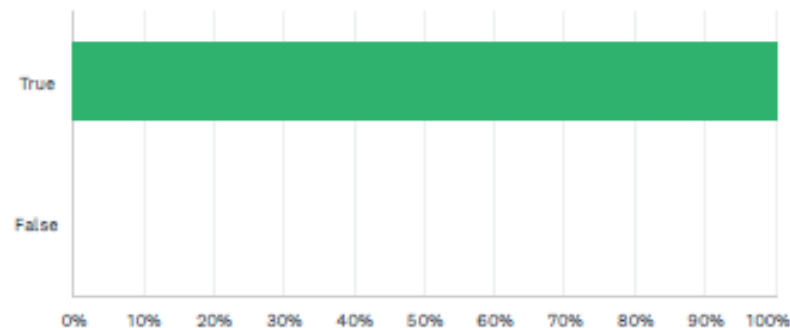


ANSWER CHOICES	RESPONSES	
True	88.89%	8
False	11.11%	1
TOTAL		9

Continuous Quality Improvement Process Feedback

Q7 I understand that baseline data is necessary in order to create measurable QI project goals.

Answered: 9 Skipped: 0



ANSWER CHOICES	RESPONSES	
True	100.00%	9
False	0.00%	0
TOTAL		9

Continuous Quality Improvement Process Feedback

Q8 Do you have any additional feedback about the Quality Improvement Planning process so far?

Answered: 1 Skipped: 8

**Appendix K: Rockaway Township Division of Health
Continuous Quality Improvement Plan Council Authorizing Resolution**

**TOWNSHIP OF ROCKAWAY
COUNTY OF MORRIS, STATE OF NEW JERSEY**

RESOLUTION NO. R-23-219

**RESOLUTION GRANTING AUTHORIZATION TO THE
ROCKAWAYTOWNSHIP DIVISION OF HEALTH TO IMPLEMENT A
FORMAL CONTINUOUS QUALITY IMPROVEMENT PLAN**

WHEREAS, the national Public Health Accreditation Board has a manual of Standards and Measures that, when met, would impart formal voluntary national public health accreditation to local and State health departments; and

WHEREAS, prerequisites to national public health accreditation require the creation and implementation of a Continuous Quality Improvement Plan, as one of five formal components in a health department's preparation for said national accreditation; and

WHEREAS, the Township of Rockaway's Health Officer, in collaboration with staff and a consulting Accreditation Coordinator, has drafted a Continuous Quality Improvement Plan and seeks the governing body's endorsement of this Continuous Quality Improvement Plan; and

WHEREAS, the Continuous Quality Improvement Plan was developed utilizing best practices and a public health evidence base appropriate for the communities that the Township of Rockaway Division of Health serves; and

WHEREAS, the Township of Rockaway Division of Health desires the formal endorsement of its Continuous Quality Improvement Plan by the Township Council of the Township of Rockaway.

NOW, THEREFORE, BE IT RESOLVED by the Township Council of the Township of Rockaway, County of Morris and State of New Jersey, as follows:

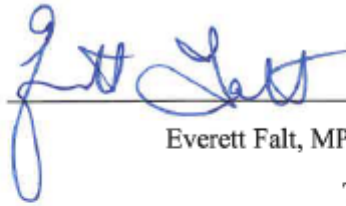
1. The Rockaway Township Division of Health's Continuous Quality Improvement Plan, attached hereto as **Exhibit A**, is hereby approved.
2. The Mayor and Clerk together with all other appropriate officers, employees,

consultants and professionals of the Township are hereby authorized and directed to take any and all steps necessary to effectuate the purposes of this resolution.

3. This Resolution shall take effect immediately.

CERTIFICATION

I, EVERETT FALT, DO HEREBY CERTIFY that this is a true copy of a Resolution adopted by the Township Council of the Township of Rockaway on December 12, 2023.



Everett Falt, MPA, RMC, CMC

Township Clerk

Approved:



Howard Kritz

Council President

RESOLUTION 23-219

Motion R. BROOKES

Second NOON

Roll Call AYE NOON, D. BROOKES, SACKETT, R. BROOKES, SALBERG,
WOJTOWICZ, PRESIDENT KRITZ
NAY NONE

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