THE BOARD OF SUPERVISORS OF THE COUNTY OF STANISLAUS
ACTION AGENDA SUMMARY

DEPT: Health Services Agency

BOARD AGENDA # B-22

Urgent ☐   Routine ■

AGENDA DATE March 31, 2015

CEO Concurs with Recommendation YES ■   NO ☐

4/5 Vote Required YES ☐   NO ■

(Information Attached)

SUBJECT:

Approval to Accept the Health Services Agency's 2015 Annual Public Health Report to the Board of Supervisors

STAFF RECOMMENDATIONS:

Accept the Health Services Agency's 2015 Annual Public Health Report to the Board of Supervisors.

FISCAL IMPACT:

The Final Adopted Fiscal Year 2014-2015 budget for the Public Health division of the Health Services Agency is $25,575,605. There is no fiscal impact associated with acceptance of this report.

BOARD ACTION AS FOLLOWS:

No. 2015-148

On motion of Supervisor _O'Brien_____ , Seconded by Supervisor _Chiesa_____
and approved by the following vote,
Ayes: Supervisors:_O'Brien, Chiesa, Monteith, De Martini, and Chairman Withrow_____
Noes: Supervisors:_____None_____
Excused or Absent: Supervisors:_None_____
Abstaining: Supervisor:_____None_____
1) _X___ Approved as recommended
2)_____ Denied
3)_____ Approved as amended
4)_____ Other:
MOTION:

ATTEST: CHRISTINE FERRARO TALLMAN, Clerk   File No.

DISCUSSION:

An annual Public Health report is presented to the Board of Supervisors each year by the Health Services Agency.

The mission of Public Health is to promote, protect and improve the health of the community through leadership, partnership, and innovation. The visions, goals and mandates are enumerated in the 10 Essential Public Health Services, and codified throughout the California Health and Safety Code.

This 2015 Public Health Report draws from the 10 Essential Public Health Services speaking specifically to 'Communicable Disease Prevention and Control'. The report highlights public health surveillance and the importance of achieving public health accreditation. These topics were specifically selected in light of the introduction and spread of highly communicable diseases throughout the US. One disease of note is Ebola. Ebola, for the first time ever, made its way onto the shores of western nations – countries that possess the most robust public health response plans in the world.

This past decade has seen the introduction of variant and novel strains of disease such as H1N1, pertussis, measles, mumps and other diseases which, only recently, were thought to have been controlled. The inconsistent application of public health measures such as immunizations, prompt reporting of diseases, and appropriate safeguards to prevent spread speaks to the continued need for communicable disease communication to health care providers and the community.

POLICY ISSUE:

The outcomes presented in the report are consistent with the Board's Mission of 'serving public interest by promoting public health' and the Board's priorities of 'A Healthy Community' and 'Effective Partnerships', as the report includes detailed approaches and outcomes, and how these meet short, medium and long-term goals.

STAFFING IMPACT:

There is no staffing impact associated with this report.

DEPARTMENT CONTACT:

Rebecca Nanyonjo, Associate Director (209) 558-7163.

2015 Stanislaus County Public Health Report

Presented to the

Stanislaus County Board of Supervisors

William O'Brien, District 1
Vito Chiesa, District 2
Terry Withrow, Chairman, District 3
Dick Monteith, Vice-Chairman, District 4
Jim DeMartini, District 5

April 2015

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What is Public Health?

The World Health Organization (WHO) defines the term public health as "all organized measures (whether public or private) to prevent disease, promote health, and prolong life among the population as a whole." Health is defined holistically as:

> *...a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity."*

> *World Health Organization, 1948*

According to the National Association of County and City Health Officials (NACCHO), the US public health system is composed of a web of public and private partners; led and coordinated by the public health department (Figure 1). The success of public health initiatives and programs relies on key partnerships, including those with hospitals, behavioral health, community services, private nonprofits, and business, with the goal of optimizing individual and community health and well-being. Removing obstacles to achieving health and well-being cannot fall under the purview of one single agency. A partial list of obstacles includes:

- Access to health care (e.g. insufficient health care providers per capita);
- Poor educational attainment;
- Poverty (i.e. inability to meet the basic needs of oneself and one's family); and
- Environmental barriers (e.g. lack of safe recreational areas, inability to purchase healthy food options).

Achieving better community outcomes requires a multi-disciplinary approach. In short, public health is a shared responsibility.

Figure 1: The US Public Health System
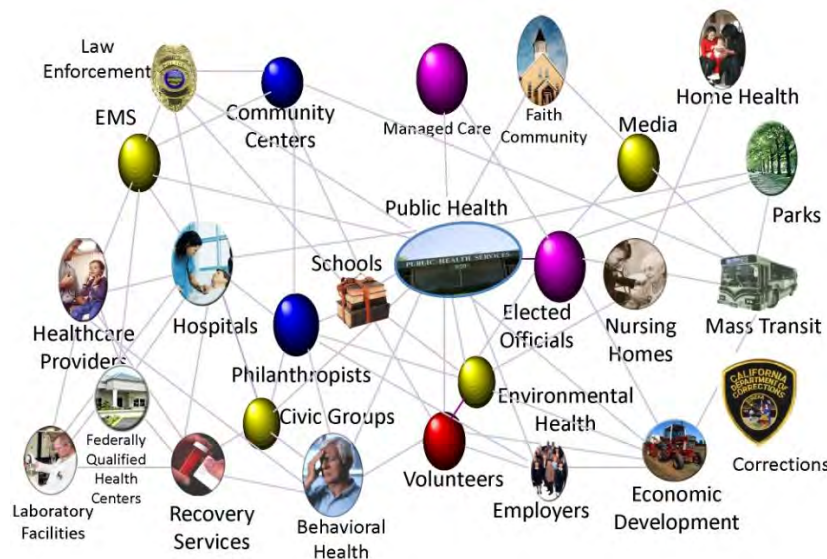
Foreword

Historically, Stanislaus County has consistently fared worse than other California counties in most economic metrics (e.g. unemployment, household income, educational attainment). The recent 'great recession' had a disproportionate impact on the San Joaquin Valley. As the County struggled with the recession, Health Services Agency/Public Health experienced leadership instability and significant loss in institutional knowledge.

In 2014, a new Associate Director of Public Health Services and Assistant Director/PH Nursing Director were hired. This led to a shift in how public health conducts business, with a premium on operational efficiencies, implementation of evidence-based practices and removal of the programmatic silos associated with traditional public health approaches. Also in 2014, Health Services Agency completed its 3-year strategic plan defining the Agency's plan to achieve the Board of Supervisors' priorities of 1) *a healthy community,* 2) *efficient delivery of public services,* and 3) *establishing effective partnerships.*

In 2014, work began on a public health division-specific strategic plan compliant with national accreditation requirements. A comprehensive evaluation was conducted to determine short, medium and long-term goals. The short-term goal (18- to 36-month horizon) included development of internal data systems to enable fact-based decision making. The attainment of Public Health Accreditation was selected as the medium-term goal (36-48 month horizon). The long-term goals (48+month horizon) identified were:

1) Bring the practice of PH in the county into the 21st century (e.g. latest methods, techniques, technology, focus areas and research into effective practices);
2) Improve community knowledge of and involvement in public health; and
3) Build effective partnerships with academic institutions to leverage resources and to effectively compete for increasingly scarce grant funding.

These goals draw from the 10 Essential Public Health Services, which are used for codifying the responsibilities of public health agencies and institutions. The 10 Essential Services, grouped into three core functions, are the backbone for the standards of the new national public health accreditation system (Table 1 and Figure 2).

Table 1: Ten Essential Public Health Services and Three Core Functions

Core Function	Essential Service
Assessment	1. Monitor health status to identify and solve community health problems
	2. Diagnose and investigate health problems and health hazards in the community
	3. Inform, educate, and empower people about health issues
Policy Development	4. Mobilize community partnerships and action to identify and solve health problems
	5. Develop policies and plans that support individual and community health efforts
	6. Enforce laws and regulations that protect health and ensure safety

Core Function	Essential Service
Assurance	7. Evaluate effectiveness, accessibility, and quality of personal and population-based health services
	8. Link people to needed personal health services and assure the provision of health care when otherwise unavailable
	9. Assure competent public and personal health care workforce
	10. Research for new insights and innovative solutions to health problems

Figure 2: Public Health Core Functions and Essential Services

This report focuses on communicable disease prevention and control activities. Subsequent annual reports based on the 10 Essential PH Services will focus on other areas as HSA/Public Health undergoes the national public health accreditation process.

We hope the information presented in this annual board report highlights the importance of public health in achieving the Board's priorities and in improving the health and well-being of all residents of Stanislaus County.

Sincerely,

John Walker, MD
Public Health Officer

Rebecca Nanyonjo, DrPH
Public Health Director

Communicable Disease Prevention and Control

Overview and History

Communicable diseases, sometimes called infectious diseases, are defined as conditions caused by microorganisms and spread from one person to another (directly or indirectly) or from an animal to a person. The purpose of communicable disease prevention and control is to promptly identify, prevent and stop further transmission of contagious diseases that pose a threat to public health, including emerging (e.g. Middle East Respiratory Syndrome Coronavirus [MERS-CoV]) and re-emerging (e.g. polio) infectious diseases, vaccine-preventable agents (e.g. measles), bacterial toxins (e.g. botulism), bioterrorism (e.g. anthrax attacks), and local and global health threats (e.g. Ebola, H1N1 influenza). Historically, control of communicable diseases was the primary focus of public health efforts, especially before the development and widespread use of antibiotics and vaccines. These medical innovations, combined with non-medical public health efforts (such as the investment in reliable systems for clean water and sewage systems, the establishment of standards for food safety, the creation of mosquito control/abatement programs, and the reduction of highly crowded tenement housing), resulted in a sharp decline in the percentage of Americans who acquire, and historically died, from communicable diseases.

As death and disability from communicable diseases decreased in the late 20th century through intensive public health interventions (such as vaccination campaigns and policies), national and international attention turned increasingly toward chronic disease and injury. Annual reports to the Board of Supervisors for the past several years have focused on chronic disease prevention and control efforts to reflect the rise in importance of such endeavors.

Despite the rising importance of chronic disease and optimistic predictions that communicable diseases would soon be conquered, infectious agents such as bacteria and viruses have proven to be tough opponents. Diseases once listed as locally "eradicated" have returned (e.g. measles, polio). Organisms once easy to treat have developed resistance to anti-microbial agents. In fact, several prominent scientists, including the head of the World Health Organization, are now warning that we may be near end of the antibiotic era, and a return to a time where a simple infection in a healthy individual may lead to death. Success of public health campaigns resulting in fewer cases of childhood diseases has led to a lack of familiarity with the havoc they can wreak.   In 2014, 87 cases of pertussis, a vaccine-preventable disease, were reported in Stanislaus County. This represents a 691% increase over the 11 cases reported in 2013. Pertussis is cyclical and peaks every 3-5 years, due to the increase in number of susceptible persons in the population. In addition, communicable diseases such as novel variants of influenza and HIV, and re-emerging diseases such as Ebola are becoming increasingly common, and are

exacerbated by issues of extreme natural or social disasters such as tsunamis, earthquakes, floods or war. In addition to the financial and human costs, these disasters create an optimal environment for extremely rapid infectious disease spread. In turn, this rapid spread can lead to infrastructural breakdown of services, hospitalization (if available) and even death throughout communities and nations.

In addition to the increasing health toll from infectious disease, the U.S. bears a heavy financial burden as well. The estimated annual cost of health-care acquired infections is $35 to $45 billion. That cost represents a small fraction of the cost of all communicable diseases in the U.S., underlining the significant economic impact of infectious diseases. The 2014 Ebola crisis is representative of the financial cost and human toll of communicable diseases. Protecting people from communicable diseases remains vital to public health.

Short-Term Goal: Monitoring and Surveillance

In 2014, Health Services Agency/Public Health began a major initiative of strategic reprioritization using the 10 Essential Public Health Services as its framework. The need for data management systems, measurable outcomes and service integration were identified as areas requiring intervention. Public health decision-making should rely on accurate and timely data. Public health surveillance is the foundation for such information within public health.

> *Public health surveillance is the continuous, systematic collection, analysis and interpretation of health-related data needed for the planning, implementation, and evaluation of public health practice.*
>
> World Health Organization

Surveillance, the intelligence system of public health, is vital to accomplishing essential PH services 1 and 2.

- *Essential Service #1:* Monitor health status to identify community health problems.
- *Essential Service #2:* Diagnose and investigate health problems and health hazards in the community.

Public health surveillance is conducted at all levels of government – international, national and local – to allow local health jurisdictions to adequately prepare for diseases of significant public health concern. Public health surveillance played the primary role in identifying and responding to Ebola Virus Disease, West Nile Virus and measles.

Surveillance is a critical component of any communicable disease program. The California Department of Public Health requires that health care providers and laboratories comply with California Code of Regulations Title 17, Section 2500. This law mandates the timely reporting of selected diseases to the local health authority to investigate and implement

appropriate control measures. In summary, public health surveillance is paramount in measuring and assuring the community's well-being. Components of a comprehensive surveillance system are shown below (Figure 3).

Figure 3: Surveillance System Components

Action & Re-evaluation

Epidemiologic Research

Community /Stakeholder Assessment

DISEASE SURVEILLANCE SYSTEM

Reporting

Distribution

Case Investigation

Data Analysis

Outbreak Investigation

Control

Effective surveillance relies on the deliberate coordination of information collection, processing and reporting throughout the public health system. However, traditional public health funding models have relied on categorical funding, unintentionally creating silos that discourage the required exchange of information. While categorical funding remains commonplace throughout public health, major national initiatives—such as the Affordable Care Act and public health accreditation—require inter-sectorial collaboration.

The Communicable Disease Prevention and Control Section (Figure 4) was created within HSA/Public Health as a response to this increased emphasis on inter-sectorial collaboration. Four programs—Communicable Diseases, Emergency Preparedness, Public Health Laboratory, and the Community Assessment, Planning and Evaluation (CAPE) Unit—constitute the Communicable Disease Section. Due to the significant degree of overlap in the scopes of work and the populations served (see purple shaded area in Figure 4), operational integration of these four programs allows increased efficiency and leveraging of resources. In addition, grouping these four programs is a state and national public health best practice.

Figure 4: Communicable Disease Section
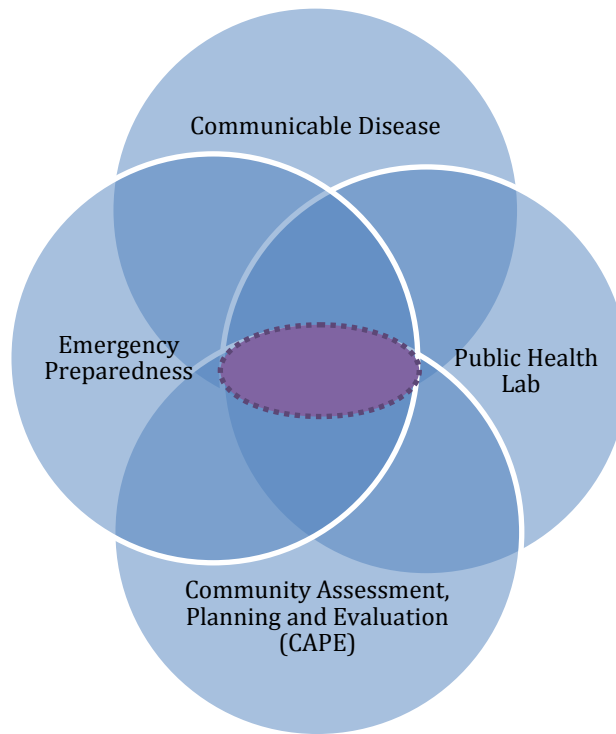
Ensuring that key disease control and prevention staff has access to the latest surveillance information is crucial to an effective public health response. In 2014, the Public Health Department re-structured its internal communicable diseases communication protocol, creating a Communicable Disease Surveillance Team (CDST) that is responsible for evaluating, sharing and disseminating communicable disease information. The CDST has streamlined all communicable diseases communication in the agency with the development of an internal communication process (see *Appendix C*). The new process has resulted in improved internal communication and coordination of response to suspected cases of measles and other communicable diseases and outbreaks (see Table 2).

Table 2: 2014 Actions and Outcomes around CD Surveillance

APPROACH	2014 OUTCOMES

Investigate and mitigate outbreaks of communicable disease	• 20 disease outbreaks
	  ○ 43 case investigations conducted
	  ○ ~350 individuals at risk were interviewed and connected to care, if needed

Provide public health testing to support outbreak investigations and control of communicable diseases	• 10,511 laboratory tests
	  ○ 6,457 microbiology tests (e.g. for rabies, parasitology, tuberculosis)
	  ○ 2,435 immunology tests (e.g. blood tests for HIV and West Nile Virus)
	  ○ 1,619 toxicology tests (e.g. lead screening)

Table 2: 2014 Actions and Outcomes around CD Surveillance

APPROACH	2014 OUTCOMES
Improve ability to exchange public health information with providers	- Developed project timeline between vendor, IT and PH laboratory personnel - Selected vendor for Laboratory Information Management system project approved by Board of Supervisors
Improve internal communication protocols: ensure all CD staff have accurate and timely surveillance information for immediate action and longer-term strategic planning	- Established disease surveillance protocol - Developed weekly disease surveillance meetings - Established communication protocols - Established ten-year trending report for Title 17 communicable diseases (see *Appendix B*)
Document the data collection, processing, analysis and reporting processes to allow quality improvement of public health surveillance activities	- Revised protocols for data entry and Vital Records Unit - Evaluated workflow processes to identify areas for quality improvement

Medium-Term Goal: Public Health Accreditation

As mentioned in the 'Foreword', the 10 Essential Services are the foundation of the standards for the new national public health accreditation system. Achieving accreditation by 2017 is our medium-term goal. A targeted effort in 2014 focused on strengthening four of the Essential Services within the new Communicable Disease Prevention and Control Section in preparation for accreditation:

- *Essential Service #1:* Monitor health status to identify community health problems (discussed in the section above)
- *Essential Service #2:* Diagnose and investigate health problems and health hazards in the community (discussed in the section above)
- *Essential Service #4:* Engage the community to identify and solve health problems
- *Essential Service #7:* Help people receive health services

As discussed above, the first two essential services relate to public health surveillance, which is a primary focus of the Communicable Disease Prevention and Control Section. In addition, the effective prevention of and response to communicable diseases relies on Essential Services #4 and #7. The actions taken to strengthen these areas in preparation for accreditation (by 2017) are addressed below.

Essential Service #4: Engage the community to identify and solve health problems

The global challenges in containing communicable diseases speak to the need for a comprehensive, multi-disciplinary approach. Infectious diseases do not respect

jurisdictional borders or agency lines of authority. Effectively stopping the spread of disease of public health concern requires the coordinated response of:

- Emergency medical services (EMS) systems to transport patients;
- Laboratories to diagnose patients;
- Hospitals and clinics to treat patients;
- Epidemiologists and public health nurses for contact tracing and evaluation;
- Environmental experts to oversee decontamination and disposal efforts;
- Animal and vector control to prevent transmission between animals and humans;
- Human services providers to counsel and support the families of patients as well as individuals under quarantine;
- And law enforcement agencies to enforce quarantine orders, among others.

On September 30, 2014, the Centers for Disease Control and Prevention (CDC) announced the first laboratory-confirmed case of Ebola Virus Disease (Ebola) to be diagnosed in the United States in a man who had traveled to Dallas, Texas from a West African country (Liberia) battling an Ebola epidemic. Shortly thereafter, two of the Dallas healthcare workers involved in the treatment of this first case tested positive for the disease. These initial US Ebola cases triggered a national effort to assess current response standards across the board.

Locally, Ebola preparation efforts were already underway. The Communicable Disease Section had been planning a tabletop exercise with medical health partners to discuss and assess county-wide response capacity and plan for the remote possibility of a local incident. The table top exercise, conducted on October 15, included providers from local hospitals, emergency medical services, as well as several representatives from county agencies including the Office of Emergency Services, the Sherriff/Coroner and the Department of Environmental Resources.

As national concern grew about the potential for more Ebola cases in the United States, the Chief Executive Officer and the County Office of Emergency Services requested that a Threat Assessment Group (TAG) convene to consider further response measures. On October 20, the Stanislaus Multi-Agency Coordination (StanMAC) met and decided to convene a taskforce to develop a local response plan for the possible introduction of Ebola in the county. During the following two weeks, a multi-disciplinary team of experts from across the county were assembled in the Office of Emergency Services to develop a comprehensive response plan for Ebola with the aim of creating a plan that could be used to respond to any disease outbreak.

HSA staff spent more than 600 hours at the County Emergency Operations Center (EOC) with partners to develop a county-wide response plan. In the months that followed, HSA staff continued research, documentation and consultation with state experts and local partners. In December 2014, a draft of the plan was approved by the HSA Managing Director and the Public Health Officer and sent to participating partners for review.

Table 3 features select actions taken in 2014 regarding public and partner engagement by the Communicable Disease Control and Prevention Section.

Table 3: Actions and Outcomes regarding Public and Partner Engagement

APPROACH	2014 OUTCOMES
Develop and improve jurisdiction-wide plans to prevent and respond to outbreaks	- Conducted a tabletop exercise on Ebola in October 2014. - Created *Stanislaus County Ebola Prevention and Response Plan* - Worked on preliminary general *Stanislaus County Outbreak Prevention and Response Plan* - Collaborated with Stanislaus County Department of Environmental Resources (DER) and state partners to revise the county's *Foodborne Disease Outbreak Response Plan*
Facilitate regular information exchange among communicable disease stakeholders to prepare for and mitigate communicable disease threats	- Facilitated regular coalition meetings (monthly, quarterly or bi-annually, depending on the topic) to discuss disease threats: - Communicable Disease Task Force - Health Executives Council - Hepatitis C Task Force - Immunization Task Force - Stanislaus County Emergency Preparedness Council - West Nile Virus Task Force
Improve communication protocol: ensure health care providers, partners, stakeholders and the public are provided accurate and timely information on common communicable diseases and risks	- Developed Title 17 communicable disease summary (see *Appendix A*) to be disseminated quarterly to County health care partners and the general public - Created a 10-year trending report for Title 17 diseases (see *Appendix B*) - Continued use of blast fax and email distribution groups to release timely and clinically accurate information from global, national and state authorities to health care provider partners (e.g. on Ebola, pertussis, MERS-CoV, influenza)
Train and coordinate the Medical Reserve Corps (MRC), a group of medical volunteers who can provide assistance in emergencies	- Recruited 109 new volunteers into Medical Reserve Corps (MRC) - MRC volunteers participated in more than 50 activities, including trainings and community outreach/recruitment events, logging 941 hours of service (with an approximate economic value of $31,000). - MRC coordinated a mass care and shelter training and exercise that included participation and support from the Community Services Agency (CSA) and the local chapter of the American Red Cross.

Essential Service #7: Help people receive health services

Linking individuals to health care is integral to communicable disease prevention and response. The Public Health Department not only provides safety net services, but also provides specialized services not available elsewhere throughout the county. A few examples include rare immunizations which are not provided through conventional health care channels, anonymous testing, and socio-medical case management.

Title 17, Section 2500 highlights overall public health responsibility, including the mandate to control communicable diseases, oversee treatment of tuberculosis and provide testing and counseling services. To accomplish these mandates, Public Health provides technical and direct assistance to Stanislaus County health care and laboratory providers.

Immunization clinics play an important role in protecting the public from current and emerging diseases. For example, to help protect the public during flu season, the department offers flu vaccination clinics throughout the county. By immunizing against vaccine preventable diseases, the county and state save health care dollars that would be spent on illnesses of under- or non-immunized clients. In addition,, partnering with a number of agencies and organizations to provide technical assistance and to ensure compliance with new vaccination laws and requirements is pivotal in protecting the health of our residents. Table 4 features select ways that health services were provided in 2014 by the Communicable Disease Control and Prevention Section and their outcomes.

Table 4: Actions and Outcomes around Providing Health Services

APPROACH	2014 OUTCOMES
Provide specialized health and laboratory services	15,244 unduplicated patient visits to PH Clinic and Laboratory in 2014 23,363 total patient visits to PH Clinic and Laboratory 17,272 immunizations given by PH staff
Overseeing medical and supportive care for difficult to treat communicable conditions	370 unduplicated patients given socio-medical case management 356 HIV/AIDS 14 active tuberculosis 11 individuals on Directly Observed Therapy (DOT) for tuberculosis - Completed medical history for approximately 850 patients with latent tuberculosis infection (LTBI). - Successfully migrated patients from the Ryan White Program to Medi-Cal as part of the implementation of the affordable Care Act with minimal disruption in access and continuity of care.
Provide vaccination services to county residents, particularly those at high risk for getting, having complications from, or transmitting communicable diseases	Conducted 17 community Point of Dispensing (POD) clinics at diverse locations throughout the county, giving approximately 1,700 flu vaccinations to Stanislaus County residents and 30 pneumonia vaccinations for County seniors.

Long-Term Public Health Goal: 21st Century Public Health Practice

Responding to Technological Advances

Current programs in the Communicable Disease Prevention and Control Section use more than a dozen different electronic databases and reporting systems required by state and federal authorities. The California Department of Public Health has begun to move away from programmatic, stand-alone disease surveillance systems unable to inter-communicate to an integrated data warehouse system. Neighboring local health jurisdictions are moving towards adopting advanced technology such as cloud computing. Such innovations eliminate redundancies, reduce costs and, most importantly, increase the timeliness of information available locally for outbreak response, program planning and evaluation.

Public Health Departments rely on data to measure a wide range of health indicators for the community. Based on indicators, important decisions are made to evaluate and raise awareness of the health status or trends in the community and to identify prevention targets for program. Solely relying on individual program-prepared reports and external resources does not provide sufficient data or context. A data warehouse or central repository of all public health data can help prioritize needs, mobilize communities, garner resources, plan programs and activities, and develop policies to improve the health of the community. In time of shrinking resources, it is essential to be data smart in order to evaluate current needs and plan for the future.

HSA/Public Health is striving to make data storage and dissemination more streamlined and efficient. Currently, mapping is underway of the existing internal systems for surveillance, data storage and reporting. In addition, research is being conducted to identify the most suitable data warehouse for our department, including learning from what other jurisdictions have put into place. Figure 5 is an illustration of a model public health data warehouse.

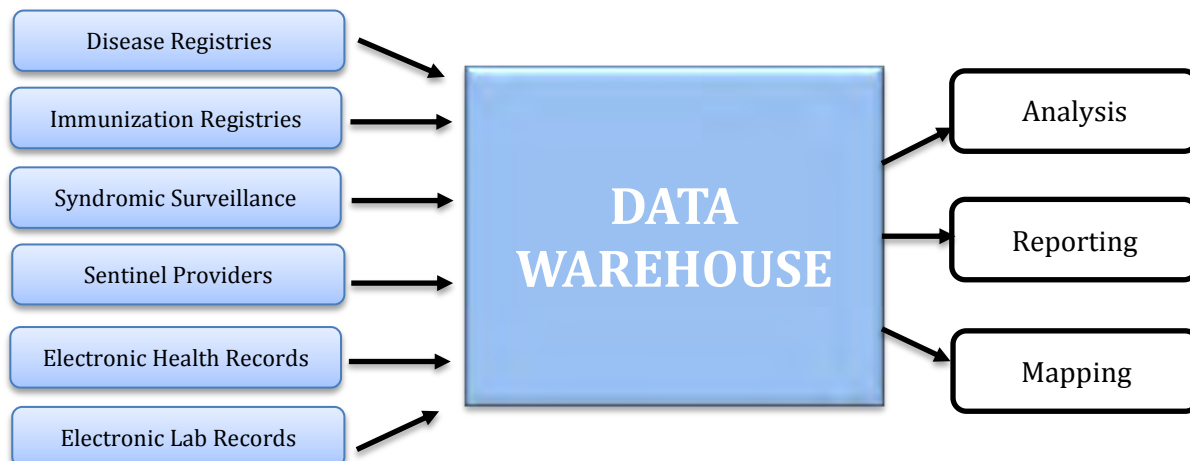*Figure 5: Public Health Data Warehouse*

Table 5 lists planning steps taken in 2014 to keep up with technological advances that can increase efficiency and timeliness of surveillance.

Table 5: Planning for Technological Improvement

APPROACH	2014 OUTCOMES
Research existing data warehouse systems	- An HSA epidemiologist attended the 2014 Northern California Public Health Informatics Forum to learn about health information data exchange - An HSA epidemiologist attended the Public Health Cloud Computing meeting in Solano County to learn about cloud computing and how that can be integrated with data warehouses - CD Section leads met with Public Health IT staff to identify program needs, capabilities of existing data warehouse system and possible process for developing a system in house

Building Relationships with Academic Institutions

As public health practice advances, building capacity to conduct research and attract grant funds is increasingly important. A health department the size of HSA/Public Health cannot support these functions without external assistance. To achieve these goals, all but the largest public health departments must partner with institutions of higher education that have this relevant expertise, experience, resources and capacity. These collaborations provide benefits for students, partners and the community-at-large. In addition, these partnerships promote the training of the next generation of the public health workforce which is critically important in resource limited regions such as Stanislaus County. Table 6 shows steps taken in 2014 to develop and maintain links with regional academic institutions.

Table 6: Building Relationships with Academic Institutions

APPROACH	2014 OUTCOMES
Make connections with local institutions of higher learning.	- An HSA epidemiologist participated in an expert panel discussion on Ebola at Modesto Junior College - Public Health Managers/Epidemiologists participating in the Central Valley Health Policy Institute at CSU Fresno

Conclusions and Looking Ahead

These upcoming years will be a period of significant change to ensure compliance with federal, state and local requirements and preparation for national public health accreditation. The 10 Essential Public Health Services will continue to serve as the 'evaluation tool' by which progress is measured. Realistic performance metrics will be set for guiding quality improvement/ performance improvement (QI/PI) activities required to

achieve accreditation. A formal strategic plan for accreditation will be developed to ensure programmatic alignment and sustainability for succession planning. This plan will be aligned with the HSA 3-year strategic plan completed in 2014.

The purpose of surveillance is to empower decision makers to lead and manage more effective by providing timely, useful evidence. Public health surveillance will remain a central theme for HSA/Public Health. Robust surveillance systems rely on tools to measure the population's needs and the effectiveness of interventions. In 2015, the rollout of the Laboratory Information Management System (LIMS) will not only enhance current surveillance systems, but also improve coordination of care and allow the department to meet one of the requirements of Meaningful Use (of the federal HITECH Act). The LIMS system will achieve the following:

- Allow functional/programmatic interfacing with health care providers (both internal to HSA and private practices or health facilities) to receive electronic laboratory results; and
- Fulfill Meaningful Use requirements of the federal HITECH Act for system capability to report and receive data, and establish an appropriate health information exchange for reportable laboratory results (see *Appendix D* for provider letter).

By August 2015, the LIMS system should be a fully functional system by which health care providers (both internal to HSA and those in private practice or at health facilities) can request lab tests through the LIMS system and receive lab results electronically.

In sum, this report highlights communicable disease prevention and control and describes the progress made by HSA/Public Health in 2014 in meeting the Essential Public Health Services related to this mission, and thus in preparing for public health accreditation. Subsequent public health reports will feature other areas of public health focus using progress in meeting the 10 Essential Public Health Services as their organizing framework. As stated in the 'Foreword' attaining public health accreditation will help HSA/Public Health to:

1) Bring the practice of PH in the county into the 21st century (e.g. latest methods, techniques, technology, focus areas and research into effective practices);
2) Improve community knowledge of and involvement in public health; and
3) Build effective partnerships with academic institutions to leverage resources and to effectively compete for increasingly scarce grant funding.

Appendices

A. Reportable Conditions Report (Quarter 4)
B. Stanislaus County Disease Trending Summary 2005-2014
C. Communicable Disease Surveillance Group Internal Communication
D. Meaningful Use Health Provider Letter

Appendix A: Communicable Disease Quarterly Surveillance Tracker

HEALTH SERVICES AGENCY

Community Assessment, Planning, and Evaluation (CAPE) Unit
820 Scenic Drive| Modesto CA 95350
Phone: 209.558.4539 | Fax: 209.558.4905

Reportable Conditions Report (Quarter 4)*

Selected Reportable Conditions	Quarter 4				Year-To-Date			
	Cases		Rate		Cases		Rate	
	2014	2013	2014	2013	2014	2013	2014	2013
Botulism	0	0	---	---	1	0	---	---
Campylobacteriosis	54	29	10.3	5.5	203	125	38.6	23.9
Coccidioidomycosis	13	11	2.5	2.1	47	44	8.9	8.4
E. coli 0157	2	5	---	1.0	9	12	1.7	2.1
Giardiasis	3	5	---	1.0	24	18	4.6	3.4
Hepatitis A	0	0	---	---	3	4	---	---
Hepatitis B (Chronic)	17	8	3.2	1.5	58	29	11.0	5.5
Hepatitis C (Chronic)	129	166	24.5	31.6	606	488	115.2	93.3
Influenza Deaths	0	1	---	---	12	2	2.3	---
Influenza ICU - Hospitalization	0	3	---	---	29	5	5.5	1.0
Meningitis, Bacterial	3	2	---	---	10	8	1.9	1.5
Meningitis, Viral	14	10	2.7	1.9	40	31	7.6	5.9
Rabies (Non-Human)	0	2	---	---	1	2	---	---
Pertussis[**]	10	5	1.9	1.0	87	11	16.5	2.1
Salmonellosis	28	18	5.3	3.4	89	71	16.9	13.6
Shiga Toxin Positive Feces	1	0	---	---	3	0	---	---
Shiga Toxin Producing E. coli (STEC)	1	1	---	---	10	4	1.9	---
Shigellosis	5	6	1.0	1.1	19	24	3.6	4.6
Staphylococcus aureus Infection (Severe)	1	0	---	---	1	1	---	---
Tuberculosis (Clinically Active TB)	0	2	---	---	14	11	2.7	2.1
West Nile Virus	5	12	1.0	2.3	45	19	8.6	3.6

Click on disease/condition of interest for more information

Reported Outbreaks

Outbreaks	Quarter 4		Year-To-Date	
	2014	2013	2014	2013
Gastrointestinal	1	2	12	11
Rash	1	1	4	1
Respiratory	1	0	4	6
Total	**3**	**3**	**20**	**18**

🟩 ↓significantly compared to 2013, p < 0.05   🟥 ↑ significantly compared to 2013, p < 0.05

* Quarter 4 is from September 29, 2014 – January 3, 2015.
** Includes both **probable** and **confirmed** cases
Note: All counts are based on **confirmed** cases (unless otherwise noted) that have been entered into CalREDIE as of January 15, 2015. Reporting of these selected reportable conditions and many others not listed are mandated under California Code of Regulations (CCR), Title 17, Section 2500. Rates are not calculated for diseases/conditions with less than five reported cases.

Date Posted: March 5, 2015

Appendix B: 10 Year Communicable Disease Trending Summary

Selected Reportable Conditions[1]	2005		2006		2007		2008		2009		2010		2011		2012		2013		2014	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Blood-borne Conditions																				
Hepatitis B, Acute	7	1.4	8	1.6	12	2.4	12	2.4	4	**	5	1.0	2	**	1	**	4	**	2	**
Hepatitis B, Chronic	57	11.4	68	13.5	72	14.2	62	12.1	63	12.3	56	10.9	55	10.6	32	6.1	30	5.7	55	10.4
Hepatitis C, Acute	4	0.8	0	**	1	**	7	1.4	5	1.0	1	**	4	**	1	**	2	**	1	**
Hepatitis C, Chronic [2]	556	111.6	47	9.3	233	45.8	778	152.4	585	114.2	527	102.3	548	105.8	511	97.7	496	94.2	596	112.4
Food- or Water-borne Conditions																				
Botulism	0	**	3	**	1	**	2	**	0	**	0	**	1	**	0	**	0	**	1	**
Campylobacteriosis	94	18.9	124	24.6	119	23.4	145	28.4	133	26.0	144	28.0	147	28.4	170	32.5	125	23.7	202	38.1
Cryptosporidiosis	0	**	0	**	3	**	1	**	2	**	1	**	3	**	4	**	3	**	0	**
E-coli 0157	9	1.8	8	1.6	7	1.4	11	2.2	13	2.5	7	1.4	6	1.2	12	2.3	12	2.3	10	1.9
Giardiasis	33	6.6	25	5.0	41	8.1	20	3.9	14	2.7	23	4.5	13	2.5	11	2.1	18	3.4	24	4.5
Hepatitis A	11	2.2	7	1.4	2	**	2	**	1	**	1	**	3	**	2	**	4	**	3	**
Hemolytic Uremic Syndrome	0	**	0	**	1	**	2	**	3	**	0	**	2	**	1	**	1	**	0	**
Listeriosis	0	**	0	**	0	**	2	**	1	**	0	**	1	**	2	**	2	0**	0	**
Salmonellosis	79	15.9	71	14.1	70	13.8	68	13.3	75	14.6	115	22.3	59	11.4	67	12.8	72	13.7	87	16.4
Shigellosis	12	2.4	21	4.2	7	1.4	24	4.7	13	2.5	9	1.7	14	2.7	8	1.5	24	4.6	19	3.6
Vibrio infection (e.g. cholera)	2	**	0	**	0	**	1	**	0	**	2	**	0	**	4	**	1	**	0	**
Vector-borne or Zoonotic Diseases																				
Malaria	0	**	4	**	0	**	1	**	2	**	2	**	2	**	0	**	0	**	1	**
Q Fever	2	**	1	**	2	**	1	**	3	**	3	**	0	**	0	**	1	**	2	**
Rabies, Animal	1	**	0	**	2	**	3	**	1	**	0	**	1	**	0	**	2	**	1	**
WNV - Asymptomatic	8	1.6	1	**	3	**	1	**	0	**	0	**	0	**	2	**	2	**	5	0.9
WNV - Fever	65	13.1	10	2.0	13	2.6	8	1.6	3	**	3	**	4	**	10	1.9	10	1.9	17	3.2
WNV - Neuro invasive	20	4.0	1	**	8	1.6	9	1.8	11	2.1	9	1.7	7	1.4	16	3.1	7	1.3	21	4.0
Yersinia (plague)	2	**	2	**	3	**	7	1.4	0	**	0	**	0	**	1	**	2	**	0	**

Stanislaus County Disease Trending Summary 2005-2014

Selected Reportable Conditions[1]	2005		2006		2007		2008		2009		2010		2011		2012		2013		2014	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Vaccine Preventable Conditions																				
Influenza Deaths (0-64yrs)	---		---		---		---		---		---		---		2	**	2	**	12	2.3
Influenza ICU (0-64yrs)	---		---		---		---		---		---		---		9	1.7	7	1.3	27	5.1
Measles	0	**	0	**	0	**	0	**	0	**	0	**	1	**	0	**	0	**	0	**
Pertussis[3]	110	22.1	78	15.5	8	1.6	6	1.2	17	3.3	153	29.7	36	6.9	7	1.3	11	2.1	87	16.4
Other Conditions of Concern																				
Coccidioidomycosis	14	2.8	18	3.6	19	3.7	17	3.3	16	3.1	52	10.1	64	12.4	67	12.8	44	8.4	47	8.9
Encephalitis	5	1.0	6	1.2	9	1.8	4	**	4	**	3	**	8	1.5	4	**	4	**	3	**
Meningitis, Fungal	2	**	1	**	3	**	1	**	4	**	2	**	6	1.2	2	**	5	0.9	4	**
Meningitis, Meningococcal	7	1.4	8	1.6	6	1.2	1	**	2	**	0	**	0	**	1	**	0	**	0	**
Meningitis, Other Bacteria	14	2.8	13	2.6	12	2.4	8	1.6	8	1.6	9	1.7	11	2.1	14	2.7	8	1.5	10	1.9
Meningitis, Viral	54	10.8	38	7.5	50	9.8	44	8.6	94	18.4	88	17.1	39	7.5	34	6.5	32	6.1	38	7.2
Outbreaks, GI	---		18	3.6	23	4.5	12	2.4	16	3.1	14	2.7	7	1.4	11	2.1	11	2.1	4	**
Outbreaks, Respiratory	---		---		---		10	2.0	4	**	3	**	1	**	4	**	6	1.1	13	2.5
Staph aureus (Severe)	---		---		---		10	2.0	3	**	2	**	7	1.4	3	**	1	**	1	**
T.B Latent Disease	---		---		---		527	103.3	869	169.7	628	121.9	479	92.4	555	106.1	633	120.2	737	139.0
T.B. Extra Pulmonary	1	**	4	**	9	1.8	2	**	9	1.8	6	1.2	5	1.0	0	**	1	**	4	**
T.B. Pulmonary	10	2.0	12	2.4	21	4.1	20	3.9	12	2.3	10	1.9	5	1.0	8	1.5	10	1.9	10	1.9

[1] Excluding STDs: Gonorrhea, Chlamydia, Syphilis, and HIV/AIDS.
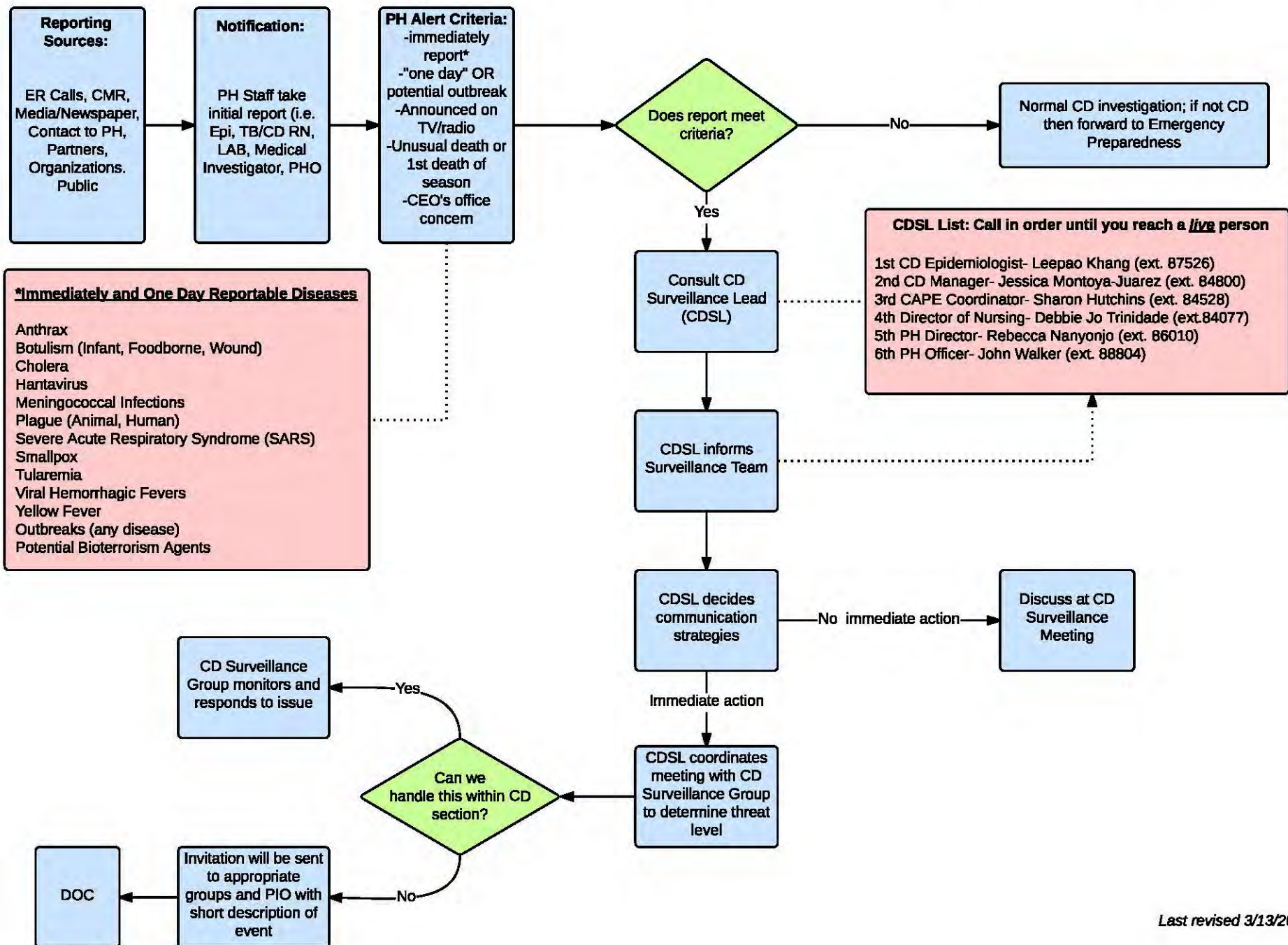
[2] Hepatitis C was laboratory reportable after 2007.

[3] Based on report date of **confirmed** and **probable** cases in CalREDIE.

Note: All other counts are based on **confirmed** cases (unless otherwise noted). Blank spaces (---) mean numbers are not available or not reportable during that year. Rates (per 100,000) are not calculated for diseases or conditions with less than five reported cases. Reporting of these selected reportable diseases or conditions and many others not listed are mandated under California Code of Regulations (CCR), Title 17, Section 2500.

Appendix C: Internal Communication Strategy

Communicable Disease Surveillance Group Internal Communication

Reporting Sources:

ER Calls, CMR, Media/Newspaper, Contact to PH, Partners, Organizations. Public

Notification:

PH Staff take initial report (i.e. Epi, TB/CD RN, LAB, Medical Investigator, PHO

PH Alert Criteria:
-immediately report*
-"one day" OR potential outbreak
-Announced on TV/radio
-Unusual death or 1st death of season
-CEO's office concern

Does report meet criteria?

No → Normal CD investigation; if not CD then forward to Emergency Preparedness

CDSL List: Call in order until you reach a *live* person

1st CD Epidemiologist- Leepao Khang (ext. 87526)
2nd CD Manager- Jessica Montoya-Juarez (ext. 84800)
3rd CAPE Coordinator- Sharon Hutchins (ext. 84528)
4th Director of Nursing- Debbie Jo Trinidade (ext.84077)
5th PH Director- Rebecca Nanyonjo (ext. 86010)
6th PH Officer- John Walker (ext. 88804)

Yes →

Consult CD Surveillance Lead (CDSL)

CDSL informs Surveillance Team

CDSL decides communication strategies → No immediate action → **Discuss at CD Surveillance Meeting**

Immediate action →

CDSL coordinates meeting with CD Surveillance Group to determine threat level

Can we handle this within CD section?

Yes → **CD Surveillance Group monitors and responds to issue**

No → **Invitation will be sent to appropriate groups and PIO with short description of event** → **DOC**

***Immediately and One Day Reportable Diseases**

Anthrax
Botulism (Infant, Foodborne, Wound)
Cholera
Hantavirus
Meningococcal Infections
Plague (Animal, Human)
Severe Acute Respiratory Syndrome (SARS)
Smallpox
Tularemia
Viral Hemorrhagic Fevers
Yellow Fever
Outbreaks (any disease)
Potential Bioterrorism Agents

Last revised 3/13/2015

Abbreviations and Acronyms

CAPE = Community Assessment, Planning, and Evaluation

CD = Communicable Disease

CDSL = Communicable Disease Surveillance Lead

CEO = Chief Executive Office

CMR = Confidential Morbidity Report

DOC = Department Operations Center

EP = Emergency Preparedness

Epi = Epidemiologist

ER = Emergency Room

PHO = Public Health Officer

PH = Public Health

RN = Registered Nurse

TB = Tuberculosis

WNV = West Nile Virus

Appendix D: Meaningful Use Health Provider Letter

HEALTH SERVICES AGENCY

Public Health Services
820 Scenic Drive, Modesto, CA 95350-6194

John A. Walker, M.D.
Public Health Officer

Phone: 209.558.8804 Fax: 209.558.7286
www.hsahealth.org

July 1, 2014

Subject: Status of Meaningful Use (MU) Capability within Stanislaus County Public Health

Dear Medical Colleague:

This is a follow through to the attached letter of February 3, 2012. Within our local Public Health Department (PHD) we have MU capability within the following areas.

1. Immunizations. **COMPLETE MU CAPABILITY**. Our county continues to participate in the regional Healthy Futures online registry (formerly known as the RIDE Immunization Registry). If you need additional information regarding the system please call (209) 558-4817.

2. Reportable Lab Results. **LIMITED MU CAPABILITY**. We have capability regarding laboratory- reportable communicable diseases. Four years ago we implemented the web-based system now used by the state (Cal REDIE). However, we do not presently have the capability for health information exchange (HIE) of non-communicable lab data.

3. Syndromic Surveillance. **PARTIAL MU CAPABILITY**. We have implemented the Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE) program in the Emergency Departments of four county Emergency Departments (Memorial Medical Center, Doctors Medical Center, Emanuel Medical Center, and Oak Valley Hospital). This system screens chief complaints for the following syndromes: influenza-like illness, rash illness, hemorrhagic illness, fever, respiratory/gastrointestinal/neurologic symptoms, botulism-like illness, shock and coma. Since mid-2014, the County is in transitioning to BioSense Also a Web based syndromic surveillance system that was developed in conjunction with the Centers for Disease Control and Prevention (CDC). At the present time, syndromic surveillance data sharing is limited to hospital emergency data.

   If you have questions or need additional information/clarification please contact lboddy@schsa.org.

 Most Sincerely,

John A. Walker
cc: Mary Ann Lee, H.S.A. Managing Director
      Rebecca Nanyonjo, DrPH, Associate Director, Public Health
      Ev Plascencia, Information Technology Director, H.S.A.

HEALTH SERVICES AGENCY

Public Health Services
820 Scenic Drive, Modesto, CA 95350-6194

John A. Walker, M.D.
Public Health Officer

Phone: 209.558.8804 Fax: 209.558.7286
www.hsahealth.org

February 3, 2012

Subject: Update on Meaningful Use (MU) Capability within Stanislaus County Public Health

Dear Medical Colleague:

We are eager to assist you with the Centers for Medicare and Medicaid (CMS) Meaning Use (MU) requirements, especially since there are financial incentives for compliance. Within our local Public Health Department (PHD) we have MU capability within the following areas.

1. Immunizations. **COMPLETE MU CAPABILITY**. Our county continues to participate in the regional Healthy Futures online registry (formerly known as the RIDE Immunization Registry). If you need additional information regarding the system please call (209) 558-4817.
2. Syndromic Surveillance. **PARTIAL MU CAPABILITY**. We have implemented the Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE) program in the Emergency Departments of four county Emergency Departments (Memorial, Doctors, Emanuel, and Oak Valley). This system screens chief complaints for the following syndromes: influenza-like illness, rash illness, hemorrhagic illness, fever, respiratory/gastrointestinal/neurologic symptoms, botulism-like illness, shock and coma. If you need more information please call (209) 525-4859.
3. Reportable Lab Results. **LIMITED MU CAPABILITY**. We have capability regarding laboratory-reportable communicable diseases. Four years ago we implemented the web-based system now used by the state (Cal REDIE). However, we do not presently have the capability for health information exchange (HIE) of non-communicable lab data. If you have questions regarding these services please call (209) 525-4856.

It is my understanding that your office or facility will not be penalized because our PHD does not presently have full MU capability. If you have questions or need additional information/clarification please e-mail me at jwalker@schsa.org.

Most Sincerely,

John A. Walker

cc: Mary Ann Lee, H.S.A. Managing Director
      Del Morris MD, Medical Director, H.S.A.
      Greg Diederich, Director of H.S.A. Clinics
      Colleen Woolsey, PHN, PhD., Associate H.S.A. Director for Public Health
      Ev Plascencia, Information Technology Director, H.S.A.

STRIVING TO BE THE BEST COUNTY IN AMERICA

Focus on Communicable Diseases:
Annual Public Health Report to the Board of Supervisors

March 31, 2015

John Walker, MD, *Public Health Officer*
Rebecca Nanyonjo, DrPH, *Public Health Director*
Sharon Hutchins, PhD, *Epidemiologist*

Public health is defined as *"all organized measures (whether public or private) to prevent disease, promote health, and prolong life among the population as a whole."*

Health is defined holistically as:
- *...a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity."*

-World Health Organization, 1948

Background

- New Public Health senior management in 2014

- Health Services Agency *Strategic Plan* in 2014 (2015-2017)

- Additional strategic planning and goal setting within the Public Health Division

Public Health Goals

- **Short Term (18-36 months)**
  - Develop internal data systems to enable fact-based decision making

- **Medium-Term (36-48 months)**
  - Apply for and achieve accreditation from the national Public Health Accreditation Board

- **Long-Term (48+ months)**

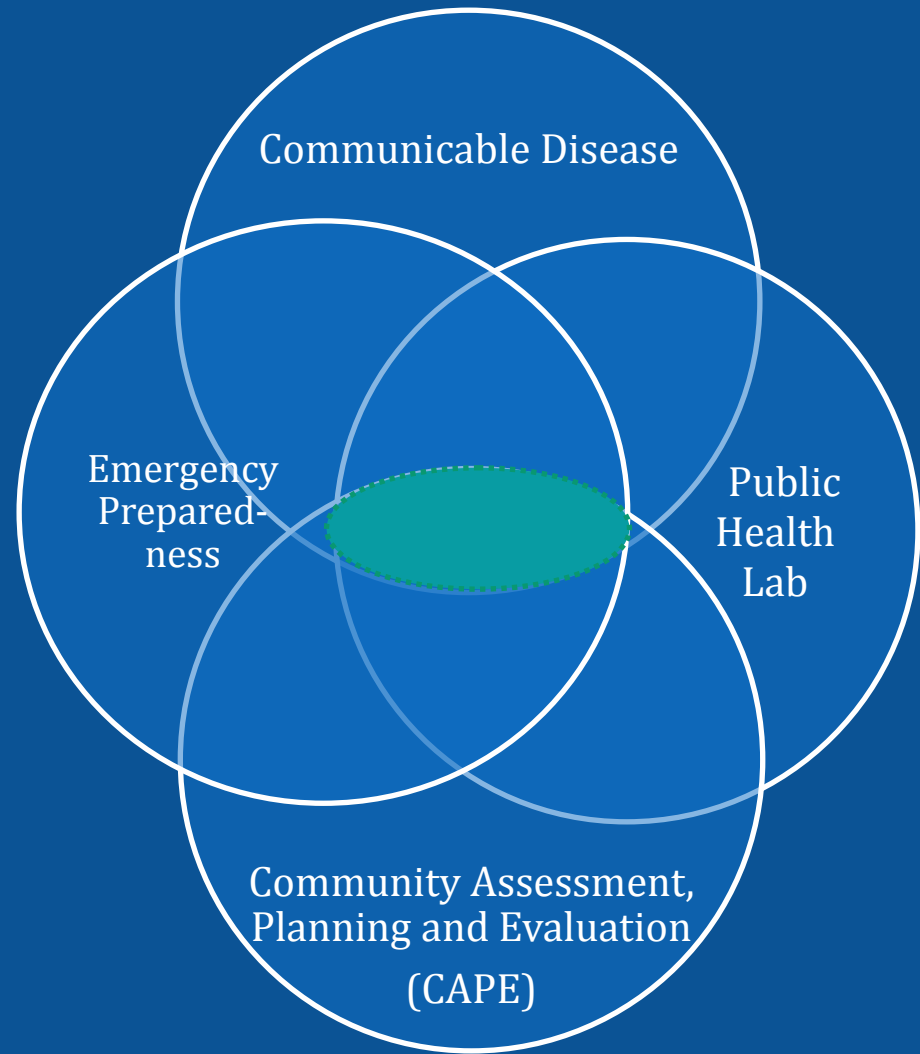# Essential Public Health Services and Core Functions
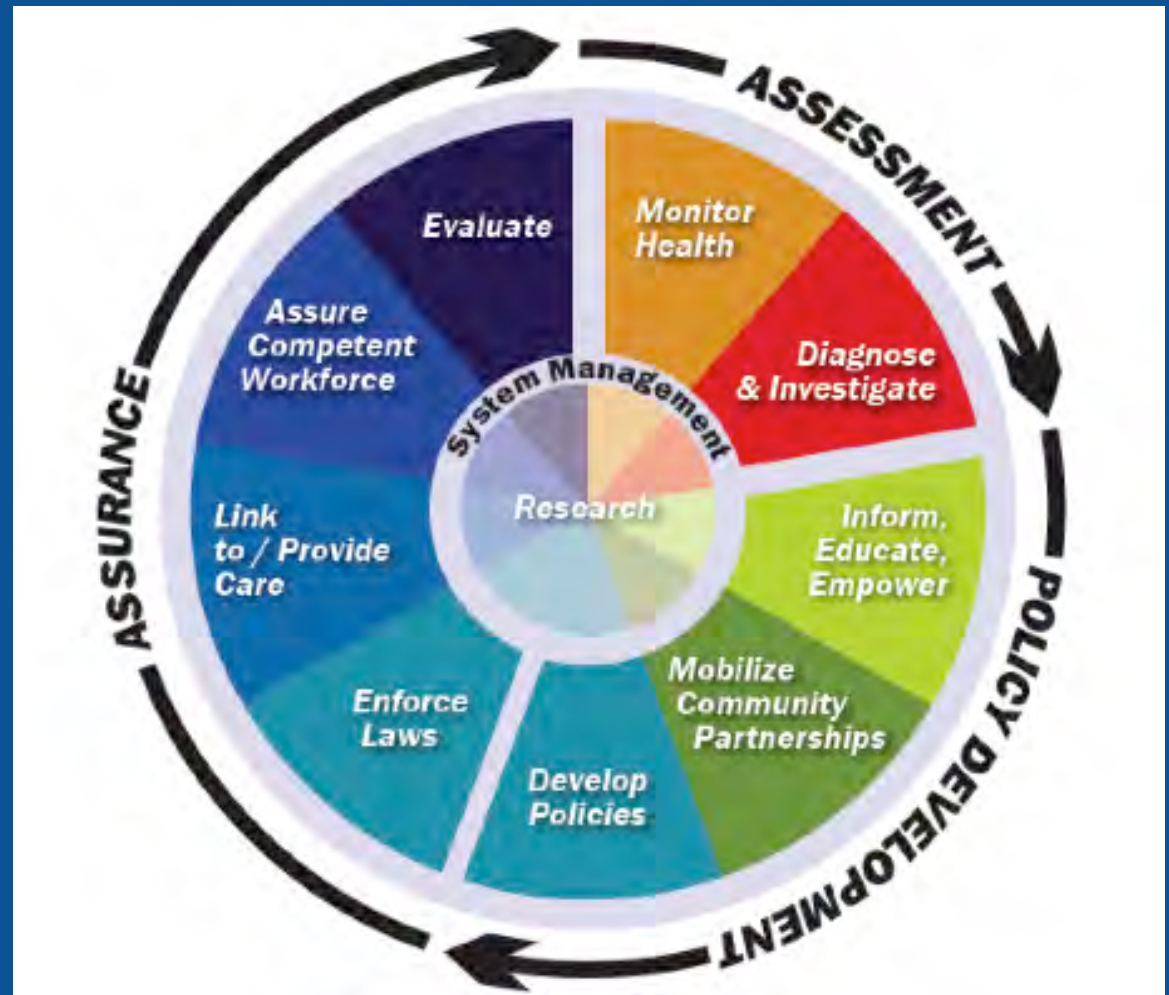
- *Essential Service #1:* Monitor health status to identify community health problems.

- *Essential Service #2:* Diagnose and investigate health problems and health hazards in the community.

Accomplished through ***Public Health surveillance measures***

Communicable Disease Prevention and Control Section

Communicable Disease

Emergency Prepared-ness

Public Health Lab

Community Assessment, Planning and Evaluation (CAPE)

Selected 2014 Actions & Outcomes: CD Surveillance

APPROACH	OUTCOMES
Investigate and mitigate outbreaks of communicable disease	• Investigated 20 disease outbreaks.
Improve ability to exchange public health information with providers	• Selected vendor for Laboratory Information Management System (LIMS) project approved by Board of Supervisors. • Developed project timeline between vendor, IT and PH laboratory personnel.
Improve internal communication protocols	• Established disease surveillance protocols. • Developed weekly disease surveillance meetings. • Established communication protocols.

- *Essential Service #4:* Engage the community to identify and solve health problems

*Accomplished through **effective partnerships***

Selected 2014 Actions & Outcomes: Partner Engagement

APPROACH	OUTCOMES
Develop and improve jurisdiction-wide plans to prevent and respond to outbreaks	• With > dozen partners, created *Stanislaus County Ebola Prevention and Response Plan* • Worked on preliminary general *Stanislaus County Outbreak Prevention and Response Plan*
Improve communication protocols to outside partners and the public	• Developed annual 10-year trending report and Title 17 communicable disease summary to be disseminated quarterly.

- *Essential Service #7: **Help people receive health services***

*Accomplished through **efficient delivery of public services***

Selected Actions & Outcomes: Providing Health Services

APPROACH	OUTCOMES
Provide specialized health and laboratory services	• 15,244 unduplicated patient visits were made to PH Clinics and Laboratory.
Overseeing medical and supportive care for difficult to treat communicable conditions	• 370 unduplicated patients were given socio-medical case management.
Provide vaccination services to county residents	• 17,272 immunizations were given by PH staff. • Conducted 17 community Point of Dispensing (POD) clinics at diverse locations throughout the county.

Requesting the Board's Approval

- To accept the Health Services Agency's *2015 Annual Public Health Report* to the Board of Supervisors