Section IV

Communicable Disease Response

Updated: May 2018

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I. Purpose

The purpose of this plan is to describe the Tuolumne County Public Health Communicable Disease response to the information gathered by monitoring and day-to-day surveillance described in Section 3, Surveillance.

Communicable diseases spread through contact with an infected host (people, animals or vectors), from contaminated food or drinking water, or from environmental sources where the organisms live. Unusual events and emergencies involving communicable disease include atypical or unusually large outbreaks, periodic epidemics, pandemics or terrorism using bioterrorism agents/diseases, and depending on the severity of the illness and number of people affected may result in a health care surge and require the appropriate application of control measures to contain the spread of disease. The response to an unusual or emergency event varies depending on the type of infectious agent, its virulence and impact, and the capabilities and measures that exist to control the spread of disease.

II. Definitions

A. CMR: Confidential Morbidity Report form 110a, from the California Department of Public Health, for reporting all conditions except Tuberculosis and conditions reportable to DMV. Side 2 lists communicable diseases that have been identified for required reporting.

B. CalREDIE: The California Reportable Disease Information is a computer application that the California Department of Public Health (CDPH) has implemented for web-based disease reporting and surveillance. CalREDIE HELP Desk: (866) 866-1428

C. ELR: CalREDIE is integrated with electronic laboratory reporting (ELR). This improves efficiency of surveillance activities and the early detection of public health events through the collection of more complete and timely surveillance information on a state wide basis.

D. DCDC: The CalREDIE system is implemented within CDPH, local health departments, providers and laboratories within California. The system is implemented within the **Division of Communicable Disease Control** (DCDC) which includes branches that participate in disease reporting and surveillance processes: (1) Infectious Disease *Branch* 2) Immunization *Branch* (3) Tuberculosis Control *Branch(*4) Sexually Transmitted Disease Control *Branch* (5) Microbial Disease Laboratory (6) Viral and Rickettsial Disease Laboratory (7) Communicable Disease Emergency Response *Branch*.

III. Concept of Operations and Accountabilities in the Tuolumne County Health Department (TCHD)

A. Health Officer responsibility

The Health Officer oversees and is responsible for communicable disease reporting and investigations. The Health Officer has a duty to report, may enforce reporting requirements and issue orders for treatment, isolation or quarantine. See Chapter 1, Public Health Response, Authorities. The Health Officer determines the plan for an epidemiologic investigation.

B. Day-to-day activities (standard operating procedures) in TCHD Communicable Disease

1. Staffing includes the Health Officer, Director of Public Health Nursing, the Communicable Disease PHN, and the Department Support Tech –Morbidity Clerk.
2. Monday through Friday, 8:00 AM to 5:00 PM, the Communicable Disease (CD) Nurse for the Health Department receives routine non-emergency reports. Health Department personnel are available 24 hours per day, seven days per week for urgent or emergency public health reports.
    a. Communicable Disease investigations can be launched by the on-call physician or the Director of Public Health Nursing at any time.
3. The Tuolumne County Health Department process upon receiving a CMR *(Confidential Morbidity Report)*
    a. The Department Support Tech-Morbidity Clerk responds to the fax or phone call and logs the information into the CalREDIE database
    b. The Communicable Disease (CD) PHN reviews the report and determines if routine or high risk event. See CMR, side 2 for "Urgency Reporting Requirement (17 CCR 2500 (h)(i) Day-to-day events include most STDs. An **"urgent"** communicable disease process, such as Tuberculosis or vaccine preventable disease is described in the next section describing the steps for unusual events.
    c. The CD PHN performs investigation and validation of information. Enters follow up and case information into CalREDIE.
    d. The Health Officer reviews all cases routinely.

C. <u>Unusual Event</u>

The Health Officer is notified. After an initial assessment, he or she determines whether the potential exists for an infectious disease outbreak with significant risk to public health, or the possibility exists that an outbreak is the result of bioterrorism. Situations may involve, but are not limited to:

1. A local, regional or statewide increase in a communicable disease above normal background levels (e.g., an outbreak or epidemic) that requires increased communication with the public or the redirection of the local health department and/or State resources.
2. An infectious agent that is known or cannot be identified with testing methodologies;
3. A cluster of cases exhibiting symptoms of communicable disease, especially with sudden onset, that requires increased communication with the public or redirection of the Health Department of State-level resources; or
4. A communicable disease that has the potential to cause unusual morbidity of elevated mortality and requires increased monitoring to determine public health impact.
    i. Diseases that have an Increased urgency in reporting requirements, 17 CCR 2500(h)(i)
    ii. If a suspected bioterrorism incident, local Law Enforcement, the Tuolumne County Office of Emergency Services and the California Department of Public Health (CDPH) are notified.
5. Process when receiving a high urgent/risk/unusual CMR *(Confidential Morbidity Report)* or other notification of communicable diseases.
    a. Initial process is the same as in day to day operations, the Department Support Technician logs the report in the CalREDIE and forwards to the CD Nurse who

determines that a high risk and/or urgent situation exists. The Health Officer is likely to have directly received this report.

b. The CD PHN consults with the Health Officer immediately by person or phone contact. The Director of Public Health Nursing is informed of the event.

c. The Health Officer initiates a response plan, including investigation and orders when necessary. The Health Officer ensures reporting per regulatory and statutory regulations. See Page 13 for list of immediately reportable diseases.

d. The Health Officer and the Director of Public Health Nursing determine if resources are needed to respond, and diverts personnel as needed. Possible actions may include:

I. Risk communications to the public (See Annex 7, Crisis Emergency Risk Communications, CERC)
II. Form an epidemiologic team and conduct an investigation (next section)
III. Direct vector control (in conjunction with the environmental health department)
IV. Provide clinics to provide vaccination or medications
V. Initiate orders to isolate or quarantine patients.
VI. Redirect resources to support disease control investigations and control which may activate the Department Operations Center (DOC)
~~VI.~~VII. Provide Just in Time Training as appropriate for response personnel

e. At completion of the investigation and the response plan, the CD nurse enters case information/conclusion into the CalREDIE database.

D. Risk (Urgency) Stratification

1. Incident Urgency Level: Certain infectious diseases have been assigned specific pandemic phases due to predictable stages that some agents follow during pandemic spread.
   a. Urgency Level One: The lowest urgency level would identify a non-transmissible BT incident or infectious disease cluster occurring outside of a 300 mile radius from Tuolumne County and involving the exposure of fewer than 20 citizens. An example of such an event would be the 2001 Anthrax exposure via the postal service on the east coast of the United States.
   b. Urgency Level Two: This level is divided into two classifications:
      I. Urgency Level II A: Describes a non-transmissible incident involving twenty or more individuals beyond 300 miles from Tuolumne County, or fewer than twenty individuals within 300 miles from Tuolumne County but not inside the county.
      II. Urgency Level II B: Describes a non-transmissible incident involving twenty or more individuals within 300 miles of Tuolumne County, or any number of individuals inside of Tuolumne County.
   c. Urgency Level Three: A transmissible infection incident occurring outside of Tuolumne County.
   d. Urgency Level Four: A transmissible infection incident occurring inside of Tuolumne County, or a non-transmissible multiple fatality incident occurring inside of Tuolumne County.
2. Initial Actions:
   a. Continue to monitor status locally and worldwide.
   b. Communication change in status to all partners and update them regularly.
   c. Prepare/perform essential services

d. Implement response measures including use of surgical masks, basic respiratory hygiene strategies, and social distancing to minimize pandemic impacts.
e. Purchase and deploy Personal Protective Equipment (PPE) and other hygiene supplies assigned to personnel.
f. Follow TCHD guidance.
g. Staff the Points of Dispensing (POD). Distribute vaccine/antivirals according to availability and priority schedule.
h. Refer clients to PODs for vaccinations, medications, and supplies as needed.
i. Request and store medical emergency assets.
j. Implement individually-based isolation/quarantine orders, selected school and business closures, and limitation of public gatherings if needed.
k. Through the Public Information Officer (PIO), communicate reason and importance of public health interventions to partners and the general public.

IV. Epidemiologic Investigations

The epidemiologic investigation systematically collects data, analyzes the data, interprets and identifies a source and/or prevention strategies, then disseminates information. The investigation varies with the outbreak and surrounding circumstances (e.g., etiologic agent, number of cases, and likely source of exposure). Epidemiologic investigations contain elements of the following steps.

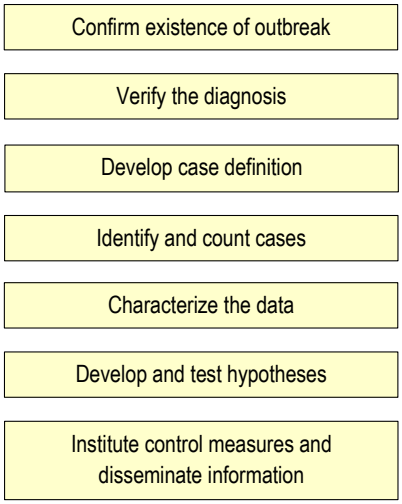

Figure 1: Outbreak Investigation Steps

Source: University of Minnesota, Public Health Training Series: Disease Surveillance

A. Confirming the existence

Confirmation of the outbreak is done by finding more cases of a disease in a population than expected in a certain time frame. This is done by calculating the baseline rate of disease and comparing to the current numbers.

B. Verifying the diagnosis

This verification is usually done by analysis of clinical specimens or other testing.

C. Develop a case definition

A case definition establishes that a person has the disease and is uniform criteria to ensure all members of the investigation team are consistent in the interview.

1. Case definitions are available *by disease* from sources such as the California Department of Public Health (CDPH) or the Center for Communicable Disease Control (CDC).
2. The Health Officer or Epidemiologist may adapt or create criteria specific to the local outbreak and investigation.

3. Case Definitions include these three descriptors.
   a. Confirmed: A case that is laboratory confirmed or meets the clinical case definition and is epidemiologically linked (contact) to a confirmed case.
   b. Probable: A case that meets the clinical case definition, does not have serologic or virologic confirmation, and is not linked epidemiologically to a confirmed case.
   c. Suspect: Exhibits clinical case description/criteria

Example: E. Coli

Clinical Case Definition: Bloody diarrhea with or without nausea/vomiting and abdominal cramps
Confirmed Case: Culture positive for E. coli 0157:H7/STEC
Probable Case: Bloody diarrhea, with or without nausea/vomiting and abdominal cramps with or without epidemiologic link to confirmed case
Suspected (possible) Case: Diarrhea, with or without nausea/vomiting and abdominal cramps and with or without epidemiologic link to confirmed or probable case

D. Identify and count cases

1. Case interviewing is conducted to identify cases (contacts) not yet found.
2. Investigation tools (questionnaires) are available *by disease* from sources such as the California Department of Public Health (CDPH) or the Center for Communicable Disease Control (CDC).
3. The Health Officer or Epidemiologist may choose to adapt the pre-scripted tools or create a tool specific to the locality and outbreak presentation.
4. If more than one investigator conducts the interviews, a briefing of team members occurs to ensure consistency of data collection.
5. Health alerts may be distributed to health care providers, and in some cases to the media to increase reporting according to the case definition.

E. Characterize the data

1. Data is organized in a descriptive manner in a line list. This tool allows comparison of cases by person, locations, time, and patterns to identify commonalities.

Sample Line List: Pertussis investigation

School X Y Z Mrs. B class Name	Direct Contact to an Index case		Spent more than 1 hr with index case in confined space		Immunization with DTaP or Tdap		Any Symptoms				Infant at Home less than 1 yr		Family Contact Phone	Comments
	Yes	No	Yes	No	Yes Date of last Shot	No	Runny Nose	Sneezing	Fever of 99.8	Cough	Yes	No		

2. An epi curve is used to plot cases by time.

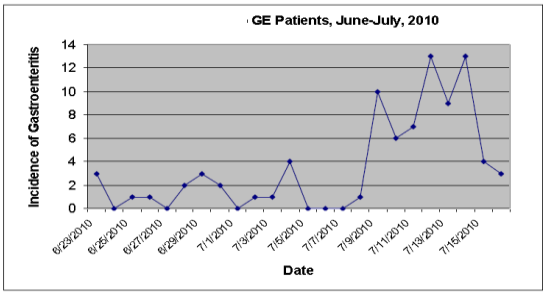

Figure 2. Epidemic Curve (Total documented cases = 84)

F. Develop and test hypotheses includes a study type

Two study types are used in epidemiology: descriptive and analytic.

1. Descriptive studies demonstrate patterns, focus on person, place and time and uses relatively available data, such as morbidity tables. They describe what, who, where and when and are used for program planning and developing hypotheses.
2. Analytic studies emphasize the 'why' and are used to identify causes, risk factors and modes of transmission (or test a hypothesis). Analytic studies are most often used for local investigations of an outbreak.
3. The type of study used will be at the discretion of the health officer and/or epidemiologist depending on the outbreak and available data.

Comment [LO1]: Why do we need to describe study types? I would suggest we simply say that study types used would be at the discretion of the health officer depending on the outbreak and available data.

G. The development of control measures and education (response plan)

Control measures are based on conclusions of the investigation. From the previous example, a plan would be developed to eliminate or reduce exposure to "X" as the likely source of the outbreak.

Strategies might include:

1. The Health Officer or Epidemiologist, based on the organism or source identified, disseminates prevention and treatment strategies to providers and the public.
2. The Health Officer has authority to recall products, isolate or quarantine (enforce if needed), to implement measures needed to protect the public.
3. The Health Officer, as the MHOAC (*Medical Health Operational Area Coordinator*) reports to the Region and State and/or requests resources by the Situation Report process.
4. PPE (personal protective equipment) and fit testing, vaccination or mass dispensing may be part of the response plan. Distribution of these resources would trigger activation of the Incident Command System and Department Operations Center (DOC).

V. Emergency Event

A. A communicable disease emergency

May include but is not limited to:

1. The resources and/or capabilities of the affected jurisdiction(s) cannot meet the needs of the response (e.g., disease control or health care surge), and additional resources must be requested from other jurisdictions, the State or the federal government;
2. A suspected or confirmed bioterrorism incident;

3. Detection of a disease that has the potential to spread uncontrolled (e.g., novel agent) and there is uncertainty about the effectiveness of existing control measures; or
4. The disease causes widespread, severe morbidity or mortality.

B. Response to an Emergency event

Chapter 1 of the HEPReP describes Public Health Response and the roles and responsibilities of the Incident Command. Refer to Chapter 1 for the All-Hazards Health and Medical Incident Command Structure. Additional function specific surveillance and epidemiologic responsibilities are listed below, in table 1.

Table 1: Roles and Responsibilities

Role	Responsibility	Contact Information
Health Officer ***Authority*** *California Health and Safety Code, Division 105, Communicable Disease Prevention and Control* *California Code of Regulations, Title 17, Division 1, Chapter 4, Subchapter 1, Reportable Diseases and Conditions*	*Supervises the Communicable Disease program and has ultimate responsibility for the coordination and implementation of communicable disease surveillance for infectious disease outbreaks.* • Weekly review of the Communicable Disease (CD) Log • Receipt of reports from the Director of Public Health Nursing, director of Environmental health, the Communicable Disease Coordinator and Public Health nursing staff. • Receives copies of the weekly CMR reports to the state. *The Public Health Officer has the ultimate responsibility for recognizing an infectious disease outbreak, initiating an evaluation and investigation of such an outbreak in order to*: • Make an etiologic diagnosis • Recruit consultants from state and federal resources to assist in undertaking such an investigation • Reporting to the CDPH when a local emergency is suspected. • The Health Officer is an ex officio member of the Infection Control Committee at the local hospital. • The Health Officer assumes Incident Commander role in an activation of the emergency response to a communicable disease event. • Law Enforcement may likewise establish an Incident Command to contend with the criminal investigation and Law Enforcement issues. Integration between the Health Department and local Law Enforcement occurs through the structure of the OES, supported by the exchange of Agency Representatives from each agency when necessary	209 533-7401 After hours, holidays and weekends 209 533-8055
Director of Public Health Nursing	• Immediate supervisor of the Communicable Disease Coordinate • Receives reports when CD Coordinator unavailable • Provides coverage for the Health Officer's monitoring responsibilities in the absence of the Health Officer	209 533-7401 After hours, holidays and weekends 209 533-8055

Role	Responsibility	Contact Information
Communicable Disease Coordinator	*The Coordinator position provides the first line of data review for the purpose of recognizing clusters of infectious disease that fall outside of what might be expected from natural occurrence. Case statistics are compiled weekly and are compared with historical local trends in infectious disease* • Compiles data regarding CD reports • Maintain files on CD investigations • Follows up on CD inquiries that are ongoing • Communicates monitoring and surveillance activities to the state agencies. • Observes trends of unexplained increases in frequencies of reportable illnesses and marks for further review • Causes of death reviewed monthly for trends • Investigation undertaken when statistics indicate exceptional increases in the prevalence of certain medical conditions.	209 533-7401
Department Support Tech –Morbidity Clerk	• Facilitates receipt, distribution and organization of CMR and/or other reporting directed • Performs data entry and compilation of data • Trains other clerical support as needed to manage increased volume	209 533-7401
Hospital Infection Preventionist	When the incidence of a communicable disease exceeds the usual historical frequency in the local hospital inpatient population, or when reportable communicable diseases occur in inpatients, it is the responsibility of the Infectious Disease Coordinators at the hospital to see that reports of such conditions are submitted to the Health Department. The hospital-based component of the Tuolumne County Syndromic Surveillance Program, including influenza surveillance, is supervised by the Hospital Infection Preventionist.	209 536-3384
Environmental Health Staff	If, in the course of inspections or the receipt of citizen “tips” a pattern of illness is reported to an Environmental Health Specialist, this report is communicated to the Health Officer and consideration of an epidemiological assessment is made.	209 533-5633
Healthcare Providers and Responders	Notify Tuolumne County Public Health and State agencies in accordance with California Code §2500 Cooperate with the investigation, implement control measures and mitigation activities, and follow guidance, protocols and orders released by Public Health, Environmental Health, Emergency Medical Services and other regulatory agencies. Provide laboratory samples as directed by the Health Officer Provide situation, case or other requested information to Public Health and State agencies in accordance with statutory and regulatory requirements and local policies and procedures.	

Role	Responsibility	Contact Information
	If medical and health resources are needed that cannot be obtained through existing agreements, request resources through the MHOAC Program.	
Laboratories	In accordance with California Code §2500, local hospital laboratories, reference laboratories, and contracted Public Health laboratories have the responsibility of reporting communicable diseases to the local Health Authority as delineated in the regulations. The San Joaquin Public Health Laboratory (SJPHL) receives local specimens to identify pathogens. All specimens are submitted through the LRN reference laboratory, unless otherwise directed by the LRN or CDPH. Specimen's positive for a suspected novel influenza strain will be submitted to the State Viral and Rickettsial Disease Laboratory (VRDL) for confirmation. Throughout the remainder of the pandemic, VRDL may request selected specimens for specific purposes to monitor for antiviral resistance or antigenic drift during progression of the pandemic. Public Health Laboratory Surge Capacity: SJPHL tests respiratory specimens for influenza on a year-round basis from all providers within the county and contract counties. SJPHL has a surge capacity plan in place. They have an inventory of necessary supplies and equipment sufficient for 2 weeks to a month depending on testing volume. The local hospital utilizes Associated Regional and University Pathologists (ARUP) for reference lab services and some local clinics contract with Quest lab services for assorted tests.	
School Health	In the event of an outbreak of illness among local students leading to absences exceeding 10% of the student population in any one school, the Health Department is notified of this occurrence.	School Nurse 209 536-2048
Tuolumne County Assessor/Recorder	Death certificates will be provided to the Health Department CD Coordinator for monthly review in order to identify trends in causes of death for local residents.	209 533-5535
CDPH Division of Communicable Disease Control (DCDC)	Provides technical assistance, policy guidance, lab support, field assistance and resources that are not otherwise available in Tuolumne County, such as consultant Epidemiologists for aid with incident recognition and investigation.	(916) 552-9700 during normal business hours. (916) 328-3605 CDPH Duty Officer
Centers for Disease Control and Prevention	Provides technical assistance when outbreaks exceed state capacity, are multi-state or international, or result from bioterrorism. CDC involvement usually only occurs on the request of the state health department.	800-CDC-INFO (800-232-4636) www.cdc.gov
Pharmacists	As key informants of trends in communicable disease by way of the utilization of antibiotic and palliative medications, communications will be maintained with local Tuolumne County pharmacists through access to the Tuolumne County California Health Alert Network (CAHAN). Local pharmacists will be able to notify the Health Department CD Coordinator about apparent deviations in pharmaceutical utilization that appear significant. Subsequent investigations may then be guided by this information.	

VI. Attachments

Link to CMR: Confidential Morbidity Report
Attachment 1: Excerpt from the Health Officer Practice Guide for Communicable Disease Control in California

Attachment 1: Excerpts from the
HEALTH OFFICER PRACTICE GUIDE FOR COMMUNICABLE DISEASE CONTROL IN CALIFORNIA
(Revised 06/07/13) www.cdph.ca.gov

This practice guide is a collaborative project of the Public Health Law Work Group. It was originally drafted by several County Counsel and City Attorney Offices in conjunction with the former Office of Legal Services, State Department of Health Services, and edited by several Health Officers

INTRODUCTION (page 1)
This practice guide was created to provide guidance to local Health Officers in California when responding to bioterrorism as well as to actual or suspected cases of naturally-occurring communicable disease. It discusses mechanisms that are available or not available prior to the calling of a local or statewide emergency. If a local emergency has been called, the user of this practice guide should also review the guide entitled, "*Authority and Responsibility of Local Health Officers in Emergencies and Disasters*" available at www.cdph.ca.gov

HEALTH OFFICER AUTHORITY TO INVESTIGATE AND REPORT DISEASE (page 3)
CDPH is mandated to create a list of reportable diseases and conditions. Specified providers of health care and under certain circumstances, individuals are required by regulation to report those diseases and conditions to the Health Officer and Health Officers in turn, must report specified diseases to CDPH. In addition, Health Officers may require providers of health care in their respective jurisdictions to disclose a disease that is not listed in the CDPH regulations.
Health Officers are also the agent of CDPH for conducting certain studies and undertaking investigations and actions as directed by CDPH. Health Officer's disclosure of information is governed by the California Code of Regulations (CCR), the Health Insurance Portability and Accountability Act of 1996 (HIPAA),the Confidentiality of Medical Information Act contained in California Civil Code §56.10, and may be subject to various other confidentiality statutes, some of which are described in Section VI, *"Confidentiality Of Health Information."*
The primary purpose of these reporting requirements is to alert Health Officers to the presence of disease within their jurisdiction. Upon receiving a report of communicable disease, Health Officers shall take whatever steps as may be necessary for the investigation and control of spread of the disease, condition or outbreak reported. Under CDPH regulations, the Health Officer must provide for an examination of the person or animal in order to verify the diagnosis, existence, or outbreak of the disease, investigate the source and take appropriate steps to prevent or control the spread of the disease.
In circumstances involving an "immediate menace to the public health" caused by calamity, such as flood, storm, fire, earthquake, explosion, accident, or other disaster, the Health Officer may close the area where the menace to public health exists.

Disease Surveillance (page 15)

In the area of communicable disease control, CDPH may be involved in the surveillance and response to an outbreak of disease, depending upon the pathogen involved. At its request, the Health Officer must report a local epidemic to CDPH.

a. Reportable diseases.

CDPH is statutorily required to establish a list of reportable diseases or conditions, both communicable and non-communicable, and the list must include the urgency of reporting each disease or condition. Health care providers and, specified circumstances, individuals must report to the Health Officer, cases or suspected cases of the diseases or conditions on the list within the timeframe specified.

b. Immediately reportable diseases.

The Health Officer reports immediately by telephone to CDPH cases and suspect cases of anthrax, botulism, brucellosis, cholera, dengue, diarrhea of the newborn (outbreaks), diphtheria, plague, rabies (human only), smallpox (variola), tularemia, varicella deaths, viral hemorrhagic fevers, yellow fever, the occurrence of any unusual diseases, and outbreaks of any disease. Diseases implicated in potential acts of bioterrorism must be reported to the Health Officer immediately by telephone. These diseases include anthrax, botulism (infant, foodborne, wound or other), cholera, plague, varicella (deaths only), smallpox, and viral hemorrhagic fevers (crimean-congo, ebola, lassa and marburg viruses).

c. Morbidity and case reports and studies.

In addition, the Health Officer is required to provide weekly morbidity reports, and case reports for specific diseases, including those potentially implicated in bioterrorism and those requested by CDPH. CDPH can further request that the Health Officer conduct a special morbidity and mortality study

USING HEALTH INFORMATION FOR PUBLIC HEALTH ACTIVITIES (page 28)

Release Of Health Information Permitted But It Must Be The Minimum Necessary Amount Of Information.

HIPAA permits public health agencies to use patient health information for public health activities. These activities include but are not limited to: preventing or controlling disease, injury or disability, reporting disease, reporting injuries, reporting vital events, conduct of public health surveillance, conduct of public health investigations, conduct of public health interventions, or to a foreign government agency that is acting in collaboration with a public health authority. HIPAA specifically allows the release of information, when authorized by law, to persons who may be at risk of contracting or spreading a disease. To the extent that the release of information is truly needed in order to prevent or control disease, injury or disability, the release should be allowable under HIPAA. However, only the “minimum necessary” of patient health information can be released. Because HIPAA does not specify what information constitutes “minimum necessary” information, Health Officers must use their judgment as to what information can be released on a case by case basis.