B20: Distinguishing Public Health Surveillance from Public Health Research at the Centers for Disease Control and Prevention (CDC)

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Distinguishing Public Health Surveillance from Public Health Research at the Centers for Disease Control and Prevention

C02: Perspectives throughout a career in Human Research Protections

Monday, 18 November 2019
2:45pm – 4:00pm

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The following speakers have relevant personal, professional, or financial relationships with respect to this educational activity with the following organizations, as noted below:

Micah Bass

Contributed to the draft OHRP Guidance on Public Health Surveillance Activities Deemed Not To Be Research.

Irene Stith-Coleman

Contributed to the draft OHRP Guidance on Public Health Surveillance Activities Deemed Not To Be Research.

Laura Youngblood

Contributed to the draft OHRP Guidance on Public Health Surveillance Activities Deemed Not To Be Research, and is a contributing author on the 3rd ed. of IRB Management & Function (under development), in the chapter addressing Public Health and Epidemiologic Research.

Disclaimers

Irene Stith-Coleman: The opinions expressed are those of the presenter and do not necessarily reflect the policy of the U.S. Department of Health and Human Services.

Micah Bass & Laura Youngblood: The findings and conclusions of this presentation are those of the presenters and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

Learning Objectives

1. Describe the CDC's process and criteria for determining whether an activity is research, according to the revised Common Rule
2. Discuss key considerations and decision points unique to public health practice activities (e.g., surveillance, public health response investigations, program evaluation)
3. Review real-world examples to demonstrate the decision-making process to assist the audience in determining when something is public health surveillance vs. public health research

CDC's Mission

CDC works 24/7 to protect America from health, safety and security threats, both foreign and in the U.S. Whether diseases start at home or abroad, are chronic or acute, curable or preventable, human error or deliberate attack, CDC fights disease and supports communities and citizens to do the same.

CDC increases the health security of our nation. As the nation's health protection agency, CDC saves lives and protects people from health threats. To accomplish our mission, CDC conducts critical science and provides health information that protects our nation against expensive and dangerous health threats, and responds when these arise.

https://www.cdc.gov/about/organization/mission.htm

CDC 24/7

PROTECTING AMERICA'S SAFETY, HEALTH, AND SECURITY

CDC's Role

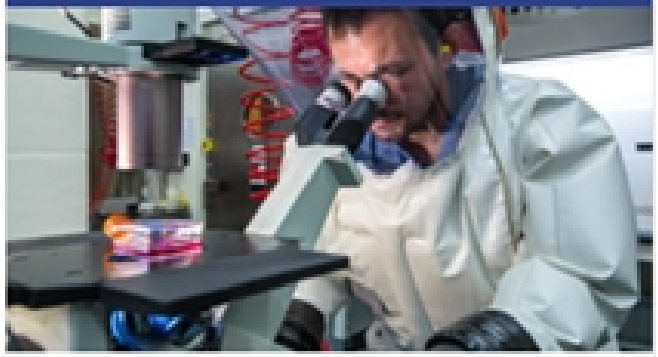
CDC24/7

PROTECTING AMERICA'S SAFETY, HEALTH, AND SECURITY

WE INVESTIGATE

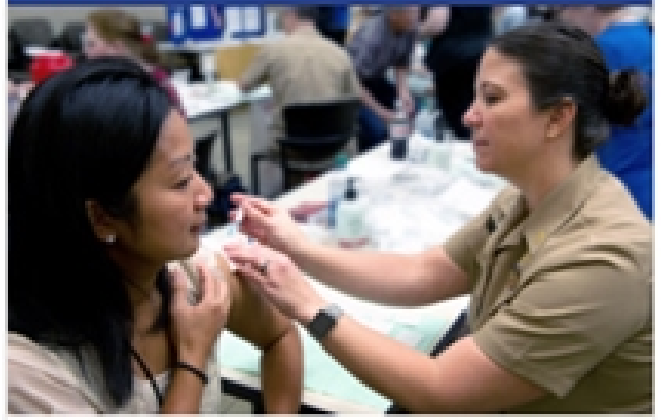
24/7 central command to monitor health and respond to health crises.

WE FIGURE OUT WHAT WORKS



Research that leads to the best data and solutions to fight disease and protect health.

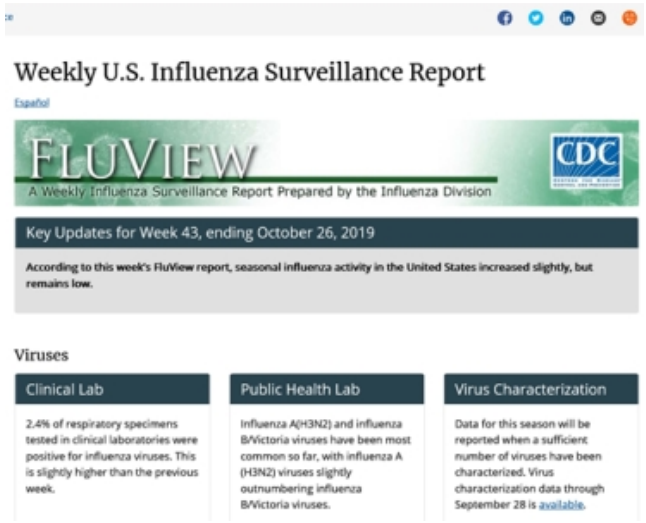
WE GET RESULTS



Science-based, data-driven, lifesaving ways to defend against health threats.

Public Health Surveillance
Data to Action

- Patterns and Causes of Morbidity and Mortality
- Identify and Reduce Disparities
- Invoke Public Health Intervention
- Establish and Evaluate Public Health Policy
- Tool for Accountability and Advocacy



Public Health Surveillance Defined…

- "…the ongoing, systematic collection, analysis, and interpretation of health data, essential to the planning, implementation and evaluation of public health practice, closely integrated with the dissemination of these data to those who need to know and linked to prevention and control." (1)
- "…systematic, ongoing collection, management, analysis, and interpretation of data followed by the dissemination of these data to public health programs to stimulate public health action." (2)
- "…the continuous, systematic collection, analysis and interpretation of health-related data needed for the planning, implementation, and evaluation of public health practice." (3)
- "…the systematic on-going collection, collation and analysis of data for public health purposes and the timely dissemination of public health information for assessment of public health response as necessary." (4)
- "…the monitoring of events in humans, linked to action" (5)

1. Lee LM, Thacker SB. History of public health surveillance. In: Public Health Surveillance, Halperin W, Baker EL (Eds.): New York; Van Norstrand Reinhold, 1992.
2. Porta M, ed. Dictionary of epidemiology. 5th ed. International Epidemiological Association. New York, NY: Oxford University Press; 2008
3. WHO health topics| Public health surveillance. Geneva: World Health Organization; 2014
4. International health regulations. 3rd Edition. Geneva: World Health Organization; 2005
5. Institute of Medicine. Addressing foodborne threats to health: policies, practices, and global coordination. Workshop summary. Washington DC: National Academies Press; 2006

CDC's Criteria & Process for Determinations

- Criteria
  - Definitions at 45 CFR 46.102
  - Order of Questions (OHRP Decision Charts)
- Process
  - Standardized
    - Associate Directors for Science (or designee)
    - Documentation for Determinations
  - Decentralized Approach
    - Individual Centers, Institutes, and Offices
    - Audits (Not-for-Cause and For Cause) by the Institutional Official's Office (CDC Office of Science)

Regulation & Guidance

Irene Stith-Coleman, PhD

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OHRP Draft Guidance

Activities deemed not to be research:
Public Health Surveillance, 2018 Requirements – Released 11/19/2018

Research means a systematic investigation, including research development, testing, and evaluation, designed to develop or contribute to generalizable knowledge. (45 CFR 46.102(l))

Public Health Surveillance Activities deemed not to be research.

OHRP Draft Guidance

Activities deemed not to be research:
Public Health Surveillance, 2018 Requirements – Released 11/19/2018

Three criteria:

1. Activity must be public health surveillance activity
2. Activity must be conducted, supported, requested, ordered, required, or authorized by a public health authority
3. Activity must be limited to that necessary to allow a PHA to identify, monitor, assess, or investigate potential public health signals, onsets of disease outbreaks, or conditions of PH importance (including trends, signals, risk factors, patterns in diseases, or increases in injuries from consumer products).

Criterion #1

The activity must be a public health surveillance activity.

In general, public health surveillance involves collecting, testing, analyzing, and using information or biospecimens to improve public health and prevent disease.

It provides timely and useful evidence, and it enables public health authorities to be more effective in their efforts to protect and promote public health.

Criterion #2

The activity must be conducted, supported, requested, ordered, required, or authorized by a public health authority.

- Extends to government entities at all levels responsible for public health matters, as well as anyone acting on such an entity's behalf (e.g. academic institutions, health care organizations, nonprofits)
- Official mandate of an agency must include responsibility for public health matters, generally or specifically
- Includes, but is not limited to: Ministries of Health, State and local health departments, CDC, FDA, OSHA, etc.

Public Health Authority, 45 CFR 46.102(k)

Means an agency or authority of the United States, a state, a territory, a political subdivision of a state or territory, an Indian tribe, or a foreign government, or a person or entity acting under a grant of authority from or contract with such public agency, including the employees or agents of such public agency or its contractors or persons or entities to whom it has granted authority, that is responsible for public health matters as part of its official mandate.

Criterion #3

The activity must be limited to those necessary to allow a public health authority to *identify, monitor, assess, or investigate potential public health signals, onsets of disease outbreaks or conditions of public health importance*.

- Conditions of public health importance include trends, signals, risk factors, patterns in diseases, or increases from consumer products.
- Include those activities associated with providing timely situational awareness and priority setting during the course of an event or crisis that threatens public health (including natural or man-made disasters)

Public Health Surveillance vs. Epidemiologic Research

7176 Federal Register / Vol. 82, No. 12 / Thursday, January 19, 2017 / Rules and Regulations

ii. Response to Comments and Explanation of the Final Rule: Public Health Surveillance

The final rule adopts the NPRM proposal related to deeming certain public health surveillance activities as explicitly outside of the scope of the Common Rule. Several editorial modifications have been made to this category to improve readability. Additionally, the final rule explicitly specifies that the collection of information is permitted under this category of activities.

The final rule codifies the current interpretation that the definition of research does not include a category of activities that solely involve public health surveillance, including collecting and testing information or biospecimens in activities that are conducted, supported, requested, ordered, required, or authorized by a public health authority and that are limited to those necessary to allow the public health authority to identify, monitor, assess, or investigate potential public health signals, onsets of disease outbreaks, or conditions of public health importance. Such surveillance activities can include collecting information about trends, signals, risk factors, patterns in diseases, or increases in injuries from using

public health practice. Surveillance uses data from a variety of sources, including mandatory reporting of certain conditions, routine monitoring, vital records, medical billing records, and public health investigations. The line between public health surveillance and epidemiological research can be difficult to draw, as the same epidemiological techniques may be used in both. Generally, the difference between the activities is the purpose or context in which the investigation is being conducted and the role of the public health authority.

The following are examples of public health surveillance activities being codified as outside of the definition of research in this regulation:

- Safety and injury surveillance activities designed to enable a public health authority to identify, monitor, assess, and investigate potential safety signals for a specific product or class of products (for example, the surveillance activities of the FDA's Adverse Event Reporting System,[26] the Vaccine Adverse Event Reporting System,[27] Manufacturer and User Facility Device Experience database,[28] the Medical Product Safety Network,[29] and the Sentinel Initiative);[30]
- Surveillance activities designed to

- Surveillance activities designed to enable a public health authority to detect the onset of disease outbreaks o provide timely situational awareness during the course of an event or crisis that threatens the public health, such as a natural or man-made disaster; and,
- Surveillance activities designed to enable a public health authority to identify the prevalence of a condition of public health importance, known risk factors associated with a condition of public health importance, or behaviors or medical practices related to prevalence of a known condition of public health importance (*e.g.*, surveillance of the prevalence of: tobacco use, exposure to secondhand smoke, lung cancer, or use of smoking cessation treatments).

On the other hand, subsequent research using information collected during a public health surveillance activity, for instance, genetic analysis of biospecimens, would not be removed from the definition.

This clarification of current interpretation would not remove the following activities from the definition of "research": exploratory studies designed to better understand risk factors for chronic diseases, including genetic predisposition, for chronic

82 FR 7176

> "Generally the difference between [public health surveillance and epidemiological research] is the purpose or context in which the investigation is being conducted and the role of the public health authority."

Applying the Exclusion

Laura Youngblood, MPH, CIP

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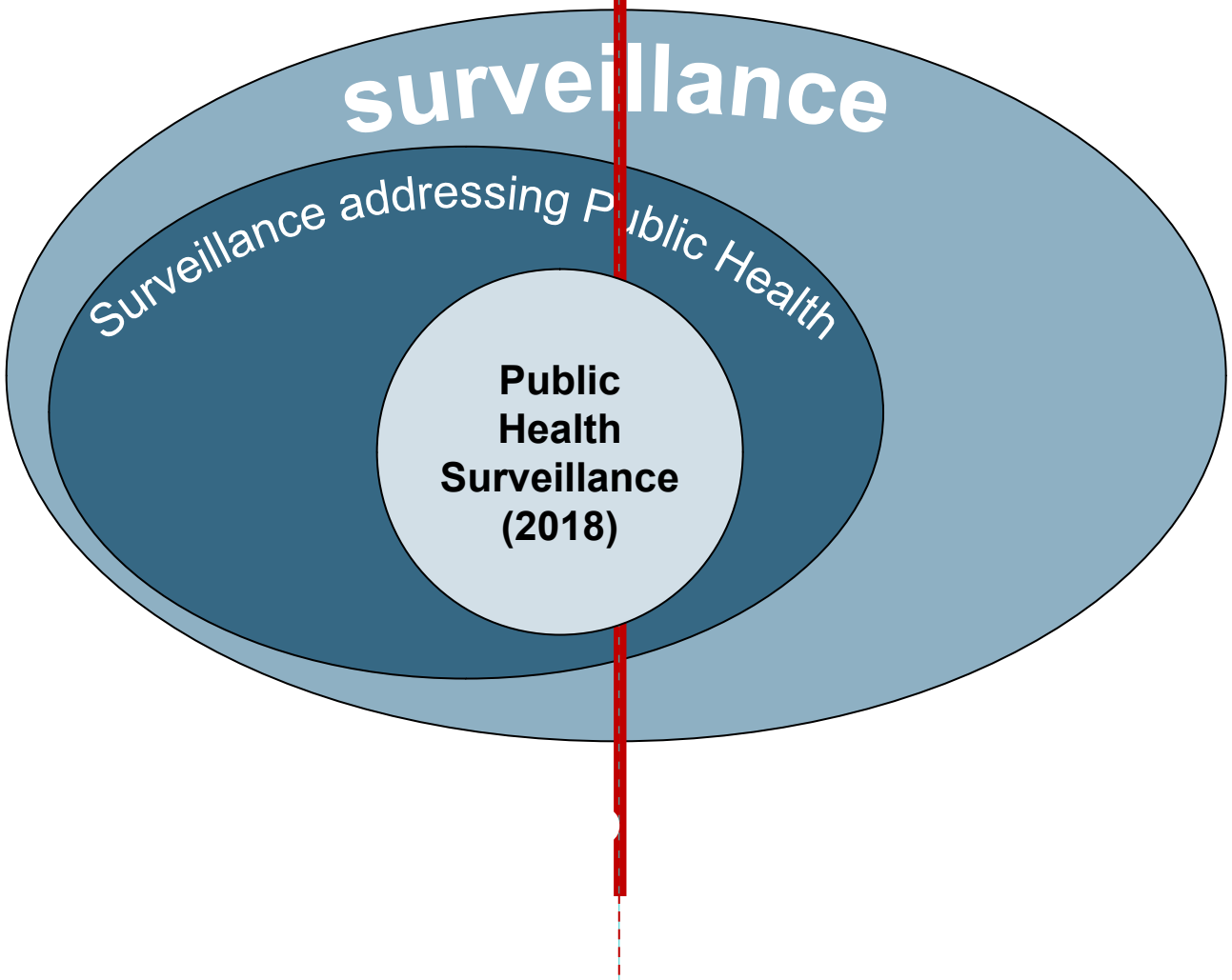
2019 Advancing Ethical Research Conference
November 17-20 • Boston, MA

Key assumptions

Non-research



Research

Redux

Collection, analysis or use of data and/or biospecimens to target public health or disease prevention

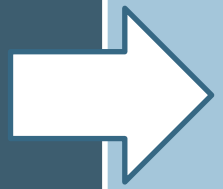
Conducted, supported, requested, ordered, required, or authorized by a Public Health Authority

Limited to activities necessary to allow a public health authority to…

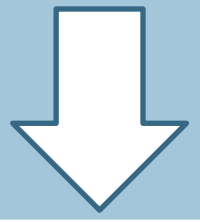
Identify
Monitor
Assess
Investigate

OR

Provide situational awareness
Set priorities
In the context of an event or crisis that threatens public health.

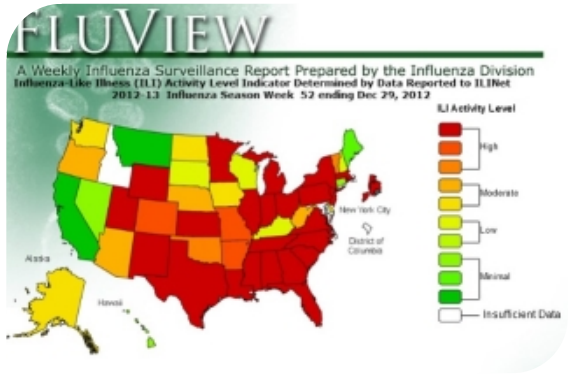


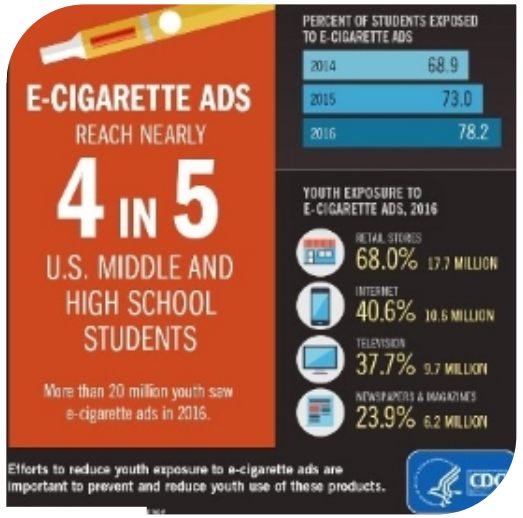
Public health signals
Onset of outbreaks
Conditions of PH importance

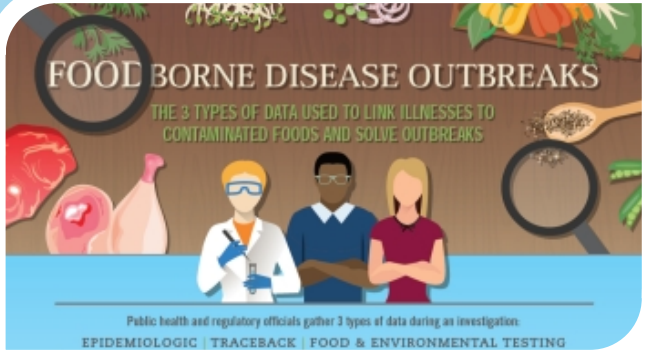


Trends, signals, risk factors, patterns of disease, increase in injury from consumer products

Examples from the Guidance







Beyond the Guidance

Activities that are not PHS

- Delivery of a service or intervention
- Exploratory studies (82 FR 7176)
  - To better understand biological mechanisms of disease, including
    - Genetic predisposition
    - Relationships between biomarkers of diseases and exposures
  - To elucidate potential relationships between behavioral factors

Attributes that are not part of the calculus

- Risk
- Complexity of design
- Generalizability
- Ethics

NCEZID Reviews – retrospective

- Team review
- Findings are documented on a worksheet
- Rationale for all 3 criteria explained
- Reclassification offered to eligible projects


NCEZID Public Health Surveillance Review Worksheet

This worksheet is designed to assist NCEZID Human Subjects Advisors to evaluate whether a project satisfies the parameters for public health surveillance activities deemed not to be research under 2018 45 CFR 46.102(l)(2). This worksheet is based on draft OHRP guidance released in November 2018, and is designed to document the decision-making process for existing HRPO-reviewed studies that might be eligible for reclassification.

HRPO Protocol #

Review date

Project title

CDC investigator

Reviewer

Final assessment

Project appears to satisfy criteria for Public Health Surveillance

Project DOES NOT appear to satisfy criteria for Public Health Surveillance

Comments

Is the activity surveillance addressing a public health issue?

Surveillance refers to the collection or use of information or biospecimens. It does not include the delivery of interventions. Projects involving the delivery of interventions generally do not fit the public health surveillance exclusion.

Public health issue includes diseases and conditions, as well as behaviors and risk factors associated with such conditions.

Please describe whether the project meets this criterion, including the type of activities and identifying the public health issue being addressed.

Page 1 of 2

requested, ordered, authorized, or required by a public health

ernment entity that has public health as part of its official mandate,
r acting under a contract or formal grant of authority.

in the collection or use of the information or biospecimens.

d encompasses the range of activities that might be initiated or directed
ect involvement or specific funding.

ets this criterion, identifying the public health authority/ies and the

Is the activity limited to those necessary to allow the public health authority to carry out its surveillance objective?

Limited to those necessary means that the project does not include any activities that do not contribute to the identified public health mission.

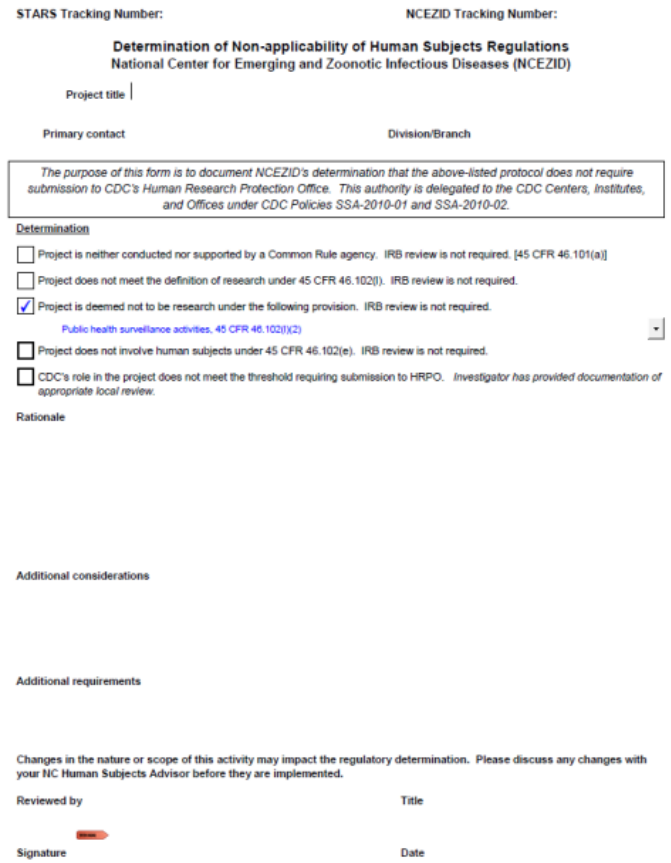
Activities that fall within the scope of activities deemed not to be research include identifying, monitoring, assessing, or investigating a public health issue, as well as activities designed to provide situational awareness or inform decision making during a public health emergency.

Please describe whether the project meets this criterion, describing how the project activities contribute to the public health authority's surveillance objective, and discussing whether there are any components of the activity that do not directly serve the public health mission.

Page 2 of 2

NCEZID Reviews – prospective

- Began applying the exclusion 1/21/19
- Using the same framework as retrospective reviews
- Documented on NCEZID Determination Form



STARS Tracking Number: NCEZID Tracking Number:

Determination of Non-applicability of Human Subjects Regulations
National Center for Emerging and Zoonotic Infectious Diseases (NCEZID)

Project title

Primary contact Division/Branch

The purpose of this form is to document NCEZID's determination that the above-listed protocol does not require submission to CDC's Human Research Protection Office. This authority is delegated to the CDC Centers, Institutes, and Offices under CDC Policies SSA-2010-01 and SSA-2010-02.

Determination

- ☐ Project is neither conducted nor supported by a Common Rule agency. IRB review is not required. [45 CFR 46.101(a)]
- ☐ Project does not meet the definition of research under 45 CFR 46.102(l). IRB review is not required.
- ☑ Project is deemed not to be research under the following provision. IRB review is not required.
  - Public health surveillance activities, 45 CFR 46.102(l)(2)
- ☐ Project does not involve human subjects under 45 CFR 46.102(e). IRB review is not required.
- ☐ CDC's role in the project does not meet the threshold requiring submission to HRPO. *Investigator has provided documentation of appropriate local review.*

Rationale

Additional considerations

Additional requirements

Changes in the nature or scope of this activity may impact the regulatory determination. Please discuss any changes with your NC Human Subjects Advisor before they are implemented.

Reviewed by Title

Signature Date

Challenges

Is it public health surveillance?

- How to distinguish between things that are *designed* to provide timely information for public health action, vs. things that *happen to* provide useful information, but are really designed to address a broader goal, and vice-versa.
- What is “timely”?

…public health authority?

- What is the jurisdiction of the public health authority?
- What is the scope of the public health mandate?

…limited to activities necessary to allow…

- How to distinguish whether a non-PHS activity is or is not separable from an underlying surveillance program.

Examples

Framework

- *Is it surveillance addressing a public health issue?*
- *Is it conducted, supported, etc… by a public health authority?*
- *Is it limited to activities necessary to allow a public health authority to fulfill its public health mandate?*

Consensus not required!

Case #1 – Scenario

- National surveillance system to monitor behavioral trends in persons at risk for HIV
- Funded by CDC through cooperative agreements with City and State health departments
- Annual surveys rotating through 3 high risk groups
  - Venue-based sampling for men who have sex with men
  - Respondent-driven sampling for injection drug users & heterosexuals
- Anonymous surveys and HIV testing offered
- Objectives:
  - Describe the burden and trends in HIV infection among the most highly-affected populations;
  - monitor trends in factors that increase risk of HIV acquisition and transmission;
  - describe utilization of prevention services.
- Surveillance data may be used for secondary research analyses – but such analyses are not identified in advance, and the surveys are not designed to achieve statistical power for any pre-determined hypotheses.

https://www.cdc.gov/hiv/statistics/systems/nhbs/index.html

Case #1 – Conclusions

Surveillance addressing public health?

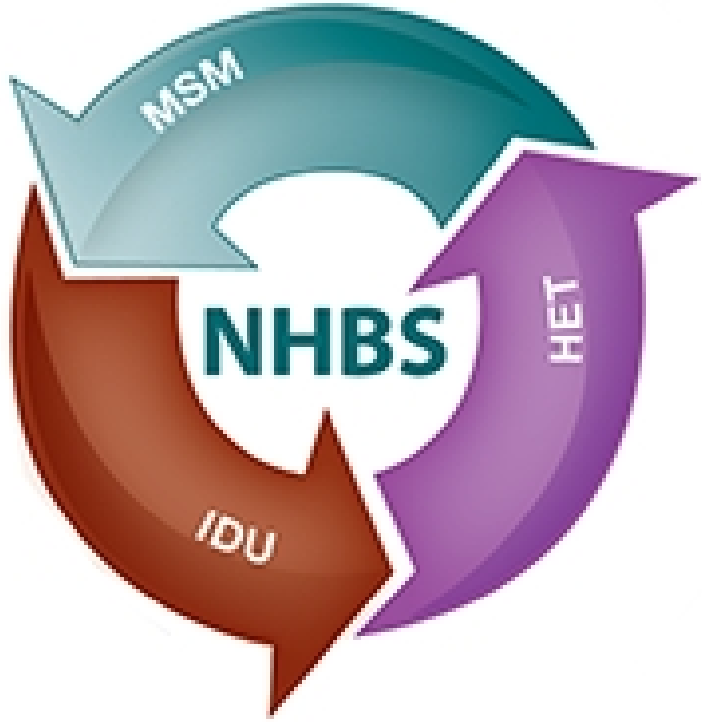
Collection, analysis, and use of information and biospecimens to monitor and assess behavioral risk factors for HIV acquisition.

Public Health Authority?

Supported by CDC, and conducted cooperatively by CDC and State & Local Health Departments.

Limited to necessary activities?

All of the activities are necessary for public health authorities to monitor behavioral risk factors in the population.



Satisfies criteria for Public Health Surveillance.

in Puerto Rico, previously collected data and specimens from the GBS Field Case-Control Study to assess ZIKV infection as a risk factor for GBS (CDC non-research determination # 0226161S), [6] the

Case #2 – Scenario

> *…previously collected data from the [outbreak response activities] provide a unique opportunity to investigate the risk factors associated with developing GBS following ZIKV infection.*

- During the Zika outbreak in the Americas in 2016, surveillance for Guillain-Barré syndrome (GBS) in Puerto Rico. Several surveillance, research, and response activities were carried out by local and deployed CDC staff, in collaboration with the Puerto Rico Department of Health, as part of the outbreak response.
- In 2018, CDC investigators proposed a secondary analysis of these data and residual biospecimens. The objective was to investigate immune and infection biomarkers and possible associations with the development of GBS following ZIKV infection.
- Collaborating partners included several academic institutions and other non-governmental organizations.

Case #2 – Discussion

Surveillance addressing a public health issue?

No. Although it involves the collection and use of data & biospecimens to address a public health issue, it is not clear that this is designed to provide timely information to CDC or PRDH to inform action, although the findings likely will contribute to public health decision-making eventually.

Public Health Authority?

Yes. It is conducted by CDC and others, and investigation of arboviral diseases in PR is within the scope of CDC's public health authority.

Limited to necessary activities?

No. Although this is an important issue to investigate, this is primarily an exploratory analysis designed to answer broad scientific questions and further the scientific understanding of biological/pathogenic processes.

Does not satisfy criteria for Public Health Surveillance.

Case #3 – Scenario

- In 2018, an unusual # of invasive *Haemophilus influenzae*, serotype A cases were identified in a small village in rural Alaska.
- Routine control measures had already been initiated by the state health department and local health corporation.
- Concerns about prolonged exposure in the community
- The state health department and local health corporation carried out the following activities, with CDC assistance:
  - Oropharyngeal carriage survey of the community
  - Delivery of antibiotic prophylaxis to high risk groups
  - Follow up carriage survey to confirm reduction in OP carriage of Hia
- The delivery of prophylaxis was not separable from the initial and follow-up surveys.

Photo used with the permission of Leisha Nolen

Case #3 – Discussion

Surveillance addressing a public health issue?

The initial and follow-up carriage surveys both involved the collection and testing of information and biospecimens to inform appropriate control measures in a defined community.

Public Health Authority?

It was carried out by the state health department and CDC, within the scope of their relevant public health authorities.

Limited to necessary activities?

No. This activity involved a non-separable objective that is outside the scope of surveillance.

Does not satisfy criteria for Public Health Surveillance, BUT could still be considered non-research under 45 CFR 46.102(l).

Questions?

Thank You

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