Gonococcal Isolate Surveillance Project

OMB 0920-0307

Expiration 8/31/2016

Supporting Statement – Part A

Robert Kirkcaldy, MD, MPH
Project Officer

National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention
Division of STD Prevention
Surveillance & Data Management Branch
Centers for Disease Control and Prevention
1600 Clifton Road NE, Mailstop E-02
Atlanta, GA 30333

Voice: (404) 639-8659
Fax: (404) 639-8610
Email: hgl8@cdc.gov

August 7, 2014

GONOCOCCAL ISOLATE SURVEILLANCE PROJECT

0920-0370

Section A.

Justification.

1. Circumstances Making the Collection of Information Necessary
2. Purpose and Use of the Information Collection
3. Use of Improved Information Technology and Burden Reduction
4. Efforts to Identify Duplication and Use of Similar Information
5. Impact on Small Businesses or Other Small Entities
6. Consequences of Collecting the Information Less Frequently
7. Special Circumstances Relating to the Guidelines of 5 CFR 1320.5
8. Comments in Response to the Federal Register Notice and Efforts to Consult Outside the Agency
9. Explanation of Any Payment or Gift to Respondents
10. Assurance of Confidentiality Provided to Respondents
11. Justification for Sensitive Questions
12. Estimates of Annualized Burden Hours and Costs
13. Estimates of Other Total Annual Cost Burden to Respondents and Record Keepers
14. Annualized Cost to the Government
15. Explanation for Program Changes or Adjustments
16. Plans for Tabulation and Publication and Project Time Schedule
17. Reason(s) Display of OMB Expiration Date is Inappropriate
18. Exceptions to Certification for Paperwork Reduction Act Submissions

Section B. Collection of Information Involving Statistical Methods

1. Respondent Universe and Sampling Methods
2. Procedures for the Collection of Information
3. Methods to Maximize Response Rates and Deal with Nonresponse
4. Tests of Procedures or Methods to Be Undertaken
5. Individuals Consulted on Statistical Aspects and Individuals Collecting and/or Analyzing Data

TABLES

LIST OF ATTACHMENTS

A. Justification

1. Circumstances Making the Collection of Information Necessary

The Division of STD Prevention (DSTDP), National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (NCHHSTP), Centers for Disease Control and Prevention (CDC)requests OMB to approve a non-substantive change to data collection forms of the currently approved Gonococcal Isolate Surveillance Project (GISP),0920-0307 (exp. 12/31/2016). The non-substantive change to Forms 2 and 3 consists of replacing the variable for spectinomycin susceptibility (SPC or SPCTINO) with a variable for gentamicin susceptibility (GEN) (**Attachments 3b and 3c**). Spectinomycin is not available in the United States for clinical use (and thus continued spectinomycin susceptibility testing in GISP is unlikely to yield useful data) and gentamicin will be included in the 2014 CDC STD Treatment Guidelines as a possible gonorrhea treatment. This change will not increase nor decrease the burden.

Background

Since the last OMB extension, GISP collected antimicrobial susceptibility data, and associated demographic/clinical data, on over 10,000 *N. gonorrhoeae* isolates. Data from GISP directly informed the recent revision of the CDC Sexually Transmitted

Disease (STD) Treatment recommendations for treatment of gonorrhea, published in the Morbidity and Mortality Weekly Report (MMWR) in August, 2012.[1] Analyses of GISP data were published in multiple reports.[1-12]

The need for GISP has been heightened in the past 3 years by: (1) the continued decline in the number of laboratories in the United States that can isolate *N. gonorrhoeae* by culture, which is necessary for antimicrobial susceptibility testing, and (2) the global emergence of multidrug-resistant *N. gonorrhoeae* strains also resistant to cephalosporin antimicrobials, the foundation of the only remaining recommended therapy for gonorrhea. Continued surveillance of gonococcal resistance is critical. We plan to continue to monitor trends in gonococcal antimicrobial susceptibility through GISP and continue to contribute to the scientific basis for gonorrhea treatment recommendations.

Approximately 800,000 persons require treatment for gonorrhea each year in the United States.[13] Without treatment, gonococcal infections can result in serious sequelae such as pelvic inflammatory disease, infertility, and ectopic pregnancy. Gonorrhea can also facilitate HIV transmission. Control of gonorrhea in the United States relies on rapid detection and prompt treatment with effective antimicrobial therapy. However,

effective gonococcal therapy is complicated by the ability of *N. gonorrhoeae* to develop resistance to antimicrobials.

GISP was created in 1986 to the address the problem of changing resistance patterns in *N. gonorrhoeae*. GISP is a unique national sentinel surveillance system that monitors trends in antimicrobial susceptibilities of *N. gonorrhoeae* strains in the United States and plays an integral role in guiding national recommendations on treatment of gonorrhea. Data from GISP have directly contributed to CDC STD Treatment Guidelines in 1993, 1998, 2002, 2004, 2006, and 2010, in addition to gonorrhea treatment recommendation updates in 2007 and 2012. GISP is the oldest surveillance system in the United States for monitoring antimicrobial resistance and was identified as a model surveillance system during the July 1999 Interagency Task Force on Antimicrobial Resistance discussions held in Atlanta, GA that led to the 2001 Public Health Action Plan to Combat Antimicrobial Resistance.

The programs and data collection are authorized by the Public Health Service Act, Sec. 301 and 318 (42 USC 241 and 247c) (**Attachment 1**).

A.1.1 Privacy Impact Assessment

Overview of the Data Collection System

Local providers at approximately 30 participating sentinel sites (i.e., STD clinic or multiple STD clinics affiliated with a

single public health department) obtain urethral isolates of *N. gonorrhoeae* from the first 25 men with urethral gonococcal infection each month. Because there may be occasional month-to-month variability in the number of isolates submitted, a sentinel site may provide more than 25 isolates in any given month to make up for providing fewer than 25 isolates in other months; the overall goal is for each sentinel site to provide at least 300 isolates per year.

Isolates are frozen until shipped to the Regional Laboratory. Isolates are shipped each month to the Regional Laboratory.

All data from Form 1 (Demographic/Clinical Data), Form 2 (Antimicrobial Susceptibility Testing), and Form 3 (Control Strain Susceptibility Testing) (**Attachments 3a, 3b, and 3c**), are submitted electronically, either (1) directly to the CDC GISP data manager at CDC, or (2) through a secure GISP-web based application that only the sentinel site appointee, regional laboratory manager, GISP data manager, and Project Officer are able to access. All personal identifying information (e.g., name, address) on individual patients is retained by the local STD clinics, is not collected on GISP data collection forms, and is not included with data sent to CDC.

<u>Items of Information to be Collected</u>

No individually identifiable information is collected.

Identification of Website(s) and Website Content Directed at Children Under 13 Years of Age

The project website features information on the history of the project, the protocol, annual reports, Forms 1, 2, and 3 (Form 1: Demographic/Clinical Data; Form 2: Antimicrobial Susceptibility Testing; and Form 3: Control Strain Susceptibility Testing) (**Attachments 3a, 3b, and 3c**), and the data coding guide (**Attachment 6**). No data are collected on the website. The website does not contain information or pages directed at children under the age of thirteen years.

2. Purpose of Use of the Information Collection

GISP provides essential and unique data on gonococcal resistance patterns in the United States. Without data from GISP, it would not be possible to know whether recommended antimicrobial therapies for gonorrhea remain effective over time. Without such information, both effective treatment and control of gonorrhea transmission would be jeopardized.

In addition, many non-GISP laboratories now use non-culture based tests to diagnose gonorrhea; without culture, the organism is not available for antimicrobial susceptibility testing. Thus, the GISP system fills critical surveillance needs.

Information from GISP is continually used as the basis for revising gonococcal treatment recommendations. CDC’s Sexually

Transmitted Diseases (STD) Treatment Guidelines have been published in 1993, 1998, 2002, 2004, 2006, and 2010. GISP data from 2005 to June 2006 indicated increased prevalence of fluoroquinolone-resistant *N. gonorrhoeae* (QRNG), which prompted CDC to no longer recommend empiric treatment for gonococcal infections with fluoroquinolones.[14] Several years later, data from GISP collected during 2006 to 2011 indicated increasing prevalence of isolates with elevated minimum inhibitory concentrations of cefixime.[8] Based on these data, CDC updated treatment recommendations for gonococcal infections to no longer recommend cefixime as first-line therapy.[1]

CDC's STD Treatment Guidelines are used as the standard of care by publicly funded STD programs and in many other clinical practice settings throughout the United States. Changes in CDC's STD Treatment Guidelines result in changes in physician prescribing behavior in the United States.[15]

2.1 Privacy Impact Assessment Information

No individually identifiable information is being collected or being shared. Data collection will have little to no effect on patients' privacy. The purpose of GISP is to monitor trends in antimicrobial resistance in *N. gonorrhoeae* strains in the United States in order to establish a scientific basis for the selection of gonococcal therapies. Overall GISP data are reported in the annual CDC STD Surveillance Report (http://www.cdc.gov/std/stats11/default.htm), and aggregated site-specific data are reported in the GISP Site Profiles (http://www.cdc.gov/std/gisp2011/default.htm). Gonococcal isolates included through GISP are also used by scientists at CDC and outside CDC to better understand the emergence, trends over time, and spread of gonococcal resistance.

3. Use of Improved Information Technology and Burden Reduction

In compliance with the recommendation of OMB per the Notice of Action (dated 1/18/2005) of a previously approved ICR, all data from Form 1 (Demographic/Clinical Data), Form 2 (Antimicrobial Susceptibility Testing), and Form 3 (Control Strain Susceptibility Testing) (**Attachments 3a, 3b, and 3c**), are being submitted electronically either: (1) directly from the sentinel site to the GISP data manager at CDC, or (2) through a secure GISP-web based application. 100% of the responses are gathered

electronically. (See **Attachment 4** for screen shots of GISP Web application).

4. Efforts to Identify Duplication and Use of Similar Information

The principal investigators and co-investigators (who include notable non-CDC experts in the field) have completed a thorough review of the literature, and there is no similar system to monitor antimicrobial resistance in *N. gonorrhoeae* at the national level or regional level.

5. Impact on Small Business or Other Small Entities

No small business or other small entities are involved in this project. Respondents are exclusively state/local health departments and private labs.

6. Consequences of Collecting the Information Less Frequently

Past experience indicates that gonococcal resistance patterns can change relatively rapidly. Therefore, the GISP protocol requests monthly reporting by sentinel STD clinics and laboratories (which are state / local health departments and private labs) in order to: (1) monitor emergence of new antimicrobial resistance or sudden changes in antimicrobial resistance trends, and (2) ease the burden of specimen processing for the participating

laboratories. For these laboratories, it is easier to process isolates on an ongoing basis rather than store, process, and report them on a quarterly or annual basis.

After GISP detects an increase in suspected antimicrobial resistance patterns, appropriate responses (i.e., changes in guidelines, implementation of new therapeutic regimens, etc.) must be developed. Thus, GISP serves as a timely surveillance system that allows for rapid detection and response to new resistance patterns.

There are no legal obstacles to reduce the burden.

7. Special Circumstances Relating to the Guidelines of 5 CFR 1320.5

None.

8. Comments in Response to the Federal Register Notice and Efforts to Consult Outside the Agency

A 60-day notice to solicit public comments was published in the Federal Register on Wednesday, March 27, 2013, Vol. 78, No. 59, pages 18600-18601(**Attachment 2**). One non-substantive comment was received.

GISP is a collaborative project among CDC investigators, non-CDC scientists, five regional laboratories, and 30 sentinel STD clinics located around the United States. Frequent consultations between CDC and persons outside CDC regarding the availability of

data, frequency of collection, clarity of instructions, and data elements to be recorded have taken place via: 1) site visits to participating sentinel clinics and regional laboratories; 2) annual meetings of GISP co-investigators outside of CDC who are closely associated with the participating laboratories and clinics; and 3) e-mail communications among all personnel participating in GISP activities.

9. Explanation of Any Payment or Gift to Respondents

No payment or gift is provided to respondents.

10. Assurance of Confidentiality Provided to Respondents

Because no individually identifiable information is being collected, the Privacy Act is not applicable.

GISP has been determined to not involve research involving human subjects and IRB approval is not required.

Privacy Impact Assessment Information

The urethral gonococcal isolates are collected from patients as part of their routine care after a gonorrhea infection has been diagnosed. A unique number is assigned to each isolate and corresponding patient. Isolates are assigned sequential identifiers for each month. Each identifier is composed of a three-letter designation for the STD clinic site, followed by a

six-digit number indicating the year and month, and a two digit number in the sequence from 01 through 25. Patient data is obtained through review of medical records by the clinic staff and included in Form 1. GISP data collection forms contain no personal identifiers and the data are not linked to specific individuals. All individually identifiable information (e.g., name, address) on individual patients is retained by the STD clinics that treated the patient and is not recorded with data sent to CDC.

Completed GISP data collection forms are stored in a locked file cabinet. Only the GISP data manager and project coordinator have access to these data. The electronic GISP database is stored on the CDC mainframe computer and only the Division of STD Prevention (DSTDP) data managers have access rights to the data.

11. Justification for Sensitive Questions

Cases of gonorrhea are routinely reportable in all state health departments, and patient information is routinely collected by state, county, and city health departments' STD program personnel for purposes of disease control. The patient data collected with Form 1 (**Attachment 3a**) are a subset of this routinely collected information.

The sensitive questions on Form 1 include: biological sex of sex partners, previous history of gonorrhea, HIV status, travel history, prior antimicrobial use, history of giving or receiving drugs or money for sex, and recreational drug use. These are elicited at participating STD clinics in a private environment and recorded by STD clinicians in order to assess high risk sexual behaviors and to provide appropriate behavioral counseling. These items are asked for all STD infections and not specifically for GISP. These sensitive questions are essential in order to develop an accurate surveillance picture of disease in the community.

Biological sex of sex partner and *recreational drug use* identify increased risk of gonorrhea – including transmission of resistant strains – in certain populations known to be at high risk for STDs.

Previous history of gonorrhea is useful in determining whether antimicrobial resistance is more likely to emerge in core groups of individuals who have frequent gonococcal infections and are treated with antimicrobials frequently.

HIV status is useful for identifying increased transmission of resistant strains among certain immunosuppressed populations who may be engaging in risky sexual behavior.

Travel history, *prior antimicrobial use*, *history of giving or exchanging drugs or money for sex*, and *recreational drug use* have

all been associated with increased risk for infection with resistant gonorrhea and as risk factors associated with emergence of resistance.

12. Estimated Annualized Burden Hours and Costs

Under the GISP protocol, sentinel clinics are asked to provide 25 isolates per month (as noted on Forms 1 and Form 2). However, due to low volume at some sites in certain months, we expect an average of 20 isolate submissions per sentinel site per month. This provides an approximate total of 121 isolates to be tested and recorded per regional laboratory monthly. These estimates are based on the total number of isolates submitted in 2011, and also serve as the basis for calculating burden hours and cost to respondents.

For Forms 1 and 2, a "response" is defined as the data collection/processing and laboratory processing associated with an individual gonococcal isolate from an individual patient. A total of 30 sentinel sites will submit 20 isolates on a monthly basis or 600 responses annually, via Form 1. The estimated time for clinic personnel to abstract data for Form 1 is 11 minutes per response (**Attachment 3a**).

Five regional laboratories will provide 121 isolates each month or 1,452 responses annually via Form 2. Based on previous laboratory experience in analyzing gonococcal isolates, the estimated time for each participating laboratory to record data

on Form 2 is 1 hour per response and 7,260 hours for all 5 laboratories annually (**Attached 3b**).

For Form 3, a "response" is defined as the testing and recording of Regional laboratory data for a single control strain set. Each Regional laboratory submits data for 4 sets of 7 control strains each month or 48 sets of control strains annually (4 sets x 12 months = 48). It takes approximately 12 minutes to process 1 set of 7 control strains and to record the data on Form 3. The annual burden to collect data using Form 3 is 48 hours (**Attachment 3c**). Thus, the estimated annualized burden for all 3 data collection methods is 8,628 hours.

Table 12A: Estimated Annualized Burden Hours and Costs

Type of Respondent	Form Name	No. of Respondents	No. of Responses per Respondent	Avg. Burden per Response (in hours)	Total Annual Burden (in hours)
Clinic	Demographic Clinical Data Form 1	30	240	11/60	1,320
Laboratory	Antimicrobial Susceptibility Testing Form 2	5	1,452	1	7,260
	Control Strain Susceptibility Testing Form 3	5	48	12/60	48
Total		40			8,628

Use of the GISP software and web application discussed in Item A.3 might reduce the burden required for clinic respondents using

Form 1. However, the time to record responses manually was used to calculate the burden.

Costs to respondents are incurred in purifying, storing and forwarding isolates to regional laboratories; transferring data from medical records to GISP forms; entering the data into an electronic database locally (some clinics are currently not able to do this); and forwarding the information to CDC.

All respondents are paid through federal funds so there is no additional cost to them to provide the isolates and complete Forms 1 to 3. However, in order to calculate the cost to the respondents, we use the hourly wage rate for a clerk at the clinic and a lab technician from the U.S. Office of Personnel Management, 2007 General Schedule including Locality Rates of Pay for Atlanta, GA.

Table 12.B.Estimated Annualized Costs

Type of Respondent	Form Name	Total Burden Hours	Hourly wage rate	Total Respondent Costs
Clinic	Demographic Clinical Data Form 1	1,320	$16.13	$21,291.60
Laboratory	Antimicrobial Susceptibility Testing Form 2	7,260	$19.98	$145,054.80
	Control Strain Susceptibility Testing Form 3	48	$19.98	$959.04
Total		8,628		$167,305.44

* Respondents are paid through federal funds from the CDC Improving Sexually Transmitted Disease Programs through Assessment, Assurance, Policy Development, and Prevention Strategies (STD AAPPs) Grant.

13. Estimates of Other Total Annual Cost Burden to Respondents and Record Keepers

None.

14. Annualized Cost to the Federal Government

Table A.14: Estimated Annualized Costs to the Federal Government

Expense Type	**Expense Explanation**	**Annual Costs (dollars)**
Direct Costs to the Federal Government		
	CDC Data Manager (GS-13, .5 FTE)	$46,000
	CDC Laboratory Personnel (GS-15, .05 FTE)	$6,000
	CDC Laboratory Personnel (GS-13, .10 FTE)	$8,000
	CDC Laboratory Personnel (GS-12, .20 FTE)	$12,000
	CDC Laboratory Personnel (GS-11, .6 FTE)	30,000
	CDC Laboratory Personnel (GS-9, .7 FTE)	$27,000
	CDC Epidemiologist (GS-15, .7 FTE)	$65,100
	CDC Project Coordinator (GS-11, .7 FTE)	$38,500
	Subtotal, Direct Costs to the Government	$ 232,600
Travel and other related expenses	Travel, supplies, and annual GISP report	$ 54,300
	Subtotal, Travel and other project-related expenses	$ 54,300
Federal Grant	CDC Comprehensive STD Prevention Systems, Prevention of STD-Related Infertility, and Syphilis Elimination Grant for GISP	$ 520,000

	collaborators	
	Subtotal, Federal Grant	$520,000
	TOTAL COST TO THE GOVERNMENT	$806,900

The total annualized cost to the government is $806,900. The total cost to the government over the 3-year period is $2,420,700.

15. Explanation for Program Changes or Adjustments

None.

16. Plans for Tabulation and Publication and Project Time Schedule

Table A.16: Project Time Schedule

Activity	Time Schedule
Collection of isolates and clinical/demographic data from sentinel STD clinics	Monthly after OMB approval for 3 years
Processing and testing of isolates at regional labs	Monthly after OMB approval for 3 years
Download data from GISP Web or collection of paper forms from clinics and laboratories to CDC	Quarterly after OMB approval for 3 years
Data management and validation of data collected	Quarterly after OMB approval for 3 years
Dissemination of results via annual report	12 months after OMB approval and annually for 3 years

Preliminary data analysis is expected to begin 4 – 6 months after OMB approval and final analysis of the first year of data collection is expected to be completed 12 months after OMB approval. Additional data analysis will occur at least annually during the time period of the approved 3-year extension. Data

analyses include descriptive analyses and trends in gonococcal antimicrobial resistance over time. Trends are presented as a percentage of isolates which are resistant to specific antimicrobial agents. Summary tables of demographic/clinical characteristics by antimicrobial resistance patterns are generated. Summary reports of GISP data are included in annual STD surveillance reports published by CDC (available at http://www.cdc.gov/std/). Site-specific GISP data are published on-line annually (Available at http://www.cdc.gov/std/gisp/). In addition, analyses of the data are published in scientific and public health journals and presented at scientific meetings. The information from these reports of the GISP data are often used by: CDC, state and local STD program managers for program planning and resource allocation; non-STD program policy makers; clinical and laboratory researchers; and others.

17. Reason(s) Display of OMB Expiration Date is Inappropriate

This project is not requesting exemption of the expiration date being displayed on the forms.

18. Exceptions to Certification for Paperwork Reduction Act (PRA) Submissions

There are no exceptions to the certification.

References

1. CDC. Update to CDC’s Sexually Transmitted Diseases Treatment Guidelines, 2010: Oral Cephalosporins No Longer a Recommended Treatment for Gonococcal Infections. MMWR 2012;61(31):590-594.
2. CDC 2011 Sexually Transmitted Disease Surveillance, Available at: http://www.cdc.gov/std/stats11/default.htm
3. GISP Profiles, 2011, Available at http://www.cdc.gov/std/gisp2011/default.htm
4. CDC 2011 Sexually Transmitted Disease Surveillance, Available at http://www.cdc.gov/std/stats10/default.htm
5. GISP Profiles, 2010, Available at http://www.cdc.gov/std/gisp2010/default.htm
6. CDC. CDC Grand Rounds: The Growing Threat of Multidrug-Resistant Gonorrhea. MMWR 2013;62(06):103-106.
7. CDC. *Neisseria gonorrhoeae* with Reduced Susceptibility to Azithromycin --- San Diego County, California, 2009. MMWR 2011;60(18):579-581.
8. CDC. Cephalosporin Susceptibility Among *Neisseria gonorrhoeae* Isolates --- United States, 2000-2010. MMWR 2011;60(26):873-877.
9. Kirkcaldy RD, Zaidi A, Hook EW III, et al. *Neisseria gonorrhoeae* Antimicrobial Resistance Among Men Who Have Sex With Men and Men Who Have Sex Exclusively With Women: The

Gonococcal Isolate Surveillance Project, 2005–2010. Annals Intern Med 2013;158(5):321-8.

10. Kirkcaldy RD, Bolan GA, Wasserheit JN. Cephalosporin-Resistant Gonorrhea in North America. JAMA 2013;309(2):185-187.
11. Soge OO, Harger D, Schafer S, et al. Emergence of increased azithromycin resistance during unsuccessful treatment of Neisseria gonorrhoeae infection with azithromycin (Portland, OR, 2011. Sex Transm Dis 2012;39(11):877-879.
12. Bolan GA, Sparling PF, and Wasserheit JN. The Emerging Threat of Untreatable Gonococcal Infection. New Engl J Med 2012;36(6):485-487.
13. Satterwhite CL, Torrone E, Meites E, et al. Sexually transmitted infections among US women and men: prevalence and incidence estimates, 2008. Sex Transm Dis 2013;40(3):187-93.
14. CDC. Update to CDC's Sexually Transmitted Diseases Treatment Guidelines, 2006: Fluoroquinolones No Longer Recommended for Treatment of Gonococcal Infections. MMWR. April 13, 2007/56(14); 332-336.
15. Dowell D, Tian H, Stover JA, et al. Changes in fluoroquinolone use for gonorrhea following publication of revised treatment guidelines. Am J Public Health 2012;102(1):148-55.