Implementation of an Automated Management Information System (MIS) for Diabetes Control Programs

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OFFICE OF MANAGEMENT AND BUDGET (OMB)
SUPPORTING STATEMENT FOR
FEDERALLY SPONSORED DATA COLLECTION WITHIN THE MANAGEMENT INFORMATION SYSTEM SUPPORTING THE CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC) DIVISION OF DIABETES TRANSLATION (DDT)

Justification

1. Circumstances Making the Collection of Information Necessary

The Centers for Disease Control and Prevention (CDC) provides funding to state and territorial health departments to develop, implement, and evaluate systems-based Diabetes Prevention and Control Programs (DPCPs). DPCPs are population-based, public health programs that design, implement, and evaluate public health prevention and control strategies that improve access to and quality of care for all and reach communities most impacted by the burden of diabetes (e.g., racial/ethnic populations, the elderly, rural and the economically disadvantaged). These programs also support a broad range of public health activities that will reduce death, disability, and costs related to diabetes and its complications. These programs are a cornerstone of CDC's strategy for reducing the diabetes burden throughout the nation. The Diabetes Control Program is authorized under sections 301 and 317(k) of the Public Health Service Act [42 U.S.C. sections 241 and 247b(k)] **(*Attachment 1*)**. The Catalog of Federal Domestic Assistance (CFDA) number is 93.988.

Traditionally, CDC funds DPCPs with 5 year cooperative agreements for 59 DPCPs representing all 50 states, the District of Columbia, and 8 U.S. territories. Awards to individual applicants are made for a 12-month budget period. Continuation awards for subsequent budget periods are made on the basis of satisfactory progress in achieving both national and program-specific goals and objectives as well as on the availability of funds.

At the inception of the DPCP program in 1977, pre Diabetes Management Information system (MIS), CDC requested the submission of quarterly status reports from each DPCP; since then CDC has transitioned to annual reports. The progress information collected is used to evaluate the progress made in achieving national and program-specific goals; identify areas of weakness that will require intervention in the form of technical assistance; and respond to inquiries regarding program activities and effectiveness. CDC used a variety of sources to collect state-level information including the initial cooperative agreement application, continuing applications for each budget period, periodic progress reports, and financial status reports.

The initial non-standardized approach to data collection resulted in DPCP reports that varied in content and detail. Historically, information was collected and transmitted via

hard-copy paper documents and maintained in large, cumbersome manual files. The manual reporting system limited CDC's ability to compile, summarize, and report aggregate DPCP program information in an efficient and useful manner.

CDC implemented an automated management information system (MIS) in 2000 (see ***Attachment 2*** for a screen shot of the MIS Home Page) to address the limitations of the non-standard, paper-based reporting method. Since July 2000, the use of the MIS for data collection has employed a more formal, systematic method of collecting information that has historically been requested from individual DPCPs and has standardized the content of this information.

On July 20, 2000, the first OMB package was approved, OMB No. 0920-0479. This initial OMB approval expired on July 31, 2003. A second OMB package was approved as an extension on August 14, 2003, with an expiration date of August 31, 2006. The current emergency extension will expire February 28, 2007. The current request is for a three-year revision of the data collection.

2. Purpose and Use of Information Collection

The MIS has facilitated CDC's ability to fulfill its obligations under the cooperative agreements; to monitor, evaluate, and compare individual programs; and to assess and report aggregate information regarding the overall effectiveness of the DPCP program. The MIS has also supported CDC's mission of reducing the burden of diabetes by enabling staff to more effectively identify the strengths and weaknesses of individual DPCPs and to disseminate information related to successful public health interventions implemented by these organizations.

Specifically, CDC uses this information for program operations management and reporting purposes including:

- Identifying the need for ongoing guidance, training, consultation, and technical assistance in all aspects of diabetes prevention and control
- Evaluating the progress made by programs in achieving national and program-specific goals and objectives
- Identifying successful and innovative strategies and public health interventions to reduce the burden of diabetes
- Disseminating and sharing information among all DPCPs
- Monitoring the use of federal funds
- Evaluating and reporting on the overall effectiveness of the DPCP

DPCPs have the ability to use this information at their discretion to enhance networking opportunities through shared experiences and lessons learned.

CDC has developed and implemented an automated MIS to maintain the information collected from state-based DPCPs and has more effectively used this information to accomplish the purposes described above. The utility of the MIS is highly dependent on receiving standard data from every state-based program. This data collection has enabled CDC to use consistent measures to evaluate and compare the effectiveness of different programs and intervention strategies in reducing the burden of diabetes. Without this standardized data collection CDC would need to revert to using time consuming, labor intensive manual procedures to evaluate the effectiveness of the DPCPs.

The information collected in the Cooperative Agreements Module (see ***Attachment 3*** for a screen shot of the Enter Program Information component of Cooperative Agreement Module) of the MIS serves as the basis for the estimate of burden on respondents and is used to generate a variety of meaningful outputs using the Reporting Module (see ***Attachment 4*** *for a screen shot of the Report Module Home Page*). These reports assist CDC and DPCPs in program planning, financial management, resource allocation, and sharing 'best of practice'. The system allows users to run customized queries and set their own parameters for defining the contents of reports. Some examples of reports that the System can generate include:

1) National level reports that represent aggregate level information from all DPCPs. For example, number of DPCPs that use NDEP materials in Spanish that target the business community.
2) DPCP specific reports. For example, publications developed by a DPCP to educate providers about the importance of routine eye and foot exams.

The MIS also includes two modules that serve as adjunctive tools or references for DPCPs. The Evaluation Tool Kit (ETK, *see* ***Attachment 5*** *for a screen shot of the ETK Module Home Page*) aids DPCPs to expand their evaluation capacity and expertise and to incorporate evaluation into their program model. Evaluation has always been part of a work plan that is submitted in response to a request for appropriations (RFA), and evaluation questions are already part of the MIS. The ETK is designed to be a user-friendly online tool to help DPCPs develop an evaluation plan based on the CDC Evaluation Framework. It provides easy access to tested tools and methods consistent with the National Diabetes Program approach and CDC evaluation methodology. DPCPs also have the ability to submit tools and resources into the MIS for potential inclusion in the ETK.

In addition to the ETK, CDC also developed another Web-based tool as part of the MIS, called the Diabetes Indicators and Data sources Internet Tool (DIDIT, *see* ***Attachment 6*** *for a screen shot of the DIDIT Module Home Page*). This tool provides DPCPs with information about diabetes indicators and related data sources in order to track the burden of diabetes in their states or territories. This improves DPCPs' understanding of

how to locate and compare existing data sources while enhancing the consistency with which estimates are computed. In summary, this powerful tool provides DPCPs with adequate information to either analyze data themselves or request data from other agencies to monitor indicators in their respective jurisdictions. Therefore, DIDIT is an adjunctive tool within the MIS that is available to the DPCPs if they choose to use it.

3. Use of Improved Information Technology and Burden Reduction

The MIS is designed to share information around diabetes and related programs through a centralized Internet interface. The system generates reports including the grant application and the continuation application, supports queries, standardizes reporting procedures and fosters continuity and consistency throughout the diabetes community. Additionally, the MIS long term goals include improving customer services and empowering the DPCPs by:

* Shortening information cycle - information the DPCPs enter into the system is available to DDT in real time.
* Standardizes the reporting requirements and facilitates the comparison and analysis of information across DPCPs.
* Provide diabetes specific sources of information through the DIDIT and the ETK which support improved surveillance and evaluation capacities for DPCP personnel.
* Knowledge and experience sharing - the system facilitates sharing of programmatic information among DPCPs through the availability of key word searches and reports.

Use of this technology promotes the cost-efficient and effective disbursement of available resources by the DPCPs.

- Reduces dependence on paper (and associated storage issues)
- Preserves integrity of historical documentation (editing access is restricted)
- Creates permanent institutional memory

[**Note:** *As of November 2006, the requirement for printed applications and progress reports to be physically submitted to Procurement and Grants Office (PGO) has been superseded by requirements of Grants.gov. The information required for those documents will be submitted electronically through Grants.gov and available for viewing by appropriate CDC personnel via the MIS.]*

4. Efforts to Identify Duplication and Use of Similar Information

Information that is now being entered into the MIS by the DPCPs was not available when grantees submitted paper-based progress reports to CDC.

The CDC recognized that a manual data collection system of DPCP information fostered inconsistent information at many levels. This lack of standardization of the data collected impeded meaningful and efficient cross-state reporting and evaluation.

A series of meetings with CDC managers and staff identified information needs, examined current sources of information, and identified information needed to provide effective technical assistance to grantees. Additional meetings were held with groups of individuals outside of CDC including state DPCP Coordinators and Public Health Advisors. Selected state-based DPCP files containing program documentation (e.g., initial and continuing cooperative agreement applications; progress reports) were also reviewed to identify the types of information currently reported.

Using the information gathered during the activities discussed above, a statement of functional requirements and a data dictionary were developed. The data dictionary identified the specific data needed by state DPCP Coordinators and CDC project managers to perform their program management responsibilities and was used by system developers as the basis for developing the MIS which is now used by all 59 grantees.

5. Impact on Small Businesses or Small Entities

Respondents are state-based health departments who receive funding for diabetes control activities. No small businesses or entities will be involved in this study.

6. Consequences of Collecting the Information Less Frequently

State-level users enter data into the MIS on an ongoing basis. The initial cooperative agreement application is submitted by funding applicants once at the beginning of an approved project period. These project periods are generally five years. Continuing applications are submitted annually at the beginning of each budget period. Grantees use the MIS to enter information for the initial cooperative agreement application and for all continuation applications. Additionally, an annual financial status report is required that details the use of funds received. These application and financial reporting requirements are a condition of award for DPCP participants and cannot be reduced.

Funding recipients currently enter data into the MIS then generate an annual progress report that describe progress made in achieving stated goals and objectives since the last reporting period. According to the Paper Reduction Act, for the five-year funding cycle that began on March 30, 2003, the Procurement and Grants Office at CDC now only requires one annual progress report per year from all grantees funded by a cooperative agreement. CDC staff has determined that the improved information technology and revised information collection methodology better support their capabilities to provide technical assistance and improve DPCP operations and outcomes.

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

There are no special circumstances and the request fully complies with the regulation.

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

A. A sixty day Federal Register notice was published on January 18, 2006 (Volume 71, Number 11), pages 2945-2946. A copy of the actual Federal Register notice is included as ***Attachment 7***. No public comments were received.

B. Sources consulted for the MIS design and development are listed in the initial OMB clearance document.

Additional ongoing consultation is provided by the MIS Advisory Group, specific-module workgroups, and ad hoc workgroups composed of representatives from CDC and DPCPs.

9. Explanation of Any Payment or Gift to Respondents

Applicants or funding recipients do not receive payments or gifts for providing this information.

10. Assurance of Confidentiality Provided to Respondents

The CDC Privacy Act Officer has reviewed this Request for OMB Clearance and has determined that the Privacy Act does not apply. Respondents are state-based health departments providing information on their organizational goals, activities, performance metrics, and resources. Although one or more contact persons is identified for each responding health department, the contact person is speaking from their role as a representative of the health department, and the contact person does not provide personal information.

Data will be submitted to CDC using Internet-based communication protocols. A security plan has been developed that follows CDC protocol, and this security plan met CDC guidelines before electronic data collection began. The MIS allows varying degrees of access for Project Officers at CDC, state level officials, and other interested parties. System access can range from read-only access to full recoding privileges depending on the intended user. This assures that stored information is accessible yet secure.

Northrup Grumman, the system contractor, oversees compliance with the written security plan developed by the CDC National Center for Chronic Disease Prevention and Health Promotion.

11. Justification for Sensitive Questions

As previously noted, the MIS does not collect identifiable personal information, but provides an efficient electronic means of collecting and organizing information about respondent organizations that was previously collected in hardcopy format. Although respondent organizations could view some of their performance data as sensitive, this information is necessary for evaluating and improving Diabetes Prevention and Control Programs. The security measures described above have been put in place to guard against inadvertent or inappropriate disclosure of information.

12. Estimates of Annualized Burden Hours and Costs

A. Estimated Annualized Burden Hours

The 59 respondents reside in each of the 50 States, 8 Territories, and the District of Columbia. Based on a representative sample of respondents, the respondents estimate that they will spend an average of 96 hours per year (i.e., slightly less than two hours per week per respondent) entering data into the MIS during years 2-5 of this funding cycle (the period of this clearance request). This estimate includes time to develop and enter updates on program information and to generate one annual report. The annual burden for all respondents is thus estimated at 5,664 total hours (i.e., 59x96=5,664). Table 12-1 displays the annualized report burden computational elements per DPCP.

12-1 Estimated Annualized Burden Hours

Type of Respondents	Form Name [(1)(2)]	Number of Respondents	Number of Responses per Respondent	Average Burden per Response (in hours)	Total Burden (in hours)
State Diabetes Control and Prevention Program Officers	Long-term Objectives Updates	59	1	15	885
	Process Objectives Updates	59	1	13	767
	Resources Updates	59	1	10	590
	Advisory Groups Updates	59	1	10	590
	Surveillance	59	1	10	590

	Sources Updates				
	Budget Updates	59	1	20	1180
	Staff Positions Updates	59	1	10	590
	Additional Accomplishments Updates	59	1	8	472
			Total	96	5,664

(1) *The MIS does not utilize data collection forms per se. The MIS screen shots presented in **Attachments 8-15** demonstrate how data are entered into the MIS, and correspond to the components of respondent burden itemized above.*

(2) *As previously discussed, the MIS includes optional features that are not related to required reporting to CDC. For example, the Evaluation Tool Kit and the DIDIT Module (**Attachments 5 and 6**) are adjunctive tools or references; burden is not calculated separately for these modules.*

The hour-burden estimates include the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The number of hours that users spend with the system has increased compared to the initial baseline proposed in the last OMB application due to a combination of factors as follows:

- Note that System usage is anticipated to increase since the time of the last OMB approval three years ago. As state based programs have matured in their use of the MIS, they have developed a better understanding and appreciation for the full potential of the System and its use in facilitating DPCP operations. Consequently, they are using the System to a great extent as an integral part of their program compared to previous years when their understanding of the System was still evolving.

Examples of how DPCPs are using the System on an ongoing basis include:

- DPCPs add updates about their work plans and other activities into the System on an ongoing basis. This facilitates better monitoring and tracking of their programs and helps create an organizational memory.
- DPCPs refer to a number of tools and materials in the MIS to help them with their surveillance and program evaluation activities. These tools include the Evaluation Tool Kit (ETK) and the Diabetes Indicators and Data sources Internet Tool (DIDIT).
- The System allows DPCPs to query, perform searches and generate reports based on the information entered by all 59 DPCPs. DPCPs

periodically go into the System to run queries and generate reports to learn more about the work of other DPCPs and to address their internal reporting needs.

- DPCPs and Project Development Officers use the information in the System to facilitate the technical assistance and consultation process.

B. Estimated Annualized Cost to Respondents

The following table displays estimates of annualized cost to respondents for the hour burdens used to collect and report program progress information. Appropriate wage rate categories represent the estimated, hourly costs for the State, Territory, District of Columbia, and headquarters levels. The hourly wage rate of $24.00 is based on the average of all Program Coordinators as shown on CDC Extramural Programs Management Information System (EPMIS) reports.

12-2 Estimated Annualized Burden Costs

Type of Respondents		No. of Respondents [(1)]	Number of Responses per Respondent	Average Burden per Response (in hours)	Average Hourly Wage Rate	Total Respondent Costs
State Diabetes Control and Prevention Program Officers	Long-term Objectives Updates	59	1	15	$24.00	$ 21,240
	Process Objectives Updates	59	1	13	$24.00	$ 18,408
	Resources Updates	59	1	10	$24.00	$ 14,160
	Advisory Groups Updates	59	1	10	$24.00	$ 14,160
	Surveillance Sources Updates	59	1	10	$24.00	$ 14,160
	Budget Updates	59	1	20	$24.00	$ 28,320
	Staff Positions Updates	59	1	10	$24.00	$ 14,160
	Additional Accomplish-ments Updates	59	1	8	$24.00	$ 11,328
			Total	96	-	$135,936

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

All equipment costs were excluded from the capital cost estimates because the DPCP MIS is designed to operate on the existing hardware and communications infrastructure, use existing hardware and software at the State level, and use the public Internet domain for communications.

14. Annualized Cost to the Government

Total Operation and Maintenance Component

There is a development team of contractors that work with CDC to ensure that the MIS is operating efficiently, and to coordinate the enhancements that are routinely added to the MIS. Contractor costs budgeted at $500,000 a year include: project manager, business analyst, database developer, developer/coder, and a usability engineer. There is also a technical writer available for developing the on-line help module. CDC encourages suggestions for enhancements to the system from the DPCPs and from CDC staff. In addition, usability tests are conducted periodically to ensure that the System design is user-friendly. As enhancements are added to the MIS, training is provided. The total operation and maintenance costs of the MIS are outlined in the table below. A special unit at CDC, known as the MIS User Support Team, now provides training, whenever needed, to DPCP and CDC staff. Since CDC staff now provides this training, there is no contractor training expenses associated with the MIS.

Table 14-1 ANNUALIZED COST TO THE GOVERNMENT

Cost Type	Cost
MIS User Support Team *	$ 67,400
CDC Staff (Project Officer's Salaries)**	$ 76,000
Contractor Cost	$500,000
TOTAL	**$643,400**

*Based on: 1 GS 11 FTE 60%; 1 GS 12 FTE 25%; 1 GS 13 FTE 15%
** Based on: 10 GS 13 FTE @ 10%

15. Explanation for Program Changes or Adjustments

This is an ongoing data collection system with revision. In the past, the burden estimate for diabetes program evaluation was based on production of the annual progress report. The new interactive MIS encourages awardees to enter data and use its reports and planning features on a continuous basis. Although this approach entails increased burden, it provides many advantages to awardees by supporting diabetes program activities and site management in real time, as well as supporting required reporting functions.

16. Plans for Tabulation and Publication and Project Time Schedule

Table 16-1 Project Time Schedule

Activity	Time Schedule
Grantees annual progress report due	November
CDC Technical Reviews due	December
Training, Data Analysis and validation, and Technical support (as required)	Continuously

CDC provides training, data analysis and validation, and technical support to respondents on an as-needed basis.

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

The Diabetes Control Program Internet home page displays the expiration date for OMB approval of the information collection. No exceptions are requested.

18. Exceptions to Certification for Paperwork Reduction Act Submissions

There are no exceptions to the certification.

B. Collections of Information Employing Statistical Methods.

B.1 Respondent Universe and Sampling Methods

This data collection is conducted to evaluate DPCP awardees. All 59 awardees are evaluated. Statistical sampling methods are not applicable to this data collection and cannot be used to reduce burden or improve accuracy of results.

B.2 Procedures for the Collection of Information

The initial (competitive) cooperative agreement application is submitted by funding applicants at the beginning of an approved project period. Continuing applications are submitted annually at the beginning of each budget period. Funding recipients are also currently required to submit an annual report that describes progress toward achieving stated goals and objectives. Additionally, an annual financial status report is required three months after the end of each budget period and details the audited results of funds used.

The DPCPs enter information into the MIS for the initial cooperative agreement application and for all continuation applications during an approved project period. The MIS is designed to produce a printed application as well as printed annual progress reports which are submitted to the Procurement and Grants Office (PGO). The financial status report is not part of the MIS and is submitted in paper form directly to PGO. [**Note:** *As of Nov, 2006 the requirement for printed applications and progress reports to be physically submitted to PGO has been superseded by requirements of Grants.gov. The information required for those documents will be submitted electronically through Grants.gov and available for viewing by appropriate CDC personnel via the MIS.]*