

**DEPARTMENT OF HEALTH AND HUMAN SERVICES**

**Agency for Healthcare Research and Quality**

**Agency Information Collection Activities:**

**Proposed Collection; Comment Request**

**AGENCY:** Agency for Healthcare Research and Quality, HHS.

**ACTION:** Notice.

**SUMMARY:** This notice announces the intention of the Agency for Healthcare Research and Quality (AHRQ) to request that the Office of Management and Budget (OMB) approve the proposed information collection project: “Reducing Waste and Inefficiency through Process Redesign: Lean/Toyota Production System (TPS) Implementation.” In accordance with the Paperwork Reduction Act of 1995, 44 U.S.C. 3506(c)(2)(A), AHRQ invites the public to comment on this proposed information collection.

**DATES:** Comments on this notice must be received by (insert date 30 days after date of publication).

**ADDRESSES:** Written comments should be submitted to: Doris Lefkowitz, Reports Clearance Officer, AHRQ, by email at [doris.lefkowitz@ahrq.hhs.gov](mailto:doris.lefkowitz@ahrq.hhs.gov).

Copies of the proposed collection plans, data collection instruments, and specific details on the estimated burden can be obtained from the AHRQ Reports Clearance Officer.

**FOR FURTHER INFORMATION CONTACT:** Doris Lefkowitz, AHRQ Reports Clearance Officer, (301) 427-1477, or by email at [doris.lefkowitz@ahrq.hhs.gov](mailto:doris.lefkowitz@ahrq.hhs.gov).

**SUPPLEMENTARY INFORMATION:**

**Proposed Project**

“Reducing Waste and Inefficiency through Process Redesign: Lean/Toyota Production System (TPS) Implementation”

AHRQ proposes to investigate the contribution of Lean/TPS to reducing waste in health care delivery systems. *Lean/TPS* is a process-redesign methodology adopted from

Toyota Production Systems. The goal of Lean/TPS is to empower front-line staff to apply continuous quality improvement methods to reduce waste and enhance value in workflows and operations (Spear, S. Fixing healthcare from the inside, today. *Harvard Business Rev.*, 2005 83(9), 78-91). AHRQ is interested in assessing and disseminating promising techniques and methodologies for redesigning health care processes to reduce waste and enhance efficiency. Using a purposive sample of health care organizations and projects, AHRQ will describe and assess the ways in which Lean/TPS has been implemented and the related challenges and solutions experienced. The sampled organizations will vary in community and market characteristics, type of service (e.g., inpatient/outpatient), and delivery system characteristics (e.g., relationship between physicians and hospitals, ownership). AHRQ plans to disseminate the lessons learned from this project on the implementation of Lean/TPS to health care delivery systems. AHRQ will work with a contractor to complete this work, including all activities mentioned above. This project is being performed pursuant to AHRQ's statutory authority to conduct and support research on healthcare and on healthcare delivery systems, including activities with respect to: the quality, effectiveness, efficiency, appropriateness and value of health care services; quality measurement and improvement; and health care costs, productivity, organization, and market forces. 42 U.S.C. 299a(a)(1), (2), and (6).

### **Method of Collection**

Four or five research locations (i.e., hospitals or other health settings) will be selected to create nine case study reports. Four of the studies will employ a retrospective analytics perspective, while five will employ a prospective analytics perspective, including one study focused on the construction of a hospital. For the other eight case studies, the department will be unit of analysis for the case study. At each research location, implementation of Lean/TPS in two departments will be studied: one department with an essentially linear process (clinical laboratory, radiology, or ED) and one department with an essentially non-linear process (cardiology, GI, or med/surg unit). A linear department is one in which the process is essentially uniform and predictable for most or all services delivered. A non-linear department is one in which the process is much less uniform and predictable.

Qualitative data will be collected directly from the departments selected for this study. The collection will be accomplished using interviews (telephone and in-person), collection of documentation, and digital diaries for the five prospective case studies. The "digital diary" is a data collection method using a diary entry guide and a digital recorder to describe key aspects of the implementation process. The number of digital diary submissions will depend on the number and duration of the Lean/TPS projects within in each department. The in-person interviews will be conducted through a multi-day visit to each site. Only the in-person interviews and collection of documentation methods will be employed for the retrospective case studies.

### **Estimated Annual Respondent Burden**

Exhibit 1 shows the estimated annualized burden hours. The table includes burden for both the retrospective and prospective case studies in separate sections. As this project will collect data from establishments, we have defined each establishment as the medical or administrative department that is implementing the Lean/TPS project to be studied.

In Exhibit 1, the total burden hours in each row (Column F) is calculated as the product of the values in the other columns (Columns B-E). Thus, for each of the 5 prospective case studies, we will conduct in-person interviews with 15 administrative and clinical personnel. Each person will be interviewed twice during the 36 week data collection period. The estimated time per response is 1.0 hour for a total of 150 burden hours for in-person interviews. Using the same calculation approach, we project 23 burden hours for telephone interviews, 53 burden hours for digital diaries, and 20 burden hours for assembling documents for a subtotal of 246 burden hours for the 5 prospective case studies. For each retrospective case study, we have defined establishment as the department from which we will collect data. A total of 15 in-person interviews will be conducted with the administrative and clinical personnel during a site visit. The estimated time per response is 1.0 hour. For all 4 retrospective case studies, we estimate a total of 60 burden hours. Similar to the prospective case studies, administrative staff from each site will be asked to provide training materials, reports on Lean/TPS implementation, and/or any other documentation or existing data from previous or current Lean/TPS projects implemented and will take 4 hours. The total estimated burden for the retrospective case studies is 86 hours. The total burden hours for all 9 case studies is 332 hours.

**Exhibit 1. Estimated annualized burden hours**

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>
<b>Data Collection</b>	<b>Number of Establishments</b>	<b>Number of Respondents per Establishment</b>	<b>Number of Responses per Respondent</b>	<b>Hours per Response</b>	<b>Total Burden Hours<sup>1</sup></b>
<b>Prospective Case Studies &amp; Hospital Case Study</b>					
In-person interviews	5	15	2	1	150
Telephone interviews	5	3	3	30/60	23
Digital Diaries	5	2	32	10/60	53
Collection of documentation	5	1	1	4	20
<b>Prospective Subtotal</b>	<b>20</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>246</b>
<b>Retrospective Case Studies</b>					
In-person interviews	4	15	1	1	60

Collection of documentation	4	1	1	4	16
<b>Retrospective Subtotal</b>	<b>8</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>86</b>
<b>Grand Total</b>	<b>28</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>332</b>

Exhibit 2 shows the estimated annualized cost burden for the respondents' time to provide the requested data. The hourly rate of \$35.07 is an average of the administrative personnel hourly wage of \$14.53 and the clinical personnel hourly wage of \$62.52 for physicians and \$28.15 for registered nurses. The average hourly wage of administrative and clinical personnel is used to estimate the cost of in-person interviews, telephone interviews, and digital diaries, because all kinds of staff may be asked to participate in these three activities. The average hourly wage for administrative personnel--\$14.53—is used to estimate the cost of assembling documentation, because administrative support staff will perform this task. The total estimated cost burden is about \$10,554.

**Exhibit 2. Estimated annualized cost burden**

<b>Data Collection</b>	<b>Number of Establishments</b>	<b>Total Burden Hours</b>	<b>Average Hourly Wage Rate*</b>	<b>Total Cost Burden</b>
<b>Prospective, Retrospective, &amp; Hospital Case Studies</b>				
In-person interviews	9	210	\$35.07	\$7,365
Telephone interviews	5	23	\$35.07	\$807
Digital Diaries	5	53	\$35.07	\$1,859
Collection of documentation	9	36	\$14.53	\$523
<b>Total</b>	<b>28</b>	<b>332</b>	<b>n/a</b>	<b>\$10,554</b>

\*Based upon the average hourly wages of administrative support personnel, physicians, and registered nurses, National Compensation Survey: Occupational Wages in the United States 2005, U.S. Department of Labor, Bureau of Labor Statistics.

**Estimated Annual Costs to the Federal Government**

The total cost to the Federal Government for this project is \$494,999, with an average annual cost of \$247,500. This figure includes the cost of data collection, data analysis,

reporting, and contract oversight by the government.

**Request for Comments**

In accordance with the above-cited Paperwork Reduction Act legislation, comments on AHRQ's information collection are requested with regard to any of the following: (a) whether the proposed collection of information is necessary for the proper performance of AHRQ's health care research and health care information dissemination functions, including whether the information will have practical utility; (b) the accuracy of AHRQ's estimate of burden (including hours and costs) of the proposed collection(s) of information; (c) ways to enhance the quality, utility, and clarity of the information to be collected; and (d) ways to minimize the burden of the collection of information upon the respondents, including the use of automated collection techniques or other forms of information technology.

Comments submitted in response to this notice will be summarized and included in the Agency's subsequent request for OMB approval of the proposed information collection. All comments will become a matter of public record.

Dated:

Carolyn M. Clancy, M.D.

Director