

Infectious Disease Issues in Xenotransplantation

0910-0456

SUPPORTING STATEMENT

A. Justification

1. Circumstances Making the Collection of Information Necessary

The Food and Drug Administration (FDA) is requesting an extension of Office of Management and Budget (OMB) Control No. 0910-0456 and OMB approval of the information collection provisions contained in a document entitled “PHS Guideline on Infectious Disease Issues in Xenotransplantation” (PHS Guideline). The information provisions are listed below:

Table 1-Reporting Recommendations	
Section of PHS Guideline	Description
3.2.7.2	Notify sponsor or FDA of new archive site when source animal facility or sponsor ceases operations.
3.4	Standard operation procedures (SOPs) of source animal facility should be documented and available to review bodies.
3.5.1	Include increased infectious risk in informed consent if source animal quarantine period of 3 weeks is shortened or eliminated.
3.5.4	Sponsor to make linked records described in section 3.2.7 available for review.
3.5.5	Source animal facility to notify the sponsor when infectious agent is identified in source animal or herd after xenotransplantation product procurement.

Table 2-Recordkeeping Recommendations	
Section of PHS Guideline	Description
3.2.7	Establish records linking each xenotransplantation product recipient with relevant records.
4.3	Sponsor to maintain cross-referenced system that links all relevant records (recipient, product, source animal, animal procurement center, and nosocomial exposures).
3.4.2	Document results of monitoring program used to detect introduction of infectious agents that may not be apparent clinically.
3.4.3.2	Document full necropsy investigations including evaluation for infectious etiologies.

3.5.1	Justify shortening or eliminating a source animal’s quarantine period of 3 weeks prior to xenotransplantation product procurement.
3.5.2	Document absence of infectious agent in xenotransplantation product if its presence elsewhere in source animal does not preclude using it.
3.5.4	Add summary of individual source animal record to permanent medical record of the xenotransplantation product recipient.
3.6.4	Document complete necropsy results on source animals (50-year record retention).
3.7	Link xenotransplantation product recipients to individual source animal records and archived biologic specimens.
4.2.3.2	Record base-line sera of xenotransplantation health care workers and specific nosocomial exposure.
4.2.3.3 and 4.3.2	Keep a log of health care workers’ significant nosocomial exposure(s).
4.3.1	Document each xenotransplant procedure.
5.2	Document location and nature of archived PHS specimens in health care records of xenotransplantation product recipients and source animals.

The statutory authority to collect this information is provided under sections 351 and 361 of the Public Health Service Act (PHS Act, 42 U.S.C. 262 and 264) and the provisions of the Federal, Food, Drug, and Cosmetic Act (the Act) that apply to drugs (21 U.S.C. 301 et seq.).

In 2001, FDA on behalf of PHS announced the PHS Guideline to address the infectious disease concerns raised by xenotransplantation. The PHS guideline was jointly developed by agencies within the Department of Health and Human Services (DHHS), including FDA, the Centers for Disease Control and Prevention, the Health Resources and Services Administration, the National Institutes of Health, all parts of PHS as well as the DHHS Office of the Assistant Secretary for Planning and Evaluation. The PHS guideline is intended to protect the public health and help ensure the safety of using xenotransplantation products in humans by preventing the introduction, transmission, and spread of infectious diseases associated with xenotransplantation.

2. Purpose and Use of the Information Collection

The PHS guideline recommends procedures to diminish the risk of transmission of infectious agents to the xenotransplantation product recipient and the general public. The PHS guideline is intended to address public health issues raised by xenotransplantation, through identification of general principles of prevention and control of infectious diseases associated with xenotransplantation that may pose a hazard to the public health. The collection of information described in this PHS guideline is intended to provide general guidance to sponsors in: (1) The development of xenotransplantation clinical protocols, (2) the preparation of submissions to FDA, and (3) the conduct of xenotransplantation clinical trials. Also, the collection of information will help ensure that the sponsor maintains important information in a cross-

referenced system that links the relevant records of the xenotransplantation product recipient, xenotransplantation product, source animal(s), animal procurement center, and significant nosocomial exposures. The PHS guideline describes an occupational health service program for the protection of health care workers involved in xenotransplantation procedures, caring for xenotransplantation product recipients, and performing associated laboratory testing. The PHS guideline also describes a public health need for a national xenotransplantation database which is currently under development by the PHS.

3. Use of Improved Information Technology and Burden Reduction

Sponsors may use computerized storage e.g., (tapes, discs, CD-Rom's), microfiche or microfilm to record and store data and information rather than hard copy records if they choose. Notification can be made by phone, fax, or mail. We are not aware of any other improved technology to reduce the burden.

4. Efforts to Identify Duplication and Use of Similar Information

PHS is the only agency that recommends collecting this information. This information is not available from any other source.

5. Impact on Small Businesses or Other Small Entities

Although FDA must apply the statutory and regulatory requirements equally among all enterprises, FDA does provide special help to small businesses. CBER's Office of Communication, Outreach, and Development, Division of Manufacturers Assistance and Training, provides assistance to small businesses subject to FDA's regulatory requirements.

6. Consequences of Collecting the Information Less Frequently

The recommendations provided in the PHS guideline are intended to diminish the risk of transmission of infectious agents to the xenotransplantation product recipient, to health care workers, and to the general public. Less frequent collection of information would not provide the necessary information needed to help prevent the transmission of infectious agents to xenotransplantation products recipients and the general public.

There are no technical or legal obstacles to reducing the burden.

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

A sponsor may be required to submit to FDA proprietary trade secret or other confidential information when providing requested information. The confidentiality of information received by FDA would be consistent with the Freedom of Information Act (FOIA) and the agency's published regulations of "Public Information" under 21 CFR part 20.

Because xenotransplantation is a relatively new area of medical science, potential problems and adverse effects are not well known. Because of the potential risk for cross-species transmission of pathogenic persistent virus, the guideline recommends that health records be retained for 50 years. Since these records are medical records, the retention of such records for up to 50 years is not information subject to the PRA (5 CFR 1320.3(h)(5)). Also, because of the limited number of clinical studies with small patient populations, the number of records is expected to be insignificant at this time. The retention period is intended to assist health care practitioners and officials in surveillance and in tracking the source of an infection, disease, or illness that might emerge in the recipient, the source animal, or the animal herd or colony after a xenotransplantation.

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

In accordance with 5 CFR 1320.8(d), FDA published a 60-day notice for public comment in the Federal Register of July 10, 2009 (74 FR 33260). No comments were received from the public.

9. Explanation of Any Payment or Gift to Respondents

No payment or gift was provided or will be provided to respondents.

10. Assurance of Confidentiality provided to Respondents

The confidentiality of information received by FDA would be consistent with the Freedom of Information Act (FOIA) and the agency’s published regulations of “Public Information” under 21 CFR part 20.

11. Justification for Sensitive Questions

Questions of a sensitive nature are not applicable to this information collection.

12. Estimates of Annualized Burden Hours and Costs

The total annual estimated burden for this collection of information is 155.60 hours.

PHS Guideline Section	No. of Respondents	Annual Frequency per Response	Total Annual Responses	Hours per Response	Total Hours
3.2.7.2 ¹	1	1	1	0.5	0.50
3.4 ²	12	0.17	2	0.08	0.16

3.5.1 ³	12	0.08	(0-1) 1	0.25	0.25
3.5.4 ⁴	12	1	12	0.5	6.0
3.5.5 ³	18	0.06	(0-1) 1	0.2	0.2
Total					7.27

¹ No animal facility or sponsor has ceased operations in the last 3 years; however, we are using 1 for estimation purposes.

² FDA's records indicate that an average of two INDs is expected to be submitted per year.

³ To our knowledge, has not occurred in the past 3 years and is expected to continue to be a rare occurrence.

⁴ Based on an estimate of 36 patients treated over a 3 year period, the average number of xenotransplantation product recipients per year is estimated to be 12.

PHS Guideline Section	No. of Recordkeepers	Annual Frequency of Recordkeeping	Total Annual Records	Hours per Record	Total Hours
3.2.7 ¹	1	1	1	16	16.0
4.3 ²	12	1	12	0.83	9.96
3.4.2 ³	12	11	132	0.25	33.0
3.4.3.2 ⁴	18	4	72	0.3	21.6
3.5.1 ⁵	12	0.08	(0-1) 1	0.5	0.5
3.5.2 ⁵	12	0.08	(0-1) 1	0.25	0.25
3.5.4	12	1	12	0.17	2.04
3.6.4 ⁶	12	2	24	0.25	6.0
3.7 ⁶	18	1.33	24	0.08	1.92
4.2.3.2 ⁷	12	25	300	0.17	51.0
4.2.3.2 ⁵	12	0.08	(0-1) 1	0.17	0.17
4.2.3.3 and 4.3.2 ⁵	12	0.08	(0-1) 1	0.17	0.17
4.3.1	12	1	12	0.25	3.0
5.2 ⁸	12	3	36	0.08	2.88
Total					148.49

¹A one-time burden for new respondents to set up a recordkeeping system linking all relevant records. FDA estimates 1 new sponsor annually.

²FDA estimates there is minimal recordkeeping burden associated with maintaining the record system.

³Monitoring for sentinel animals (subset representative of herd) plus all source animals. There are approximately 6 sentinel animals per herd x 1 herd per facility x 18 facilities = 108 sentinel animals. There are approximately 24 source animals per year (see footnote 6 of this table); 108 + 24 = 132 monitoring records to document.

⁴Necropsy for animal deaths of unknown cause estimated to be approximately 4 per herd per year x 1 herd per facility x 18 facilities = 72.

⁵Has not occurred in the past 3 years and is expected to continue to be a rare occurrence.

⁶On average 2 source animals are used for preparing xenotransplantation product material for one recipient. The average number of source animals is 2 source animals per recipient x 12 recipients annually = 24 source animals per year. (See footnote 4 of table 3 of this document)

⁷FDA estimates there are approximately 12 clinical centers doing xenotransplantation procedures x approximately 25 health care workers involved per center = 300 health care workers.

⁸24 source animal records + 12 recipient records = 36 total records.

Respondents to this collection of information are the sponsors of clinical studies of investigational xenotransplantation products under investigational new drug applications (INDs) and xenotransplantation product procurement centers, referred to as source animal facilities. There are an estimated 12 respondents who are sponsors of INDs that include protocols for xenotransplantation in humans. Other respondents for this collection of information are an estimated 18 source animal facilities which provide source xenotransplantation product material to sponsors for use in human xenotransplantation procedures. These 18 source animal facilities keep medical records of the herds/colonies as well as the medical records of the individual source animal(s). The total annual reporting and recordkeeping burden is estimated to be approximately 156 hours. The burden estimates are based on FDA's records of xenotransplantation-related INDs and estimates of time required to complete the various reporting and recordkeeping tasks described in the guideline. FDA does not expect the level of clinical studies using xenotransplantation to increase significantly in the next few years.

Information collections in this guideline not included in tables 1 through 4 can be found under existing regulations and approved under the OMB control numbers as follow: (1) "Current Good Manufacturing Practice for Finished Pharmaceuticals," 21 CFR 211.1 through 211.208, approved through under OMB control number 0910-0139; (2) "Investigational New Drug Application," 21 CFR 312.1 through 312.160, approved under OMB control number 0910-0014; and information included in a license application, 21 CFR 601.2, approved under OMB control number 0910-0338. Although it is possible that a xenotransplantation product may not be regulated as a biological product (e.g., it may be regulated as a medical device), FDA believes, based on its knowledge and experience with xenotransplantation, that any xenotransplantation product subject to FDA regulation within the next 3 years will most likely be regulated as a biological product. However, FDA recognized that some of the information collections go beyond approved collections; assessments for these burdens are included in tables 1 through 4.

In table 5 of this document, FDA identifies those information collection activities that are already encompassed by existing regulations or are consistent with voluntary standards which reflect industry's usual and customary business practices.

Table 5-Collection of Information Required by Current Regulations and Standards		
PHS Guideline Section	Description of Collection of Information Activity	21 CFR Section (unless otherwise stated)
2.2.1	Document off-site collaborations	312.52
2.5	Sponsor ensures counseling patient + family + contacts	312.62(c)
3.1.1 and 3.1.6	Document well-characterized health history and lineage of source animals	312.23(a)(7)(a) and 211.84
3.1.8	Registration with and import permit from the	42 CFR 71.53

	Centers for Disease Control and Prevention	
3.2.2	Document collaboration with accredited microbiology labs	312.52
3.2.3	Procedures to ensure the humane care of animals	9 CFR parts 1, 2, and 3 and PHS Policy ¹
3.2.4	Procedures consistent for accreditation by the Association for Assessment and Accreditation of Laboratory Animal Care International (AAALAC International) and consistent with the National Research Council's (NRC) "Guide for the Care and Use of Laboratory Animals" (1996)	AAALAC International Rules of Accreditation ² and NRC Guide ³
3.2.5, 3.4, and 3.4.1	Herd health maintenance and surveillance to be documented, available, and in accordance with documented procedures; record standard veterinary care	211.100 and 211.122
3.2.6	Animal facility SOPs	PHS Policy ¹
3.3.3	Validate assay methods	211.160(a)
3.6.1	Procurement and processing of xenografts using documented aseptic conditions	211.100 and 211.122
3.6.2	Develop, implement, and enforce SOPs for procurement and screening processes	211.84(d) and 211.122(c)
3.6.4	Communicate to FDA animal necropsy findings pertinent to health of recipient	312.32(c)
3.7.1	PHS specimens to be linked to health records; provide to FDA justification for types of tissues, cells, and plasma, and quantities of plasma and leukocytes collected	312.23(a)(6)
4.1.1	Surveillance of xenotransplant recipient; sponsor ensures documentation of surveillance program life-long (justify >2 yrs.); investigator case histories (2 yrs. after investigation is discontinued)	312.23(a)(6)(iii)(f) and (a)(6)(iii)(g), and 312.62(b) and (c)
4.1.2	Sponsor to justify amount and type of reserve samples	211.122
4.1.2.2	System for prompt retrieval of PHS specimens and linkage to medical records (recipient and source animal)	312.57(a)
4.1.2.3	Notify FDA of a clinical episode potentially representing a xenogeneic infection	312.32
4.2.2.1	Document collaborations (transfer of obligation)	312.52
4.2.3.1	Develop educational materials (center provides health care workers with information related to prevention of infection and transmission of	312.50

	infectious agents)	
4.3	Sponsor to keep relevant health care records	312.57 and 312.62(b)

¹The “Public Health Service Policy on Humane Care and Use of Laboratory Animals” (<http://www.grants.nih.gov/grants/olaw/references/phspol.htm>).

²AAALAC International Rules of Accreditation (<http://www.aaalac.org/accreditation/rules.cfm>).

³The NRC’s “Guide for the Care and Use of Laboratory Animals” (1996).

Cost to Respondents

The estimated annual cost to respondents is \$8,282.35.

Activity	No. of Hours	Cost per Hour	Total Cost
Reporting	7.11	\$58.00	\$412.38
Recordkeeping	148.49	\$53.00	\$7,869.97
TOTAL			\$8,282.35

The reporting cost estimate is based on an average pay rate of \$58.00/hour. This average is based on the salaries of an upper-level manager, mid-level professional, and clerical support who may be involved in notifying or providing any necessary information. The recordkeeping cost estimate is based on an average pay rate of \$53.00/hour of a study coordinator and clinical investigator who are involved with the documentation and maintenance of records. The salary estimates include benefits but no overhead costs.

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

There are no capital costs or operating and maintenance costs associated with this collection of information.

14. Annualized Cost to the Federal Government

The estimated annual cost to FDA is \$4,000.00.

Activity	Number of Inspections	Review Time	Average Cost per Hour	Total Cost
Review / Inspection	1	40 hrs.	\$100.00	\$4,000.00

The cost to the Federal Government is based on two FDA investigators at an average grade scale of GS-13 (\$50.00/hr) who perform on-site inspections. The salary estimate includes benefits but no overhead costs. The cost is also based on an average time to inspect a facility, review the records, and prepare an establishment inspection report. FDA does not plan to inspect them

unless the need arises due to specific circumstances. Therefore, FDA is estimating one annual inspection.

15. Explanation for Program Changes or Adjustments

There is no change in burden. The limited number of clinical studies with small patient populations has not changed over the last few years.

16. Plans for Tabulation and Publication and Project Time Schedule

There are no tabulated results to publish for this information collection.

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

FDA is not seeking approval to exempt display of the expiration date of the OMB approval.

18. Exceptions to Certification for Paperwork Reduction Act Submissions

N/A