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## Chapter 9

### Animal Care Facilities

#### Highlights . . .

- ◆ Eighty-eight percent of all research-performing institutions had laboratory animal facilities in 1996.
- ◆ Most of the laboratory animal research space--93 percent--was concentrated in the doctorate-granting institutions.
- ◆ Institutions with animal research space reported that 82 percent of this space fully met government regulations.
- ◆ Six percent of the institutions with animal research facilities were scheduled to construct animal facilities in fiscal year 1996 or 1997, with a total estimated cost of \$164.1 million.

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## Background

Scientists in the fields of biology, agriculture, psychology, and medicine often use animals in conducting their research. Concern about the safekeeping and proper use of such animals prompted Congress to pass several different laws that regulate animal facilities used for research and housing--laws that provide guidelines for the humane care of animals used in research, teaching, and testing. Issues related to the housing of animals and the laboratories in which research is conducted are examined in this chapter.

## The Survey Questions

Institutions estimated the amount of both animal housing space and animal laboratory space to arrive at a total amount of animal research space. In addition, institutions provided estimates of the amount of space that met government regulations, needed some repair or renovation to meet those regulations, or needed major repairs or replacement in order to meet regulations. Repair/renovation costs and space as well as construction costs and NASF scheduled for fiscal year 1996 or 1997, also were provided. (See Item 8 of the survey, in Appendix C.)

## Data Considerations

Institutions were asked to include as laboratory animal facilities both departmental and central facilities that are subject to government and state policies and regulations concerning the humane care and use of laboratory animals. Not included were agricultural buildings that did not directly support research or that were not subject to government regulations; nor were areas for the veterinary treatment of animals.

## Findings

### How Much Space Was Devoted to Animal Research?

In 1996, 490 of the 560 research-performing institutions (88 percent) had laboratory animal facilities. The doctorate-granting institutions were more likely than the nondoctorate-granting institutions to have such facilities (93 percent and 79 percent respectively) (Table 9-1).

Institutions reported a total of 12.2 million NASF of animal research space. Most of that space (11.4 million NASF) was contained in the doctorate-granting institutions. Within the doctorate-granting institutions, 8.4 million NASF of the animal research space were in the top 100 universities and 3.0 million NASF were in the other doctorate-granting institutions. The nondoctorate-granting institutions reported .8 million NASF of animal research space.

In general, the distribution of animal research space approximated the distribution of S&E research space. The top 100 institutions accounted for 72 percent of all S&E research space and 69 percent of animal research space. The other doctorate-granting institutions had 23 percent of the S&E research space and 26 percent of the animal research space; and the nondoctorate-granting institutions accounted for 4 percent of the overall S&E research space and 7 percent of the animal research space (Table 9-1).

Table 9-1. Amount and distribution of laboratory animal facilities by institution type: 1996

Institution type	Institutions with Laboratory Animal Facilities		Total Animal Research Space	
	Number	Percentage of Institutions	NASF in Millions	Percentage of Total Animal Research NASF
<b>Total</b>	490	88%	12.2	100%
Doctorate-granting	297	93	11.4	93
Top 100 in research expenditures	97	97	8.4	69
Other	200	92	3.0	24
Nondoctorate-granting	192	79	0.8	7

SOURCE: National Science Foundation/SRS, 1996 Survey of Scientific and Engineering Research Facilities at Colleges and Universities.

Overall, approximately two-thirds of the total animal research space (8.0 million NASF) was used to house laboratory animals, and one-third (4.2 million NASF) was considered animal laboratory space. The relatively small amount of animal research space in nondoctorate-granting institutions was evenly divided between animal housing space (.4 million NASF) and animal laboratory space (.4 million NASF) (Table 9-2).

**Table 9-2. Amount and distribution of laboratory animal space by use and institution type: 1996**

<i>Institution type</i>	<i>Animal Housing Space</i>		<i>Animal Laboratory Space</i>	
	<i>NASF in Millions</i>	<i>Percentage of Total Animal Research NASF</i>	<i>NASF in Millions</i>	<i>Percentage of Total Animal Research NASF</i>
<b>Total</b>	8.0	67%	4.2	33%
Doctorate-granting	7.7	68	3.7	32
Top 100 in research expenditures	5.8	69	2.6	31
Other	1.9	63	1.1	37
Nondoctorate-granting	0.4	50	0.4	50

*SOURCE: National Science Foundation/SRS, 1996 Survey of Scientific and Engineering Research Facilities at Colleges and Universities.*

## How Much Animal Research Space Met Government Regulations?

Institutions with animal research space reported that about 10 million NASF of that space (82 percent) met government regulations in 1996. Another 1.2 million NASF of the animal research space (10 percent) needed limited repair/renovation to meet the regulations, and 1.1 million NASF (9 percent) needed major repair/renovation (Table 9-3).

Table 9-3. Percentage of animal care research space meeting government regulations by institutional type: 1996 <sup>1</sup>

<i>Institution type</i>	<i>Fully meets government regulations</i>	<i>Needs limited repair/renovation to meet government regulations</i>	<i>Needs major repair/renovation to meet government regulations</i>
<b>Total</b>	82%	10%	9%
Doctorate-granting	81	10	9
Top 100 in research expenditures	80	12	8
Other	84	4	12
Nondoctorate-granting	92	6	2

<sup>1</sup> Percentages may not total to 100 due to rounding.

SO URCE: National Science Foundation/SRS, 1996 Survey of Scientific and Engineering Research Facilities at Colleges and Universities.

Nondoctorate-granting institutions were most likely to report their animal research space met government regulations, with 92 percent (.74 million NASF) in full compliance. Similarly, only 2 percent of the animal research space at the nondoctorate-granting institutions was reported to need major repair/renovation to meet government regulations.

## How Much Construction and Repair/Renovation Was Scheduled for Animal Research Space?

Overall, 30 of the research-performing institutions (6 percent of those with animal research facilities) were scheduled to construct animal facilities in fiscal year 1996 or 1997. Twenty-six doctorate-granting universities were scheduled to construct facilities, and four of the nondoctorate-granting institutions had such construction scheduled (Table 9-4).

**Table 9-4. Scheduled construction and repair/renovation for laboratory animal facility improvement: 1996-1997**

<i>Institution Type</i>	<i>Scheduled Construction</i>			<i>Scheduled Repair/Renovation</i>		
	<i>Number of Institutions</i>	<i>Percent of Institutions</i>	<i>Cost (in Millions)</i>	<i>Number of Institutions</i>	<i>Percent of Institutions</i>	<i>Cost (in Millions)</i>
<b>Total</b>	30	6%	\$164.1	72	13%	\$83.3
Doctorate-granting	26	8	162.1	64	20	78.9
Top 100 in research expenditures	20	20	112.8	36	36	48.1
Other	6	3	49.3	28	13	30.8
Nondoctorate-granting	4	2	2.0	8	3	4.4

*SOURCE: National Science Foundation/SRS, 1996 Survey of Scientific and Engineering Research Facilities at Colleges and Universities.*

The total estimated cost of animal facility construction was \$164.1 million, with 99 percent of the construction dollars (\$162.1 million) in the doctorate-granting institutions.

Research-performing institutions with animal research facilities were more likely to have scheduled repair/renovation to improve their animal facilities than to have scheduled construction for fiscal year 1996 or 1997. In all, 72 institutions (13 percent) had repair/renovation scheduled. However, the total scheduled repair/renovation costs (\$83.3 million) were almost half the total scheduled construction costs of \$164.1 million. The doctorate-granting institutions accounted for 95 percent of the scheduled repair/renovation costs (\$78.9 million).

Scheduled construction of animal research space totaled 644,774 NASF (Table 9-5). The amount reported to need major repair/renovation to meet government regulations was 1.1 million NASF. The total amount of space scheduled for repair/renovation in fiscal year 1996 or 1997 was 531,821 NASF. Institutions reported that about 1.2 million NASF of animal research space needed limited repair/renovation to meet government regulations.

**Table 9-5. NASF scheduled for construction and repair/renovation of laboratory animal facilities: 1996-1997**

<i>Institution type</i>	<i>Construction</i>	<i>Repair/Renovation</i>
<b>Total</b>	644,774	531,821
Doctorate-granting	637,775	518,655
Top 100 in research expenditures	384,711	313,041
Other	253,064	205,614
Nondoctorate-granting	7,000	13,165

Components may not add to total due to rounding.

*SOURCE: National Science Foundation/SRS, 1996 Survey of Scientific and Engineering Research Facilities at Colleges and Universities.*