**U.S. Department of Justice**
Office of Justice Programs

# Bureau of Justice Statistics
# Fact Sheet

September 2004, NCJ 205988

*Census of Publicly Funded Forensic Crime Laboratories*

# 50 Largest Crime Labs, 2002

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The 50 largest publicly funded forensic crime laboratories in the United States employed more than 4,300 full-time equivalent (FTE) personnel in 2002 and had total budgets exceeding $266.6 million. These labs received more than 994,000 new cases, including over 1.2 million requests for forensic services during calendar year 2002.* The requests represented about half of all requests for forensic services handled by publicly funded laboratories nationally.

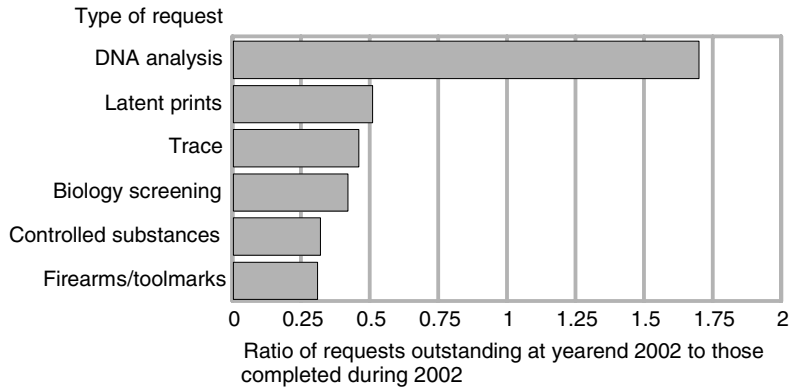
These labs ended the year with over 93,000 backlogged cases including about 270,000 requests for forensic services— more than twice the backlog at the beginning of the year. The backlog increased in all categories of forensic services.

The large labs estimated that about 930 additional FTEs would have been needed to achieve a 30-day turnaround for all 2002 requests for forensic services. Based on starting salaries for analysts or examiners in the large labs, the estimated cost of the additional FTEs exceeds $36.2 million.

*A 'case' is defined as evidence submitted from a single criminal investigation. A case may include multiple 'requests' for forensic services (for example, one case may include a request for biology screening and a request for latent prints). A case or request is defined as 'backlogged' if it is in the laboratory and remains unreported for a period of 30 days or more.

**For every DNA analysis request completed by the largest forensic crime laboratories in 2002, nearly 2 requests remained outstanding at yearend**

Overall, laboratories estimated they needed a 90% increase in FTEs performing DNA analysis to achieve a 30-day turnaround on requests.




Most of the large labs indicated that resources beyond personnel increases would also have been needed to achieve a 30-day turnaround on all 2002 requests. These included equipment, supplies, and space requirements, as well as funds for overtime, travel, and training. Among those labs providing detailed cost estimates, additional equipment accounted for about $18.3 million.

This report focuses on the current workload, backlog, and estimated resources needed to meet the growing demand for forensic services in the Nation's 50 largest crime labs, as defined by staff size. The data were collected as part of the 2002 BJS *Census of Publicly Funded Forensic Crime Laboratories*.

**Personnel in the 50 largest labs**

The 50 largest labs in 2002 were authorized for a total of 4,552 FTEs and actually employed 4,348 FTEs, or about 96% of the authorized total.

Analysts or examiners comprised 56% of actual FTEs in these labs.

| Personnel category | Number of FTEs | Percent of FTEs |
|---|---|---|
| Total | 4,348 | 100% |
| Analyst/examiner | 2,425 | 56% |
| Technical support | 647 | 15 |
| Managerial | 513 | 12 |
| Clerical support | 368 | 8 |
| Other | 395 | 9 |

Technical support personnel accounted for 15% of all FTEs, followed by managerial personnel (12%) and clerical support (8%).

**Table 1. Requests for forensic services and estimated yearend backlog in the 50 largest forensic crime laboratories, by type of function, 2002**

| Type of function | Percent of laboratories performing function | Number of back-logged requests as of January 1, 2002 | Number of new requests received during 2002 | Total number of requests completed in 2002 | Estimated total backlog at yearend | Ratio of yearend backlog to completed requests |
|---|---|---|---|---|---|---|
| Total | -- | 116,707 | 1,204,922 | 1,051,302 | 270,327 | 0.26 |
| Controlled substances | 98% | 30,234 | 536,936 | 431,377 | 135,793 | 0.31 |
| Firearms/toolmarks | 98 | 8,600 | 53,261 | 47,494 | 14,367 | 0.30 |
| Biology screening | 96 | 5,631 | 25,252 | 21,897 | 8,986 | 0.41 |
| DNA analysis | 94 | 18,130 | 30,761 | 18,171 | 30,720 | 1.69 |
| Latent prints | 86 | 27,795 | 119,875 | 96,857 | 50,813 | 0.50 |
| Trace | 85% | 3,892 | 16,768 | 14,242 | 6,418 | 0.45 |
| Crime scene | 81 | 790 | 92,836 | 92,622 | 1,004 | 0.01 |
| Toxicology | 65 | 9,758 | 207,539 | 203,354 | 13,943 | 0.07 |
| Questioned documents | 57 | 861 | 5,231 | 5,013 | 1,079 | 0.22 |
| Computer crimes | 26 | 142 | 728 | 737 | 133 | 0.18 |
| Other functions | 48% | 10,874 | 115,735 | 119,538 | 7,071 | 0.06 |

Note: Examples of forensic services listed by labs in 'other functions' category include fire debris, polygraph, shoe/tire print, and digital imaging. Backlog data should be interpreted with caution for a variety of reasons. First, some laboratories may not have included pending requests that had been logged in December of the year prior to the reference period, but were not yet 30 days old. As such, backlogged requests may represent a subset of total pending requests for some laboratories. Second, in State laboratory systems requests may occasionally be moved between laboratories, with the initial request being logged at one laboratory and the completion at another laboratory. Third, some complex cases may start with an initial request and evolve into multiple requests. The additional work may be completed without logging additional requests. Finally, some labs did not provide information for this table; included are State and local labs that provided complete forensic request processing data. Collectively, these concerns suggest that the backlog estimates are conservative and that the actual backlog may be greater than estimated.

## Backlogged requests

The 50 largest labs began 2002 with about 117,000 backlogged requests for forensic services (table 1). These labs received an additional 1.2 million requests during 2002 and completed nearly 1.1 million requests.

The total estimated backlog at yearend, about 270,000 requests, represents an increase of nearly 154,000 requests, or 132%, from the beginning of the year.

Dividing the estimated backlogged requests by those completed results in a ratio that describes backlog growth relative to the labs' current capacity to process requests. Overall, for every four requests completed by these large laboratories, there was one outstanding request at yearend.

Eighty percent of the estimated 270,000 backlogged requests for forensic services in these large labs was attributable to requests for controlled substances (50%), latent prints (19%), and DNA analysis (11%).

*Controlled substances*

Half of the total backlog — about 136,000 requests — was attributable to requests for analysis of controlled substances. For every three such requests completed in 2002, approximately one request was outstanding at yearend.

*Latent prints*

The backlog included about 51,000 requests for latent print services, or about a fifth of the total. For every two latent print requests completed in 2002, approximately one request was outstanding at yearend.

*DNA analysis*

The backlog included about 31,000 requests for DNA analysis. Although these requests comprised about a tenth of the total backlog, they had the greatest backlog relative to labs' current capacity to process requests: for every one DNA analysis request completed in 2002, an estimated 1.7 requests were outstanding at yearend.

## Annual budgets in the largest labs

43 of the 50 largest labs in 2002 provided information on annual budgets for lab operations. Overall, these labs had budgets totaling nearly $266.7 million. The median budget was $5.2 million.

The largest budget category was personnel, accounting for $202.9 million, or about 76% of the total.

| Budget category | Amount (in millions) | Percent of total |
|---|---|---|
| Total | $266.7 | 100% |
| Personnel | $202.9 | 76% |
| Supplies | 19.8 | 7 |
| Equipment | 12.3 | 5 |
| Services | 12.3 | 5 |
| Facilities | 10.0 | 4 |
| Training | 1.2 | -- |
| Travel | 0.8 | -- |
| Quality assurance | 0.7 | -- |

Note: Table does not include 'other' costs.
-- Less than 0.5%.

The next largest budget categories were supplies ($19.8 million, or 7%), equipment and services (each $12.3 million, or 5%), and facilities ($10 million, or 4%). Training, travel, and quality assurance each accounted for less than 0.5% of the total.

## Expected and actual performance

Laboratory directors were asked to report their performance expectations for one FTE examiner per year in each category of forensic services. Overall, examiners in the largest labs processed requests at or above 90% of the expected average in all but two categories: biology screening (82%) and DNA analysis (78%) (table 2).

Examiners performing biology screening were expected to process an average (median) of 166 requests per year. Examiners actually processed an average of 136 requests per year, or about 82% of the expected average.

Examiners performing DNA analysis were expected to process an average (median) of 69 requests per year. Examiners actually processed an average of 54 requests per year, or about 78% of the expected average.

## Human resource needs

Overall, the largest laboratories estimated that an additional 931 FTEs would be needed to achieve a 30-day turnaround on all requests for forensic services received in 2002 (table 3). The estimated total cost of the additional FTEs exceeds $36.2 million.

Just over half of the needed FTEs were in the areas of controlled substances (10%), latent prints (17%), and DNA analysis (25%).

*Controlled substances*

Labs performing analysis of controlled substances estimated that nearly 100 additional FTEs would have been needed to achieve a 30-day turnaround on all such requests received during 2002. These additional FTEs represent a 7% increase in FTEs currently performing controlled substance analysis. The estimated cost of additional FTEs needed for analysis of controlled substances exceeds $3.6 million.

*Latent prints*

Labs performing latent print analysis estimated that about 160 additional FTEs would have been needed to achieve a 30-day turnaround on all such requests received during 2002. These additional FTEs represent a 55% increase in FTEs currently performing latent print services. The estimated cost of these additional FTEs exceeds $6.7 million.

*DNA analysis*

Labs performing DNA analysis estimated that about 230 additional FTEs would have been needed to achieve a 30-day turnaround on all DNA analysis requests received during 2002, given current laboratory conditons and analysis tools. These additional FTEs represent a 90% increase in FTEs currently performing DNA analysis. The estimated cost of these additional FTEs exceeds $9.3 million.

**Table 2. Expected and actual requests for forensic services completed per examiner FTE, 2002**

| Type of function | Median requests completed per FTE | |
|---|---|---|
| | Expected | Actual |
| Controlled substances | 840 | 846 |
| Firearms/toolmarks | 134 | 121 |
| Biology screening | 166 | 136 |
| DNA analysis | 69 | 54 |
| Latent prints | 213 | 236 |
| Trace | 91 | 83 |
| Crime scene | 93 | 99 |
| Toxicology | 490 | 444 |
| Questioned documents | 60 | 98 |
| Computer crimes | 74 | 70 |

Note: Table includes labs reporting both expected and actual performance data in listed categories.

**Table 3. Estimated additional personnel needs in order to achieve a 30-day turnaround on all requests for forensic services received, by type of function, 2002**

| Type of function | Number of FTEs currently performing function | | Number of additional FTEs needed to achieve 30-day turnaround | | Estimated cost of additional FTEs | |
|---|---|---|---|---|---|---|
| | Total | Median | Total | Median | Total | Median |
| Total | 3,350 | 41 | 931 | 14 | $36,201,000 | $476,900 |
| Controlled substances | 1,474 | 7 | 97 | 1 | $3,568,000 | $72,000 |
| Firearms/toolmarks | 217 | 4 | 93 | 1 | 3,575,000 | 59,200 |
| Biology screening | 174 | 5 | 85 | 2 | 3,262,000 | 76,300 |
| DNA analysis | 258 | 6 | 231 | 5 | 9,319,000 | 172,500 |
| Latent prints | 291 | 6 | 161 | 2 | 6,701,000 | 95,100 |
| Trace | 141 | 3 | 85 | 2 | $3,247,000 | $71,200 |
| Crime scene | 328 | 10 | 31 | 0 | 1,101,000 | 115,800 |
| Toxicology | 235 | 6 | 80 | 1 | 2,823,000 | 67,800 |
| Questioned documents | 47 | 2 | 19 | 1 | 700,000 | 38,400 |
| Computer crimes | 19 | 3 | 5 | 1 | 161,000 | 36,400 |
| Other functions | 166 | 3 | 45 | 1 | $1,743,000 | $55,500 |

Note: Estimated cost is based on starting salaries of analysts or examiners, and does not include benefits or other personnel costs. Some labs did not provide information for this table. Detail may not sum to total due to rounding.

The Bureau of Justice Statistics is the statistical agency of the U.S. Department of Justice. Lawrence A. Greenfeld is director.

Matthew J. Hickman, BJS Statistician, and Joseph L. Peterson, Professor and Acting Head of the Department of Criminal Justice, University of Illinois at Chicago (UIC), collaborated on this report. Steven K. Smith reviewed the report. Tom Hester edited the report.

The data in this report were collected as part of the 2002 BJS *Census of Publicly Funded Forensic Crime Laboratories*, currently in progress. The project is directed by Joseph L. Peterson and Sandra K. Costello, Associate Director of the UIC Center for Research in Law and Justice (CRLJ). CRLJ project staff included Laura Kunard, Andrew Krzak, Cosmina Menghes, and Tiffany Vasquez.

Representatives of the American Society of Crime Laboratory Directors (ASCLD) served as subject matter experts and consultants to this project, providing assistance with the development and review of the census instrument, project guidance, and non-response follow-up.

ASCLD representatives included the following: Elizabeth Carpenter, Director of the Portland (OR) State Police Forensic Laboratory; Roger Kahn, Deputy Superintendent of Laboratories of the Ohio Bureau of Criminal Identification and Investigation; Susan Johns, Bureau Chief of the Illinois State Police Division of Forensic Services; David Petersen, Assistant Director of the Minnesota State Forensic Science Laboratory; and Jan Bashinski, Chief of the Bureau of Forensic Services (ret.), California Department of Justice.

The UIC Survey Research Laboratory (SRL) produced and administered the final census instrument.

Future reports based on the completed census will provide information on the organization, budgets, staff, workload, training, and needs of the more than 300 publicly funded forensic crime laboratories currently operating in the United States.

Information about the technology programs of the National Institute of Justice can be found at <http://www.ojp.usdoj.gov/nij/sciencetech/welcome.html>.

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