Service Trends in U.S. Public Libraries, 1997-2007

INSTITUTE of Museum and Library SERVICES

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Highlights

- Between 1997 and 2007, per capita visits to public libraries increased nationwide by 19 percent. During the same period, per capita circulation increased by 12 percent. This growth in demand for library services occurred even as people increasingly turned to the Internet to meet other information needs.

- The availability of Internet terminals in public libraries rose sharply between 2000 and 2007, increasing by 90 percent on a per capita basis. This dramatic increase is one example of the way U.S. public libraries are expanding their range of services to meet patron demand.

- The study identified very different trajectories between urban and rural communities for select service trends, highlighting the importance of local context for identifying needs and improving services.

Introduction

Libraries are operating in a fluid service environment in which people increasingly turn to the Internet to address everyday concerns. They also face competition from large booksellers that offer potential library patrons access to a virtually unlimited selection of books. These developments have understandably provoked questions and concerns about the future of libraries. Given this state of affairs, it is important to look beyond conjecture and assess the state of U.S. public libraries using actual visitation and circulation figures.

This report uses the past 11 years (FY 1997–FY 2007) of the annual Public Library Survey (PLS) data to analyze public library statistics on circulation, visitation, and information technology resources. In addition to reporting trends at the national level, we have disaggregated the data by urban/nonurban county status to examine whether library use patterns in rural areas differ from those in urban areas. This brief aims to provide a clearer, more complete picture of recent public library circulation and use trends than has previously been available.

Literature Review

The issue of how the Internet will affect people's use of libraries has been in the public consciousness ever since use of the World Wide Web and e-mail first became widespread in the mid-1990s. Some research, both quantitative and qualitative, has been done to address this question.

George D'Elia has done the most comprehensive survey-driven research on the subject. In reporting the results of a 2000 survey of adults, D'Elia and colleagues concluded that use of public libraries and the Internet was complementary, but they also noted that the response patterns indicated this complementarity would not necessarily last long.[1] In 2003, D'Elia and colleagues conducted a library-Internet use survey among 5th through 12th graders and concluded that public libraries and the Internet served complementary functions among youth as well, but they also noted that youth with Internet access at home visited the library less frequently than those who did not have Internet

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[1] George D'Elia, Corinne Jörgensen, Joseph Woelfel, and Eleanor Jo Rodger, "The Impact of the Internet on Public Library Use: An Analysis of the Current Consumer Market for Library and Internet Services," *Journal of the American Society for Information Science and Technology* 53, no. 10 (2002): 802–20.

access at home.[2]

Studies of a more qualitative nature have focused on the prevalence of patrons using the public library's online resources to engage in vital economic activities. The fact that the majority of America's leading retailers now require potential hourly employees to submit applications electronically[3] and that most public libraries report being the only source of free Internet access in their communities[4] means that many job seekers who do not have Internet access at home turn to the library. A recent American Library Association (ALA) study found "greatly increased" use of libraries' electronic resources in job-hunting.[5] This study echoed what many news outlets have reported anecdotally in the wake of the current economic downturn. Another ALA study reported increased use of library computing resources to access e-government services, such as online applications for unemployment benefits. Library staff often assist patrons in these efforts.[6]

Methodology

The statistics presented in this report all (unless otherwise noted) come from the Public Library Survey (PLS), an annual survey of all public libraries in the United States. The data years used to construct the trend lines featured in the charts come from fiscal years 1997 through 2007; for the sake of simplicity, in the body of the report, a data year will simply be referred to by the numeric year (1997 or 1998, not FY 1997 or FY 1998). Because the data are being aggregated up to the national level for this study, the imputed version of all the datasets is used.

A library's metro/nonmetro status was determined using the United States Office of Management and Budget's

(OMB) 2003 metropolitan/nonmetropolitan classification system. This system classifies all 3,141 of the nation's counties, county equivalents, and independent cities and allows data users to quickly classify a county as metro or nonmetro. Every county in which an administrative entity could possibly be located has been assigned a metro/nonmetro status by OMB, so libraries (administrative entities) were simply assigned the status of the county in which they resided.[7]

IMLS recognizes that urbanization is a continuous process and that using one static snapshot of urbanicity to categorize 11 years of data may misclassify some counties, particularly at the beginning of the study period, but there is currently no annually updated county-level measure of rurality, so this was the most efficient approach given data availability and time constraints. In addition, this solution draws upon the extensive research of the OMB and is an often-used standard of rurality.[8]

Descriptive Statistics

Figure 1: Public Library Use, 1997–2007, Per Capita Visits
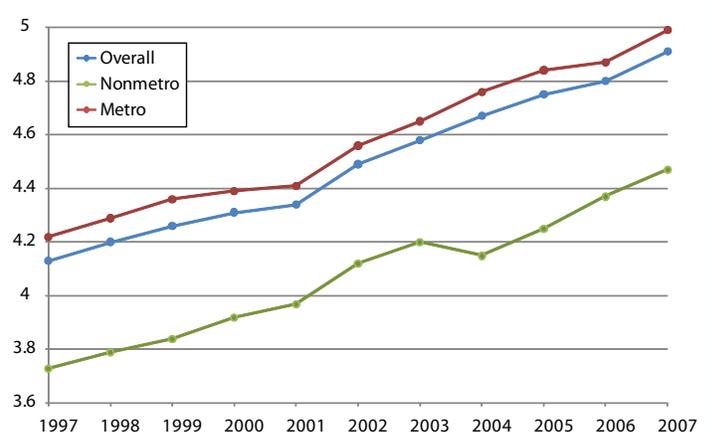
Source: Public Libraries Survey, FY 1997–FY 2007, Institute of Museum and Library Services /National Center for Education Statistics

Nationwide, per capita visitation increased every year during the study period, growing steadily from 4.13 in 1997 to 4.91 in 2007, an increase of 19 percent. Public libraries in metro and nonmetro counties reported similar

[2]   George D'Elia, June Abbas, Kay Bishop, Donald Jacobs, and Eleanor Jo Rodger, "The Impact of Youth's Use of the Internet on Their Use of the Public Library," *Journal of the American Society for Information Science and Technology* 58, no. 14 (2007): 2180–96.

[3]   Taleo Research, "Trends in Hourly Job Application Methods" (2006), 5.

[4]   Denise M. Davis, John Carlo Bertot, and Charles R. McClure, *Libraries Connect Communities: Public Library Funding & Technology Access Study 2007–2008* (Chicago: American Library Association, 2008), 35. Available at: www.ala.org/ala/research/initiatives/plftas/previousstudies/0708/LibrariesConnectCommunities.pdf.

[5]   American Library Association Office for Research & Statistics, *Jobseeking in U.S. Public Libraries* (Chicago, IL: ALA, October 2009), 2. Available at: www.ala.org/ala/research/initiatives/plftas/issuesbriefs/JobBrief2009_2F4.pdf.

[6]   Davis, Bertot, and McClure, *Libraries Connect Communities,* 5 and 130.

[7]   U.S. Department of Agriculture, "Measuring Rurality: New Definitions in 2003" (August 2003). Available at: www.ers.usda.gov/Briefing/Rurality/NewDefinitions.

[8]   Ibid.

increases; visitation in metro libraries increased by 18 percent and in nonmetro libraries by 20 percent. Even though public libraries in metro and nonmetro areas reported similar proportional increases in visitation, residents in metro areas visited libraries more often than their nonmetropolitan counterparts throughout the study period. In 1997, the average metro area resident visited a local public library 4.2 times, whereas the average nonmetro area resident visited a public library 3.7 times. Despite nonmetropolitan libraries registering a higher percentage growth rate during the study period, by 2007 the gap in per capita visits still stood at roughly 0.5.[9]

Figure 2: Public Library Use, 1997–2007, Per Capita Circulation
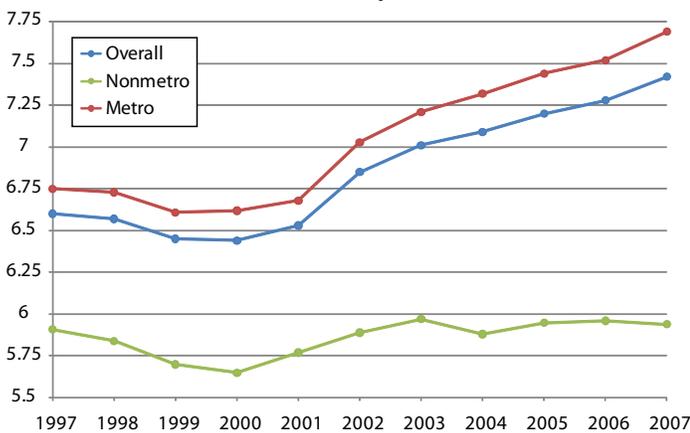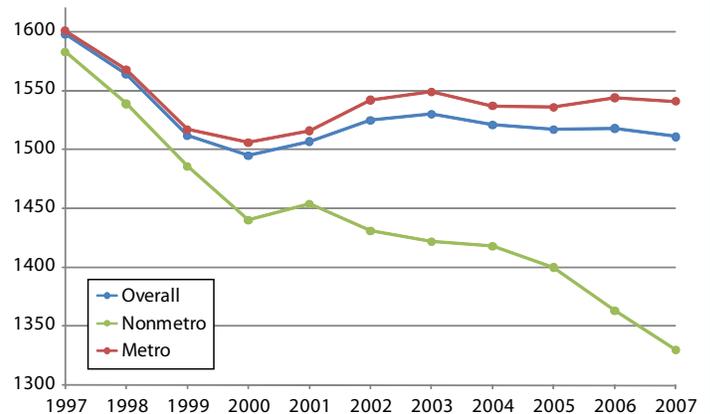

Source: Public Libraries Survey, FY 1997–FY 2007, Institute of Museum and Library Services /National Center for Education Statistics

National per capita circulation was 6.6 in 1997; this figure declined slightly during the late 1990s but has rebounded since then, reaching 7.42 in 2007. This equates to a nationwide increase of 12 percent over the study period. This increase was driven almost completely by circulation in metropolitan counties, where per capita circulation increased by 14 percent from 1997 to 2007. In contrast, the growth rate in nonmetro counties was 0.5 percent. The difference in growth rates between urban and nonurban counties was driven primarily by circulation trends between 2000 and 2007. Circulation in nonurban

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[9]   One caveat that applies to this and the rest of the per capita figures is that the calculation is based on the number of residents in the library service area, but anyone can visit a public library, so any count of per capita visitation inevitably includes visits from individuals who live outside the library service area.

and urban counties declined similarly from 1997 to 2000, but metro counties' per capita circulation increased by 16 percent between 2000 and 2007, whereas nonmetro counties' increased by 5 percent.

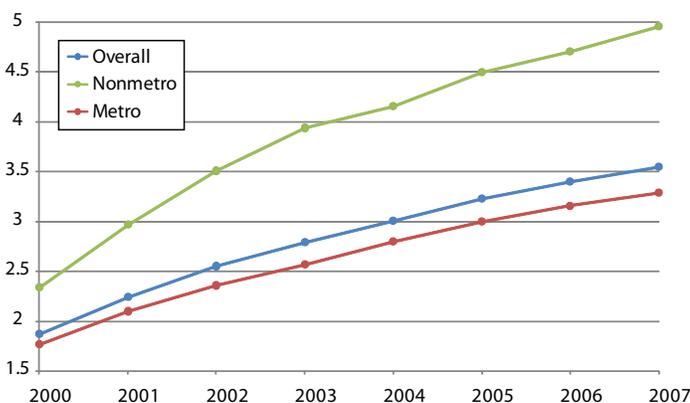### Figure 3: Public Library Use, 1997–2007, Circulations Per 1000 Visits

Source: Public Libraries Survey, FY 1997–FY 2007, Institute of Museum and Library Services /National Center for Education Statistics

The number of circulations per 1,000 visits is a useful output metric that conveys changing patterns in library use. Many patrons are turning to public libraries for a wide variety of services, such as Internet access, electronic databases, job-seeking assistance, and other nontransactional library services. By monitoring trends in the number of circulations per visit, we can track the likelihood of a visitor actually checking out materials and get some idea of the extent to which patrons are opting to make use of some of the other services that libraries have to offer.

In 1997, there were nearly 1,600 circulation transactions for every 1,000 public library visits nationwide. This figure declined in the late 1990s, bottoming out in 2000 before recovering slightly to reach its 2007 level of 1,511 circulation transactions per 1,000 visits. This corresponds to a decline of 5 percent during the study period. While both metro and nonmetro areas experienced declines in circulation per visit from 1997 to 2007, the decline in nonmetro areas was more precipitous. Metro areas' circulations per 1,000 visits decreased by 4 percent, while they decreased by 16 percent in nonmetro areas. The trend in circulations per visit differs from that of per capita visitation and per capita circulation because both metro

and nonmetro areas had nearly identical figures in 1997: 1,601 circulations per 1,000 visits in metro areas and 1,583 circulations per 1,000 visits in nonmetro areas. Both geographic categories declined similarly between 1997 and 2000 and rebounded between 2000 and 2001. However, after 2001, metro libraries continued to rebound and more or less stabilized after 2002, whereas nonmetro libraries' circulations per visit declined sharply after 2001. By 2007, metro areas reported 1,541 circulations per 1,000 visits, while nonmetro counties registered 1,330.

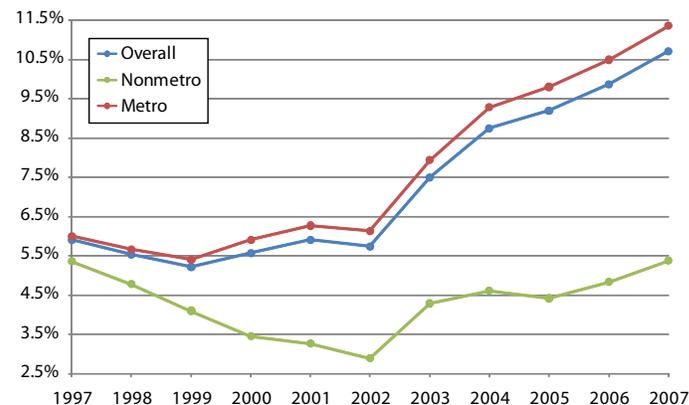**Figure 4: Number of Internet PCs in Public Libraries Per 5,000 People, 2000–2007**

Source: Public Libraries Survey, FY 1997–FY 2007, Institute of Museum and Library Services /National Center for Education Statistics

The availability of Internet terminals in public libraries rose sharply during the study period, from 1.9 Internet personal computers (PCs) per 5,000 residents in 2000 to 3.6 per 5,000 residents in 2007, an increase of 90 percent. This expansion was made possible through substantial public investments at the local, state and federal levels. Private initiatives, most notably the Bill and Melinda Gates Foundation's US Libraries Program, also played a role in increasing the availability of internet computers and related technologies in public libraries during the study period.[10] This dramatic increase in such a short time is evidence of public libraries' ability to adapt to the ever-evolving demands of their patrons. Another important

observation from this figure is that libraries in nonurban areas had more internet PCs per person than their urban counterparts throughout the study period. Rural counties started off with a slight advantage (0.5) in this metric in 2000 and from 2002 to 2007 had at least one more Internet PC per 5,000 residents than libraries in urban counties. In 2007 (our last year of available data), rural libraries had 5.0 Internet PCs per 5,000 residents, while urban libraries had 3.3. Perhaps the higher per capita availability of Internet PCs is a symptom of higher relative demand for publically available computing resources in rural communities; a 2007 Current Population Survey supplement[11] revealed that 39 percent of households in rural areas had broadband Internet connections, compared to 54 percent of households in urban communities. Rural libraries may be making more Internet-connected PCs available in response to the patron demand generated by this gap.[12]

Figure 5: Public Library Trends, 1997–2007, Electronic Materials as a Percentage of All Collection Expenditures[13]

Source: Public Libraries Survey, FY 1997–FY 2007, Institute of Museum and Library Services /National Center for Education Statistics

[10] C. Manjarrez, L. Langa, and K. Miller, *A Catalyst for Change: LSTA Grants to States Program Activities and the Transformation of Library Services to the Public* (IMLS-2009-RES-01) (Washington, DC: Institute of Museum and Library Services, 2009), 11. Available at: www.imls.gov/pdf/CatalystForChange.pdf.

[11] U.S. Census Bureau, *Current Population Survey: Internet and Computer Use Supplement* (October 2007).

[12] Broadband Internet connections are defined as those greater than 768 kbps (kilobytes per second).

[13] From 1997 to 2002, electronic materials could be categorized as collection expenditures but also could be counted as "other operating expenditures." This means that the figure for electronic materials as a percentage of all collection expenditures is likely higher than it otherwise would be during those years. Beginning in 2003, the definition of electronic materials was clarified. All spending on electronic materials was then counted toward collection expenditures, so calculating spending on electronic materials as a percentage of all collection expenditures became a more accurate measure of the relative importance of electronic materials.

Expenditures on electronic materials as a percentage of all collection expenditures increased by 81 percent from 1997 to 2007. Electronic material expenditures accounted for 5.9 percent of all collection expenditures in 1997 and had grown to 10.7 percent of all collection expenditures by 2007. This strong overall trend conceals important differences by geography. Electronic materials' share of collection expenditures in metropolitan areas grew by 89 percent (from 6.0 percent to 11.4 percent) during the study period, while the corresponding figure in nonmetro areas was the same in 1997 and 2007 (5.4 percent in both years). Metro and nonmetro areas started out at similar levels in 1997; they both declined between 1997 and 1999, although the decline was sharper in nonmetro areas. Metro area libraries began to rebound after 1999 and exceeded their 1999 levels by 2002, whereas nonmetro areas continued to decline from 1999 to 2002. Both geographic types increased at similar rates between 2002 and 2007; proportional electronic expenditures increased by 86 percent in nonmetro areas and 85 percent in metro areas. Despite these similar growth rates, metro areas still spent twice as much (proportionally) as nonmetro areas on electronic materials by 2007; spending on electronic materials made up for 11.4 percent of collection expenditures in metro counties and 5.4 percent of such expenditures in nonmetro counties.

Discussion

One detail that stands out in all the graphs presented in this report is how closely the metropolitan library trend lines mirror the overall trend lines. This is because population is so heavily concentrated within metropolitan counties. Even though about half of all public library administrative entities are located in nonmetropolitan counties, metropolitan counties were still home to 84 percent of all individuals residing in library service areas in 2007. Libraries in metropolitan counties also accounted for 86 percent of all visits, 88 percent of all circulations, and 78 percent of all public Internet terminals in libraries in 2007. It is this level of geographic concentration that causes trends in metropolitan libraries to echo trends in all libraries. This observation, along with the fact that the nonmetropolitan library trend lines in this report often diverge greatly from those of their metropolitan counterparts, suggests that libraries in rural areas face unique challenges and that any

successful national cultural policy will have to recognize and account for those challenges.

The visitation and circulation figures indicate that people are visiting public libraries more and checking out more materials than they were at the beginning of the study period. This is good news for the public library community, as it highlights the continued relevance of library services even as people increasingly turn to the Internet to meet other information needs. The 5 percent decline in circulations per visit means that even though libraries were being visited more often and patrons were checking out more materials in 2007, the average library patron was checking out fewer materials per visit than they did just ten years ago. In other words, patrons are changing their use patterns. Why has this happened? One theory is that improved library services, such as the increase in the availability of Internet-connected PCs, combined with the central role that the Internet has taken in everyday life, has led increasing numbers of patrons to spend more time online and less looking for books and other physical media. IMLS tested this explanation using an ordinary least squares regression, but were unable to find sufficient evidence to support that conclusion. A 2008 study of library use patterns using a Current Population Survey supplement from 2002[14] suggested that the relationships between key explanatory variables and the dependent variable (household-level library use) were nonlinear, so going forward, IMLS will use this information to adjust the model and test this theory again.

There are other possible explanations for this change. Use of Internet terminals is not the only noncirculation service offered at library sites. For example, many individuals visit libraries to receive free income tax preparation help from nonprofit organizations that choose public libraries as sites because of their value as public spaces. Libraries also conduct onsite programs that support English language learners.[15] Elementary and secondary school students visit libraries to receive homework help from tutors onsite as

[14] Kyung-Sun Kim and Sei-Ching Joanna Sin, "Use and Non-Use of Public Libraries in the Information Age: A Logistic Regression Analysis of Household Characteristics and Library Services Variables," *Library & Information Science Research* 30 (2008): 207–215.

[15] American Library Association, *Serving Non-English Speakers in U.S. Public Libraries: 2007 Analysis of Library Demographics, Services and Programs* (Chicago: American Library Association, March 2008), 6. Available at: www.ala.org/ala/aboutala/offices/olos/nonenglishspeakers.

well as online, where libraries often contract with homework help services so that their patrons do not have to pay fees to access such services.[16] Additionally, libraries continue to support adult literacy, either by directly offering classes or referring patrons to such courses.[17] While data on overall program attendance is not available for the entire study period, the available data suggest that patrons are more likely to participate in library programs when they visit. Program attendance per 1,000 visits increased from 50.9 in 2004 to 55 in 2007, an increase of 8 percent. Having more patrons come to the library to participate in programs increases visitation, but it does not necessarily increase circulation.

It is important to note that circulations per visit is only one metric; the fact that it has decreased slightly over the past 11 years of available data does not mean that people are finding libraries any less useful. Indeed, the fact that per capita visitation has steadily increased over the last decade shows that the public continues to derive value from these institutions and suggests that libraries are successfully adapting to changes in their patrons' preferences in the information age.

Conclusions

The nation's public libraries continue to be valued community resources. National per person visitation and circulation have both increased solidly over the past decade, a trend that would not necessarily have been predicted given the rise of the Internet and the increased presence of large booksellers over the same period. The increased demand for library services may not have occurred if these institutions had not recognized and adapted to new patron demands by drastically increasing the availability of Internet workstations, allocating greater proportions of collection expenditures to electronic materials and providing a wider range of targeted programs. For all these successes, there is still work to be done. Circulation per capita has not

increased in rural areas as much as it has in urban areas, and rural area libraries have not kept pace with metropolitan area libraries in proportional expenditures on electronic materials. These facts, as well as other instances where rural trends diverge considerably from urban trends, indicate that increased efforts should be made to get a greater understanding of the challenges that rural libraries face.

Future research by IMLS will examine library service trends in urban and rural areas in greater depth. To prepare for this analysis IMLS will include more detailed geographic identifiers in subsequent PLS releases. This additional information will provide greater flexibility in analyzing trends below the county level than the urban and nonurban categorizations used in this report. This type of detailed community level analysis can provide much more information about local area service trends and inform program planning and policy at the local, state and federal levels.

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About the Institute of Museum and Library Services: The Institute of Museum and Library Services is the primary source of federal support for the nation's 123,000 libraries and 17,500 museums. The Institute's mission is to create strong libraries and museums that connect people to information and ideas. The Institute works at the national level and in coordination with state and local organizations to sustain heritage, culture, and knowledge; enhance learning and innovation; and support professional development. To learn more, please visit www.imls.gov.

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Clarification: On page 5 of the original version of this research brief, we wrote "…people are visiting public libraries more and checking out more books than they were at the beginning of the study." This updated version replaces "books" with "materials," since we are unable to disaggregate circulation of books from overall circulation using the Public Libraries Survey. We apologize for this oversight.

The **Public Libraries Survey** (PLS) is a national census of public library systems. It is conducted annually by the Institute of Museum and Library Services in partnership with the U.S. Census Bureau, State Library Agencies, and the Library Statistics Working Group. Its data elements cover library service measures such as the number of uses of electronic resources, the number of Internet terminals available to the general public, reference transactions, interlibrary loans, circulation, library visits, children's program attendance, and circulation of children's materials. It also includes information on collection sizes, staffing, operating revenue and expenditures. Selected data elements are aggregated and summarized at the state level. The PLS is designed as a universe survey; its survey frame consists of 9,217 public libraries in the 50 states, the District of Columbia and selected US territories. It is administered via a web-based survey tool.

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[16] C. Manjarrez, L. Langa, and K. Miller, *A Catalyst for Change: LSTA Grants to States Program Activities and the Transformation of Library Services to the Public* (IMLS-2009-RES-01) (Washington, DC: Institute of Museum and Library Services, 2009), 14. Available at: www.imls.gov/pdf/CatalystForChange.pdf.

[17] Leigh S. Estabrook and Edward Lakner, *Literacy Programs for Adults in Public Libraries: A Survey Report Prepared for the Lila Wallace–Reader's Digest Funds.* (Champaign: University of Illinois, Library Research Center, Graduate School of Library and Information Science, 2000).