This report examines the feasibility of collecting social indicator data on the: (1) status of women and minorities in education; (2) federal role in elementary and secondary education; and (3) condition of professional education. Previous projects conducted literature reviews and developed conceptual frameworks for these three topics, identifying dependent and independent variables. This report summarizes the availability and quality of data sources; lists research questions that can be addressed; and recommends ways to analyze, display, and disseminate data. About two-thirds of this document consists of bibliographic citations and descriptions of data which provide information on the topics. In addition, specific data collection strategies which might be used by the National Center for Education Statistics (NCES) to collect currently unavailable data are suggested. It was concluded that sufficient data are available on the status of women and minorities in education. The data are disaggregatable by sex more often than by race, and therefore, the quality of data on the status of minorities is poorer than the quality of the data on the status of women. The report concludes that an overall perspective on changes occurring in professional education is needed: comparisons among professions should be made, and the effects of developments in one professional field on another need to be examined. (GDC)
Technical Report No. 7

Feasibility of Social Indicator Reports in Three Content Areas

Robert J. Rossi
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Prepared by

SAGE
STATISTICAL ANALYSIS GROUP IN EDUCATION

For the
National Center for Education Statistics

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TECHNICAL REPORT #7

FEASIBILITY OF SOCIAL INDICATOR REPORTS
IN THREE CONTENT AREAS

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This work was done under Contract No. 300-78-0150
with the National Center for Education Statistics,
Department of Health, Education, and Welfare. The
content does not necessarily reflect the position
or policy of either agency, however, and no official
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September 1979
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTRODUCTION AND OVERVIEW</td>
<td>1</td>
</tr>
<tr>
<td>STATUS OF WOMEN AND MINORITIES IN EDUCATION</td>
<td>5</td>
</tr>
<tr>
<td>Data Availability and Quality</td>
<td>5</td>
</tr>
<tr>
<td>Research Questions</td>
<td>7</td>
</tr>
<tr>
<td>Educational Aspirations</td>
<td>7</td>
</tr>
<tr>
<td>Enrollment</td>
<td>9</td>
</tr>
<tr>
<td>Retention and Dropout Rates, Graduation, and Educational Attainment</td>
<td>10</td>
</tr>
<tr>
<td>Educational Resources and School Environments</td>
<td>10</td>
</tr>
<tr>
<td>Educational Achievement</td>
<td>14</td>
</tr>
<tr>
<td>Subject Matter</td>
<td>14</td>
</tr>
<tr>
<td>Employment as Teachers</td>
<td>17</td>
</tr>
<tr>
<td>Employment as Administrators at Educational Institutions</td>
<td>17</td>
</tr>
<tr>
<td>Data Analysis and Reporting</td>
<td>20</td>
</tr>
<tr>
<td>FEDERAL ROLE IN ELEMENTARY AND SECONDARY EDUCATION</td>
<td>24</td>
</tr>
<tr>
<td>Data Availability and Quality</td>
<td>24</td>
</tr>
<tr>
<td>Research Questions</td>
<td>24</td>
</tr>
<tr>
<td>Elementary and Secondary Expenditures</td>
<td>25</td>
</tr>
<tr>
<td>Federal Influence</td>
<td>27</td>
</tr>
<tr>
<td>Data Analysis and Reporting</td>
<td>29</td>
</tr>
<tr>
<td>CONDITION OF PROFESSIONAL EDUCATION</td>
<td>33</td>
</tr>
<tr>
<td>Data Availability and Quality</td>
<td>33</td>
</tr>
<tr>
<td>Research Questions</td>
<td>33</td>
</tr>
<tr>
<td>Student Characteristics</td>
<td>34</td>
</tr>
<tr>
<td>School Policies and Practices</td>
<td>36</td>
</tr>
<tr>
<td>Curricula</td>
<td>38</td>
</tr>
<tr>
<td>Data Analysis and Reporting</td>
<td>40</td>
</tr>
<tr>
<td>ADDITIONAL DATA NEEDS</td>
<td>42</td>
</tr>
<tr>
<td>Recommended NCES Data Collection Strategies for Inadequately Measured Variables</td>
<td>42</td>
</tr>
</tbody>
</table>
DATA SOURCES

Search Procedures

Determining What to Measure 45
Specifying Desirable Data Source Characteristics 46
Locating Data Sources 47
Accessing Data 49
Searching for Additional Sources 49
Recommended Procedures 50

Available Data Sources 53

Data Sources for the Status of Women and Minorities in Education 54
Admission Practices 54
Child Rearing 55
Cultural Norms Concerning Careers 56
Educational Achievement 58
Educational Aspirations 61
Educational Attainment 62
Educational Resources and School Environment 62
Education of Parents 65
Employment as Administrators 65
Employment as Teachers 66
Enrollment 69
Family Income 74
Financial Aid 75
Flexible Enrollment Policies 77
Graduation 77
Integration 81
Marriage 82
Remedial Programs 83
Retention and Dropout Rates 85
Scholarly Productivity 87
State of the Economy 87
Subject Matter 88
Tracking 90
<table>
<thead>
<tr>
<th>Data Sources for the Federal Role in Elementary and Secondary Education</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Court Decisions</td>
<td>92</td>
</tr>
<tr>
<td>Economic Factors</td>
<td>92</td>
</tr>
<tr>
<td>Elementary and Secondary Expenditures</td>
<td>93</td>
</tr>
<tr>
<td>Federal Influence</td>
<td>101</td>
</tr>
<tr>
<td>Funding Strategy</td>
<td>101</td>
</tr>
<tr>
<td>Guidelines and Regulations</td>
<td>102</td>
</tr>
<tr>
<td>Lobby Influences</td>
<td>102</td>
</tr>
<tr>
<td>Nonfederal R&amp;D Resources</td>
<td>102</td>
</tr>
<tr>
<td>Other Social Welfare Expenditures</td>
<td>102</td>
</tr>
<tr>
<td>Political Factors</td>
<td>104</td>
</tr>
<tr>
<td>Research Findings</td>
<td>105</td>
</tr>
<tr>
<td>School Needs</td>
<td>105</td>
</tr>
<tr>
<td>Social Factors</td>
<td>108</td>
</tr>
<tr>
<td>Youth Needs</td>
<td>111</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Data Sources for the Condition of Professional Education</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accreditation Standards</td>
<td>114</td>
</tr>
<tr>
<td>Available Occupations within the Professions</td>
<td>115</td>
</tr>
<tr>
<td>Characteristics of Practicing Professionals</td>
<td>116</td>
</tr>
<tr>
<td>Curricula</td>
<td>118</td>
</tr>
<tr>
<td>Degree of Specialization</td>
<td>119</td>
</tr>
<tr>
<td>Demand for Professionals</td>
<td>119</td>
</tr>
<tr>
<td>Faculty Characteristics</td>
<td>120</td>
</tr>
<tr>
<td>Financial Aid</td>
<td>122</td>
</tr>
<tr>
<td>Licensing Requirements</td>
<td>126</td>
</tr>
<tr>
<td>Professional Knowledge</td>
<td>127</td>
</tr>
<tr>
<td>Professional Standards</td>
<td>127</td>
</tr>
<tr>
<td>Recruitment, Selection, and Retention Rates</td>
<td>127</td>
</tr>
<tr>
<td>School Policies and Practices</td>
<td>137</td>
</tr>
<tr>
<td>Stereotypes of Professionals</td>
<td>146</td>
</tr>
<tr>
<td>Student Characteristics</td>
<td>146</td>
</tr>
</tbody>
</table>
LIST OF TABLES

Table 1. NCES Surveys Appropriate for Measuring Various Classes of Variables 43
Table 2. Indexes to Education-Related Data Sources 48

LIST OF FIGURES

Figure 1. Major variables related to the educational aspirations of women and minorities and summary of data availability. 8
Figure 2. Major variables related to the enrollment of women and minorities and summary of data availability. 11
Figure 3. Major variables related to retention and dropout rates, graduation rates, and educational attainment for women and minorities and summary of data availability. 12
Figure 4. Major variables related to educational resources and school environments for women and minorities and summary of data availability. 13
Figure 5. Major variables related to educational achievement of women and minorities and summary of data availability. 15
Figure 6. Major variables related to the subject matters chosen by women and minorities and summary of data availability. 16
Figure 7. Major variables related to the employment of women and minorities as teachers and summary of data availability. 18
Figure 8. Major variables related to the employment of women and minorities as administrators at educational institutions and summary of data availability.  

Figure 9. Major classes of variables related to federal expenditures for elementary and secondary education and summary of data availability.  

Figure 10. Major classes of variables related to federal influence in elementary and secondary education and summary of data availability.  

Figure 11. Major classes of variables related to the characteristics of students in professional education and summary of data availability.  

Figure 12. Major classes of variables related to the nature of professional school policies and practices and summary of data availability.  

Figure 13. Major classes of variables related to the nature of curricula used in professional schools and summary of data availability.
INTRODUCTION AND OVERVIEW

The purpose of this report is to serve as the second step toward developing and issuing social indicator reports on three topics: (1) the status of women and minorities in education, (2) the federal role in elementary and secondary education, and (3) the condition of professional education. In the first step, SAGE performed literature reviews and developed conceptual frameworks in these three content areas (Gilmartin, 1978; Rossi, 1978; McBain, 1979). The conceptual frameworks (displayed as figures in the previous reports) identified key dependent and independent variables and their interrelationships for each content area. While measurement of the dependent variables is of primary concern, many of the independent variables, or influencing factors, could be subject to policy manipulation and therefore their measurement and inclusion in a social indicator report is equally important. Other influencing factors identified in the conceptual frameworks that are not subject to policy manipulation would nevertheless have to be taken into account in analyses of the social indicator data.

This feasibility report builds on the content of the earlier literature reviews. It summarizes the availability and the quality of data sources for the variables identified in the conceptual frameworks, lists research questions that can be addressed with these data, and recommends in what form the data should be analyzed, displayed, and disseminated. Research questions that are of sufficient importance and for which the required data are available could form the basis for social indicator reports in the three areas to be developed and published during the next year.

This report is divided into (1) sections specific to each of the content areas, followed by (2) sections that describe data collection strategies for various information needs, review the data search procedures, and cite the sources of all the data that were located and accessed. In each of the three content-specific sections, we have
included figures that correspond approximately to the conceptual frameworks submitted earlier. Each figure focuses on a single class of dependent variables (in the center), surrounded by independent variables, or influencing factors, that were suggested by the literature reviews. For each variable, the figures display whether appropriate data were located and, if so, the periodicity and length of the best time series available. A solid line indicates that a time series was located that has been measured annually for the past 20 years or more. A dashed line indicates that a time series was located, but either it has not been updated annually (although it may extend for more than 20 years) or it is not 20 years long (although it may be annual). A series of dots indicates that the data source consisted of a one-time measurement. Whenever we found no acceptable data for a variable, we left the corresponding entry in a box empty.

All of the relevant data that we found for the variables presented in the conceptual frameworks are described and cited in the last section of this report, "Data Sources." For most of the variables, we found several independent sources, which usually differed in their operational definitions of the variable. These sources may also differ with respect to the level of detail associated with measurement of the variable, the types of disaggregations that are possible, and the years covered by the time series. Virtually all of these data have already been accessed except the most recent updates in some of the annual series.

For the variables that we have not been able to measure adequately using existing data, we have suggested specific data collection strategies that could be used to gather the required data as part of ongoing

*The data needed for macrolevel time-series analyses and for social indicator reports are not computer files of individual-level records but rather the summary tables resulting from analyses of such files over all the years of periodic data collection. These summary tables have been added to the SAGE library as a part of the accessing step.
NCES monitoring efforts. There are undoubtedly many less prominent existing data sources that could be used to fill in the gaps, and we would very much welcome information about them.

Sufficient data are available for several social indicator reports on the status of women and minorities in education. The data are disaggregatable by sex more often than by race, and consequently the quality of data on the status of minorities in education is poorer than the quality of data on the status of women. The status of women and of educationally disadvantaged ethnic minorities should be presented in separate series of social indicator reports. The problems each of these groups faces, the educational stages at which these problems occur, and the factors related to them are quite different.

Because the area of the federal role in elementary and secondary education is so closely related to the contents and purposes of present statistical compendia and chartbooks issued by NCES, it does not seem desirable to create a new publication or publication series in this area. Our recommended strategy is to include a chapter on the federal role in elementary and secondary education in *The Condition of Education*.

Several statistical reports and chartbooks are available that describe the status of professional education in specific professional fields. Because they present numerous data on student characteristics, school policies and procedures, and curricula, these materials are adequate to inform professionals and other persons with interests in the fields described. Their usefulness and interest for educational professionals and planners is more limited, however. None of these focused reports provides an overall perspective on changes occurring in professional education: comparisons among professions are not made, and the effects of developments in one professional field on another are not examined. Given the data that exist, we recommend that NCES issue a social indicator report that will provide such a perspective. This report, which could be designed as a chapter for
The Condition of Education, would be of interest to educational planners and would allow professionals and professional educators to assess the relative status of their fields more accurately.
Data Availability and Quality

The availability and quality of data related to the status of women and minorities in education is summarized in Figures 1-8. (These figures correspond to Figures 2, 3, and 8 to 13 in the literature review and conceptual framework on the status of women and minorities in education submitted to NCES in December 1978.) The eight dependent variables in these conceptual frameworks are (1) educational aspirations, (2) enrollment decisions, (3) retention and dropout rates, graduation, and educational attainment, (4) educational resources and school environments, (5) educational achievement, (6) subject matter, (7) employment as teachers, and (8) employment as administrators at educational institutions.

For each of the variables in the conceptual frameworks, the figures display the target population groups and levels of education for which that variable should be measured. Most variables need to be disaggregated separately by sex and racial/ethnic group; in some cases, however, the variable is only relevant to minorities at the macrolevel (e.g., education of parents, family income) or does not need to be disaggregated at all (e.g., state of the economy). Also, most variables require separate measurement for each of the levels of education that are of interest. For example, enrollment data are needed at the levels of preprimary schools, colleges and noncollegiate postsecondary schools, and graduate schools, while graduation rates are needed at the secondary, undergraduate, and graduate levels. The most important levels of education for each variable are indicated in the figures by the letters e, s, u, and g: e refers to nursery school, kindergarten, and elementary school; s refers to secondary school; u refers to undergraduate education, including two- and four-year college universities, and noncollegiate postsecondary schools; g refers to graduate education, including master's programs, doctoral programs, and professional schools (e.g., law, medicine). The only cases where
these symbols may seem ambiguous are in Figures 7 and 8, employment as
teachers and as administrators at educational institutions. For the
variables "employment as teachers," "employment as administrators,"
and "scholarly productivity" in these figures, the letters e, s, and u
refer to the level of school at which the person is employed (u stands
for higher education, both undergraduate and graduate); for all other
variables, the letters refer to students at particular levels of
education, as usual.

Most of the dependent variables (separate by target population
group and education level) are well measured, with the exception of
the following five cases for which we have not located time series:
(1) retention and dropout rates for minorities in graduate school;
(2) educational resources and school environments for minorities at
all levels of education and for women in undergraduate schools;
(3) educational achievement of undergraduate minorities and graduate
women; (4) employment of minorities as college faculty; and (5) employ-
ment of minorities as college administrators. Of the 58 data series
needed to measure the dependent variables, a data source has been
found for 95% of them, 90% are measured by time series, and 18 are
annual time series that extend back at least 20 years from the present.

Figures 1-8 contain 14 influencing factors other than the depen-
dent variables. Although data sources have been found for most of
these variables, they are not as well measured as the dependent var-
iables. Time series have not been located for the following seven
cases: (1) career plans of women and minorities in high school and in
graduate school; (2) admission practices concerning women and minori-
ties applying to college; (3) part-time enrollment of minorities in
college and graduate school; (4) financial aid for women and minorities
in graduate school; (5) remedial programs for minorities in elementary
school; (6) assigning minorities to academic tracks in elementary
school; and (7) scholarly productivity of women and minorities employed
as teachers at colleges and universities. Of the 46 data series
needed to measure the influencing factors in the figures, a data
source has been found for 87% of them, 70% are measurable by time series, and 20 are annual time series that extend back at least 20 years from the present.

Research Questions

The following research questions can be addressed with the available data and should be discussed either in a comprehensive social indicator report or in one of a series of social indicator reports. When the target population groups are not explicitly mentioned, one should assume that these research questions are specific to the status of women and minorities in education relative to men and whites.

Educational Aspirations (Figure 1)

- What are the educational plans and expectations of high school and college students? How have they changed over time?

- At what rates have these plans been met or exceeded?

- How have educational aspirations been affected over time by level of family income and parents’ level of education? What effect might the change in income of minority families relative to white families have on educational aspirations in the future?

- How has the educational attainment of minority adults changed over time? What effect might this change have on the educational aspirations of their children in the future?

- Have educational aspirations varied as a function of the state of the economy? If so, which groups of students have been affected the most?
Figure 1. Major variables related to the educational aspirations of women and minorities and summary of data availability.

- e = elementary
- s = secondary
- u = undergraduate

- = one data point
- = short or nonannual series of data
- = twenty or more annual points
In what ways has the distribution of career plans changed in the last decade? To what extent have the changes in educational aspirations been in correspondence with the changes in career plans?

**Enrollment** (Figure 2)

- Among those qualified to enroll, what proportion have enrolled at each successive educational stage?

- How has the rate of enrollment in kindergarten and nursery school been changing? To what extent is it a function of family income?

- How have enrollment rates in college and graduate school responded to earlier changes in educational aspirations? Are educational plans good or poor leading indicators of changes in enrollment rates and educational attainment?

- What have been the results of admission practices in higher education? How do the acceptance-to-application ratios compare to the ratios for white males? Is there evidence of discrimination or of changes in the caliber of applicants?

- What have been the rates of part-time enrollment? What student characteristics (e.g., age, family income) have been associated with higher rates of part-time enrollment? Is there evidence that the availability of part-time enrollment and other flexible enrollment policies increase or decrease total educational attainment?

- Has the availability of financial aid weakened the relationship of family income to enrollment rates over time? When controlling for family income, how representative has the distribution of financial aid been among the racial/ethnic groups?
Retention and Dropout Rates, Graduation, and Educational Attainment
(Figure 3)

- What have the dropout rates been prior to completing each educational stage?

- What has been the influence of economic factors (e.g., unemployment rates, family income, financial aid) on retention rates over time?

- To what extent have higher dropout rates for women and minorities been related to marriage and child-rearing rates at various ages?

- How well do changes in educational aspirations signal later changes in retention rates, graduation rates, and total educational attainment?

- What graduation rates are projected for the near future as a function of educational plans, unemployment rates, family income, financial aid, and marriage and fertility rates?

Educational Resources and School Environments (Figure 4)

Unless better data sources are found, a social indicator report would not be able to address any research questions on this topic other than:

- How much sexual or racial segregation (at the school level) still exists, and how has the amount changed over time?

- How have women's colleges and historically black colleges compared to other colleges and universities over time in terms of the abilities of their students and the distribution of students' majors? How have the students at "segre-
Figure 2. Major variables related to the enrollment of women and minorities and summary of data availability.

- e = elementary
- s = secondary
- u = undergraduate
- g = graduate

---

- One data point
- Short or nonannual series of data
- Twenty or more annual points
Figure 3. Major variables related to retention and dropout rates, graduation rates, and educational attainment for women and minorities and summary of data availability.

e = elementary
s = secondary
u = undergraduate
u = graduate

--- = one data point
----- = short or nonannual series of data
------ = twenty or more annual points
Figure 4. Major variables related to educational resources and school environments for women and minorities and summary of data availability.

- **e** = elementary
- **s** = secondary
- **u** = undergraduate
- **g** = graduate

- "*****" = one data point
- "-" = short or nonannual series of data
- "- - - - -" = twenty or more annual points
gated" colleges differed from other college students in terms of their backgrounds, abilities, and aspirations?

**Educational Achievement (Figure 5)**

- What are the levels of achievement in various content areas of high school, college, and graduate students? How have these levels changed over time?

- Have changes in educational achievement preceded or followed changes in educational aspirations?

- How has achievement been affected over time by the extent of racial integration in elementary and secondary schools?

- To what extent can the differential achievement rates of women and minorities over time have been due to the academic tracks to which they were assigned and the courses that they took in high school?

- Is there evidence of increasing achievement corresponding in time to increasing expenditures for remedial programs (e.g., compensatory education, bilingual education)?

**Subject Matter (Figure 6)**

- What courses and majors have women and minorities elected? How has this distribution varied over time relative to white males? What implications do recent changes in selected majors and graduate programs have for occupational distributions in the near future?

- Have changes in educational achievement in particular content areas in high school been reflected in later choices of subject matters in college?
Figure 5. Major variables related to educational achievement of women and minorities and summary of data availability.

- e = elementary
- s = secondary
- u = undergraduate
- g = graduate

- = one data point
- = short or nonannual series of data
- = twenty or more annual points
cultural norms concerning women and minorities

WOMEN

MINORITIES

subject matter

WOMEN

s

u

g

MINORITIES

s

u

g

educational achievement

WOMEN

e

s

u

g

MINORITIES

e

s

u

g

career plans

WOMEN

s

u

g

MINORITIES

s

u

g

Figure 6. Major variables related to the subject matters chosen by women and minorities and summary of data availability.

e = elementary

s = secondary

u = undergraduate

g = graduate

----- = one data point

----- = short or nonannual series of data

----- = twenty or more annual points
Have courses taken in high school and majors elected in college corresponded to changes in career plans of the various target groups?

What is the relationship between prevailing cultural norms concerning abilities and occupational roles of women and minorities and their selection of subject matters?

Employment as Teachers (Figure 7)

- How has the sexual and racial stereotyping of various teaching roles changed over time?

- How have career plans, subject matters taken, and graduation rates from colleges and graduate programs been related to later rates of employment as teachers?

- To what extent are teachers segregated with students of the same sex or ethnic background? Do female faculty members in colleges tend to teach subjects in which most of the students are women, and how has this relationship changed over time? How has the tendency of minority teachers to be employed in minority schools been changing over time?

- What is the scholarly productivity of college and university faculty (relative to white males with the same amount of experience)? What factors may account for any differences? Is scholarly productivity rewarded equitably in terms of promotions and salary?

Employment as Administrators at Educational Institutions (Figure 8)

- What proportion of administrators have been women or minorities? How has this proportion been changing? How has the proportion varied as a function of the type of administrative
Figure 7. Major variables related to the employment of women and minorities as teachers and summary of data availability.

- e = elementary
- s = secondary
- u = undergraduate
- g = graduate

- ----- = one data point
- ---- = short or nonannual series of data
- ----- = twenty or more annual points
Figure 8. Major variables related to the employment of women and minorities as administrators at educational institutions and summary of data availability.

- **e** = elementary
- **s** = secondary
- **u** = undergraduate
- **g** = graduate

- **WOMEN**
  - employment as teachers
    - e
    - s
    - u

- **MINORITIES**
  - e
  - s
  - u

- **employment as administrators**
  - WOMEN
    - e
    - s
    - u
  - MINORITIES
    - e
    - s
    - u

- **scholarly productivity**
  - WOMEN
    - u
  - MINORITIES
    - u

- **career plans**
  - WOMEN
    - u
    - g
  - MINORITIES
    - u
    - g

- **Legend**:
  - ----- = one data point
  - ------ = short or nonannual series of data
  - ------- = twenty or more annual points
job? What types of schools have been more likely to hire or promote women and minorities into the administration?

- How have changes in employment as teachers been related to changes in employment as administrators over time? Is there a lag of several years between the two time series? What proportions of administrators are projected to be women or minorities in the near future?

Data Analysis and Reporting

Sufficient data are available for several social indicator reports on the status of women and minorities in education. The data are disaggregatable by sex more often than by race, and consequently the quality of data on the status of minorities in education is poorer than the quality of data on the status of women (as is indicated in Figure 1-8).

An analysis problem specific to the status of minorities in education is the multiple definitions of "minority." Various data sources have disaggregated their data by race in differing ways, with the frequent result that educationally disadvantaged minorities (e.g., Hispanics) are grouped with whites and nondisadvantaged minorities (e.g., Orientals) are grouped with blacks. Common disaggregations include (1) whites (including nonblack Hispanics) versus blacks, (2) whites (including nonblack Hispanics) versus nonwhites (including Orientals), (3) whites versus nonwhites (including Hispanics and Orientals), and (4) whites versus blacks versus other (Hispanics, Orientals, American Indians). Seldom are Hispanics or Orientals disaggregated from the rest; and even more rarely are American Indians listed separately or Hispanics disaggregated into Cuban-Americans, Puerto Ricans, and Mexican-Americans. Although it would be most useful to present each ethnic/racial group separately in a social indicator report or to combine the data for whites and Orientals while keeping the other groups separated, this cannot be done consistently
in a report based on existing data. As a result, whose educational status is being compared in a social indicator report will vary from analysis to analysis and from figure to figure. To reduce the confusion that could result, we recommend that a set of symbols be used consistently throughout the report to indicate the various combinations of population groups. Six symbols, which can be represented as different types of lines on graphs or textures on bar graphs, would be required: (1) whites (not including Hispanics), (2) whites (including nonblack Hispanics), (3) blacks, (4) Hispanics, (5) nonwhites (including Hispanics and Orientals), and (6) nonwhites (including Orientals but not including Hispanics). In addition, each figure should specify verbally which groupings are being used.

Many of the data series could be converted into indexes of the status of women or a minority group to the status of the relevant comparison group (men or whites). These indexes would be unitless if they were computed as the ratio of the status of the target group to the status of the comparison group (e.g., the educational attainment of blacks divided by the educational attainment of whites). (See Tipps and Zimbler, Social Indicators of Equality for Minorities and Women, for an example of such indexes of status.) Indexes of this sort have the advantage that status on several aspects of education (e.g., enrollment, achievement, attainment) can be compared in a single figure without the clutter of separate scales for each variable. Although only data on a ratio scale can be converted into unitless indexes as described here, most of the variables in the conceptual frameworks do have true zero-points. The original data (in units of numbers of students, years of education, and so on) will need to be presented also in the social indicator report, since the absolute levels of a variable could change proportionally for both the target group and the comparison group, which would not change the ratio or the index.

Multivariate (structural equation) modeling may be possible in the content areas of undergraduate enrollment, retention and dropout
rates, graduation of women, and subject matters chosen by women. Only in these areas are time series with 20 or more annual points available (the solid lines in Figures 1-8), and a minimum of 20 points are required by the statistical procedures.

Since many more of the key variables can be measured using shorter annual series, univariate forecasting will be feasible for a greater number of variables. (Armstrong, 1978, p. 151, has recommended that the number of periods of historical data be equal to four times the square root of the number of periods to be forecast.) Of the four most common methods of extrapolating time-series data, we recommend that exponential smoothing or moving averages models be used, since these approaches are most desirable in terms of understandability, cost, and long-range accuracy.

Because the educational status of women and minorities involves many content areas, research questions, and data series, we recommend that a series of social indicator reports on the topic be issued. Each report in the series might address a specific content area: for example, one report might cover educational aspirations, enrollment, retention and dropout rates, graduation, and educational attainment, while a second report might cover educational resources, school environments, subject matters chosen, and educational achievement. Later reports could be devoted to the employment status of women and minorities in various education-related professions.

As was noted in the literature review submitted earlier (Gilmartin, 1978), the statuses of women and educationally disadvantaged ethnic minorities should be presented in separate series of social indicator reports. The problems each of these groups faces, the educational stages at which these problems occur, and the factors related to them are quite different. In addition, certain topics are much more important for one group than for another. For example, there are larger differences in educational resources, school environments, and educational achievement between minorities and whites than between women.
and men. In summary, we recommend that NCES issue a series of reports that address the status of women and minorities in education: three on the status of minorities and two on the status of women (excluding chapters on educational resources, school environments, and educational achievement).
FEDERAL ROLE IN ELEMENTARY AND SECONDARY EDUCATION

Data Availability and Quality

Figures 9 and 10 summarize the availability and quality of data that have been accessed and can be used to produce one or more social reports on the federal role in elementary and secondary education. Where it was possible and useful to do so, the quality of the available data is shown for specific types of variables within a particular variable class (e.g., federal elementary and secondary expenditures for educational programs versus expenditures on research and development).

Time-series data have been found for the dependent variables described by the center boxes in each of these figures. Of the 12 independent variables, annual time series that go back at least 20 years from the present have been found for 7 of them, 3 more are measurable by short or nonannual series, and indicators based on one-time data collections were found for the remaining 2 variables. The indicators for these two variables (court decisions and research findings), although not repeated measures, will be useful for interpreting trends, periodic changes, and fluctuations in rates of change in the other series.

Research Questions

A social indicator report on the federal role in elementary and secondary education must address research questions in two major issue areas: (1) the responsiveness of federal elementary and secondary education expenditures to the education-related needs of children and of schools (e.g., to what extent are efforts to promote equal educational opportunities also improving the overall quality of educational experiences) and (2) the effects of the increasing influence exerted by the federal government on state and local education agency policies and practices (e.g., to what extent have the curricula changed in schools that receive federal monies). The questions related to these
areas that can be addressed using existing data are listed below. Many questions that would be interesting to address in a social indicator report on the federal role in elementary and secondary education cannot be posed because the data are not currently available. (Since this constraint does not apply to the stating of issues concerning the federal role, many examples of the sorts of questions that would be both important and interesting to address in a social indicator report are presented in Issues in Elementary and Secondary Education, a SAGE Draft Technical Report.) As additional data sources of acceptable quality are located for the variables shown in Figures 9 and 10, new questions related to these issue areas can be posed and the appropriate analyses performed.

**Elementary and Secondary Expenditures (Figure 9)**

- What has been the pattern of federal elementary and secondary expenditures over time?

- To what extent have the levels and objectives of federal expenditures for educational programs been influenced by research and development findings and products?

- How have federal elementary and secondary expenditures compared to federal expenditures in other social welfare areas, especially for higher education?

- In what ways has the ratio of federal expenditures for elementary and secondary education to expenditures for higher education changed as a function of changing economic and social conditions?

- Which needs of schools and students have been most pressing in the past, and which are likely to be most severe in the future?
Figure 9. Major classes of variables related to federal expenditures for elementary and secondary education and summary of data availability.

- - - - - = one data point
- - - - - - = short or nonannual series of data
- - - - - - - = twenty or more annual points
What efforts have been made at the federal level over time to address these needs, either through the creation of new educational programs or the support of relevant research and development activities?

To what extent have multi-year federal commitments to elementary and secondary education programs affected the responsiveness of the federal government to new educational issues?

To what extent have changing social and political conditions changed the appropriations to elementary and secondary education over time?

How has the education lobby responded to the needs of schools, teachers, and students?

What has been the influence of federal court decisions on federal elementary and secondary programs over time?

Federal Influence (Figure 10)

In what ways has the federal government influenced elementary and secondary school practices?

To what extent have federal expenditures, guidelines, and regulations brought with them additional reporting requirements for school officials and teachers?

In what ways has the federal government influenced the nature of research and development activities in education?

Have the funding strategies used by the federal government tended to increase the involvement of certain types of organizations in research and development efforts?
Figure 10. Major classes of variables related to federal influence in elementary and secondary education and summary of data availability.

- - - - - one data point
- - - - - short or nonannual series of data
- - - - - twenty or more annual points
What amounts of support for elementary and secondary schools and for research and development are provided by nonfederal sources?

Has the availability of state, local, and other nonfederal revenues affected the rates at which schools seek federal educational assistance or comply with federal requirements once such assistance is provided?

What changes in school practices and expenditures have been related to federal court decisions (e.g., the ruling that busing be used to promote desegregation of school facilities)?

**Data Analysis and Reporting**

Federal expenditures for elementary and secondary education are disaggregated by federal agency, purpose, program or program area, target group, and administrative unit through which monies are provided for educational services, depending on the series that is used. Each series differs, however, in the total expenditures that are reported: one series may focus on total Office of Education expenditures, while another may describe state-administered federal funds only. Total federal expenditures for elementary and secondary education programming, which includes funds from all federal agencies that are provided to schools, is one example of the sort of time series that can be examined. Analyses may be performed to assess the effects on this biennial series of (1) health and welfare expenditures, (2) economic, sociostructural, and political factors, (3) school-related needs of youth, and (4) school revenues from nonfederal sources, all of which are described by sufficiently long annual series to permit biennial comparisons. Such analyses would examine whether prolonged periods of economic sluggishness result in reduced federal spending for education in favor of greater spending in other social welfare areas that are likely to provide more immediate benefits to those in need. Analyses of this sort would also attempt to describe
the relative influence of factors that might account for the differing amounts of federal monies invested in higher versus elementary and secondary education during past years. For example, during periods of military expansion, federal spending for higher education may be reduced in favor of increased spending for military training under the assumption that many of those young people who would have attended college will now enter the military. During these same periods, it is unlikely that federal spending for elementary and secondary education would similarly be reduced.

Other series describing federal expenditures can be presented in a social indicator report, providing the categories into which they are disaggregated are precisely defined. Often these categories are very general (e.g., disadvantaged children), and in many cases, while it is clear substantial funds are targeted in the area for elementary and secondary education, funds for other education levels have been included also (e.g., vocational education). In some cases, it will be more interesting and informative to readers if expenditures are recombined into new categories. For example, data describing the total federal appropriations for Office of Education elementary and secondary school programs may be aggregated to form series that describe the total appropriations for remediation, advanced training, and so forth. These data may also be aggregated to reflect total Office of Education expenditures for various student subpopulations (e.g., the handicapped, racial/ethnic minorities) based on additional data that describe the characteristics of students participating in each program. Although descriptions of primary program activities may depend on some subjective judgment and students will, in many cases, participate in more than a single program (resulting in some double counting), these approaches to presenting federal expenditures may provide new perspectives on the federal role. Similarly, federal expenditures for educational research and development, which are currently reported by program or by program area for Office of Education expenditures and by more general research areas (e.g., teaching and learning) for the National Institute of Education, may be better described in terms of categories such as
knowledge production (e.g., basic research), problem solution (e.g., evaluation), and utilization (as suggested by Mason and Nelson, 1978). Depending on the categories that are selected, univariate forecasts can be made of federal expenditures for elementary and secondary education in the near future (three to five years ahead), and these projections can be contrasted with forecasts of the demands for federal aid in these same areas.

Since few data have been found to address directly the issue of federal influence in elementary and secondary education (e.g., time series that describe how federal support to research and development efforts has resulted in increased activity in certain content areas while other ones have been neglected), a more indirect approach to this issue appears to be most feasible. Such an approach might examine series describing school operating expenses, disaggregated by specific categories (e.g., transportation of students), and compare the levels of these expenses before and after the occurrence of major federal actions that are likely to have affected them significantly. For example, student transportation costs could be described before and after federal court rulings on school desegregation. Similarly, school expenses for instructional staff and instructional staff training could be compared for periods before and after the institution of federal regulations concerning the necessary qualifications for teachers supported under various categorical aid programs.

Because this area of study is so closely related to the contents and purposes of present statistical compendia and chartbooks issued by NCES (e.g., Digest of Education Statistics, Projections of Education Statistics, The Condition of Education), it does not seem desirable to create a new publication or publication series describing the federal role in elementary and secondary education. Such a dissemination strategy would inevitably lead to the reporting of the same data in several different reports, thus creating the impression that the data were obsolete. A preferred strategy would be to include a chapter on the federal role in elementary and secondary education in The Condition
of Education. In this publication, sufficient attention could be given to the analysis of time-series data, the design of charts describing trends and important influences in the behaviors of these trends, and the preparation of text that would relate the data presented to the issues of federal responsiveness and influence in education. This is the strategy that we recommend for reporting the indicator data summarized in Figures 9 and 10.
CONDITION OF PROFESSIONAL EDUCATION

Data Availability and Quality

Figures 11-13 summarize the availability and quality of data that could be used to produce one or more social indicator reports concerning the condition of professional education. These figures, while based on the conceptual frameworks presented in The Status of Education for the Professions submitted to NCES in January 1979, represent a consolidation of the variable categories used in that report. The majority of the data quality ratings are based on available data describing medical and legal education, with fewer ratings based on data describing engineering, other science-related educational programs, and teaching.

All of the dependent variables can be measured by time series, and several of these series have been updated annually for the past 20 years or more. Student characteristics, recruitment, selection, and retention rates, and school policies concerned with expenditures and programming are measurable by time series with 20 or more annual points, while characteristics of the curricula are measurable only by shorter or irregular time series.

Of the 14 independent variables, 6 are measurable by annual series with 20 or more points and 7 are measurable by shorter annual or nonannual series. At the present time, no series describing the remaining one variable (i.e., technological and social changes) have been found. We anticipate that sources of repeated measures for this variable could be found by searching less prominent data bases.

Research Questions

The following research questions, which focus on the characteristics of students in professional schools, professional school policies and practices, and professional education curricula, would form the
basis for social indicator reports in this area. The substance of the questions that are posed is determined by the availability and quality of the data. The relationships among variables singled out for study by these questions, however, present a dynamic perspective on professional education not usually found in current reports on the professions. Although social indicator reports and chartbooks describing the current status of professional training in specific areas are available (e.g., Nursing Data Book: Statistical Information on Nursing Education and Newly Licensed Nurses, National League for Nursing), these reports do not typically examine the interrelationships among trends, nor do they include time-series data describing societal factors that can influence the nature, content, and demand for professional education.

Student Characteristics (Figure 11)

- What types of students have been enrolling in professional education?

- Which professional areas have been attracting the greatest numbers of traditionally underrepresented student groups?

- What changes have taken place in recruitment and student selection policy? Which of these changes have had the greatest impact on the enrollments of traditionally underrepresented student groups?

- How have retention rates been affected by patterns of changing enrollment?

- In what ways do retention rates respond to changes in recruitment and selection practices instituted one, two, or three years earlier?

- In which professional areas is the greatest demand for practitioners likely to occur in future years?
recruitment, selection, retention rates

characteristics of practicing professionals

student characteristics

demand for professionals

stereotypes of professionals

financial aid

Figure 11. Major classes of variables related to the characteristics of students in professional education and summary of data availability.

----- = one data point
----- = short or nonannual series of data
----- = twenty or more annual points
To what extent have recruitment, selection, and retention rates been affected by the differential demand for professionals in various areas?

What amounts of financial aid are available to students in various professional areas?

Are the amounts of financial aid that are available determined in part by the accreditation status of the professional school?

What proportions of students in various professional areas have received financial assistance?

To what extent has the availability of financial aid stimulated the enrollment of traditionally underrepresented student groups?

In what ways have public attitudes and stereotypes of professionals changed over time? To what extent have these attitudes affected the numbers and types of students enrolling in professional schools?

How do the characteristics of students enrolled in professional schools compare with the characteristics of practicing professionals?

How have the characteristics of students in professional schools compared over time to the characteristics of persons seeking the services of professionals?

School Policies and Practices (Figure 12)

In what ways have state licensing requirements and accreditation standards affected professional school practices?
Figure 12. Major classes of variables related to the nature of professional school policies and practices and summary of data availability.

- - - - = one data point
- - - - - = short or nonannual series of data
- - - - - - = twenty or more annual points
To what extent have these requirements and standards been associated with increases in professional school operating expenses?

What is the level of federal support for professional schools?

To what extent has the federal share of professional school costs been associated with the enrollment of traditionally underrepresented student groups?

What other sources besides the federal government have provided funds for professional school operations? What levels of funding have professional schools received from these sources?

What are the characteristics of professional school faculties, and how do they compare to the characteristics of practicing professionals?

What proportion of the faculty members in various professional areas are themselves members of groups traditionally underrepresented in the professional areas?

Curricula (Figure 13)

In what ways and with what approximate lag have professional education curricula responded to technological and social changes?

In which professional areas have curriculum changes been most pronounced? Which professional areas have experienced the greatest growth of professional knowledge over time?

What technological and social changes are projected for various professional fields in the near future?
Figure 13. Major classes of variables related to the nature of curricula used in professional schools and summary of data availability.

- - - - = one data point
- - - - - = short or nonannual series of data
- - - - - - = twenty or more annual points
In which professional areas can the increase in professional knowledge be expected to continue at a rapid rate?

Which professional areas have experienced the greatest degrees of specialization?

To what extent has increasing specialization within a professional field been associated with increasing specialization at the student level—with the possible results that (1) students must decide on a specialty at an earlier point in their schooling and (2) career shifts within a profession become more difficult to make?

Data Analysis and Reporting

As noted earlier, several statistical reports and chartbooks are available that describe the status of professional education in specific professional fields. Because they present numerous data on student characteristics, school policies and procedures, and curricula, these materials are adequate to inform professionals and other persons with interests in the fields described. Their usefulness and interest for educational professionals and planners is more limited, however. None of these focused reports provides an overall perspective on changes occurring in professional education: comparisons among professions are not made, and the effects of developments in one professional field on another are not examined. Given the data that exist, we recommend that NCES issue a social indicator report that will provide such a perspective. This report, which could be designed as a chapter for The Condition of Education, would be of interest to educational planners and would allow professionals and professional educators to assess the relative status of their fields more accurately.

Indicator data on student characteristics, professional school policies and practices, and professional school curricula can be presented for various professions in the report. To preserve the
advantages of direct comparisons among professions, we recommend the social indicator report be organized by topics that are relevant for professional education in all fields (such as accreditation, enrollment, retention rates, and so on) rather than being organized by profession.
ADDITIONAL DATA NEEDS

Recommended NCES Data Collection Strategies
for Inadequately Measured Variables

As was shown above in Figures 1-13, several of the dependent and independent variable classes that ought to be included in social indicator reports for the three content areas are not adequately measurable using existing data. Fortunately, NCES has available a variety of data collection vehicles that can be used to provide the required data for these variables. Table 1 summarizes the potential of various vehicles for this purpose, with the checkmarks designating the alternative strategies that are appropriate for each variable.

In preparing this table, we have aimed to be realistic: data collection strategies have been proposed for a variable only when the additional reporting requirement is well within the purpose and scope of the original survey. Thus, data on the problems facing elementary and secondary schools would be collected using the Common Core of Data, the Elementary and Secondary General Information System, the Nonpublic School Survey, or the Fast Response Survey System rather than the School Finance Survey or the Secondary School Courses and Enrollments Survey whose focus is less general and whose items would typically be completed by school specialists. Furthermore, we have suggested that the Fast Response Survey System be used to collect data only for variables relevant to particularly controversial issues that should be addressed using the most up-to-date information available. We have chosen to list the Common Core of Data, the Elementary and Secondary General Information System, and the School Finance Survey as separate data collection vehicles, although they will eventually be combined into a single data collection system, for the reason that they presently represent distinct data gathering opportunities.

We do not suggest that all the alternative data collection strategies for measuring a class of variables be used. Established dates
TABLE 1
NCES Surveys Appropriate for Measuring Various Classes of Variables

<table>
<thead>
<tr>
<th>Variable Classes</th>
<th>NCES Data Collection Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignment of students to various academic tracks in elementary and secondary</td>
<td>SPE (CPS) ELSEGIS SFS (CC)</td>
</tr>
<tr>
<td>schools (disaggregable by student characteristics)</td>
<td>CDP NSS SEB SPED SSECES LIBGIS</td>
</tr>
<tr>
<td>Federal influence on the instructional methods and materials used in elementary</td>
<td>SPE (CPS) ELSEGIS SFS (CC)</td>
</tr>
<tr>
<td>and secondary schools</td>
<td>CDP NSS SEB SPED SSECES LIBGIS</td>
</tr>
<tr>
<td>Federal influence on the amounts of time spent on administrative and</td>
<td>SPE (CPS) ELSEGIS SFS (CC)</td>
</tr>
<tr>
<td>evaluative tasks by instructional and administrative staff in elementary</td>
<td>CDP NSS SEB SPED SSECES LIBGIS</td>
</tr>
<tr>
<td>and secondary schools</td>
<td>SPE (CPS) ELSEGIS SFS (CC)</td>
</tr>
<tr>
<td>Problems perceived by elementary and secondary school administrators, teachers,</td>
<td>SPE (CPS) ELSEGIS SFS (CC)</td>
</tr>
<tr>
<td>and students that directly affect the quality of educational services</td>
<td>CDP NSS SEB SPED SSECES LIBGIS</td>
</tr>
<tr>
<td>Subject matters taken in secondary schools (disaggregable by student</td>
<td>SPE (CPS) ELSEGIS SFS (CC)</td>
</tr>
<tr>
<td>characteristics)</td>
<td>CDP NSS SEB SPED SSECES LIBGIS</td>
</tr>
<tr>
<td>Career plans in high school (disaggregable by student characteristics)</td>
<td>SPE (CPS) ELSEGIS SFS (CC)</td>
</tr>
<tr>
<td>Admissions as a function of applications to undergraduate and graduate schools</td>
<td>SPE (CPS) ELSEGIS SFS (CC)</td>
</tr>
<tr>
<td>(disaggregable by student characteristics, type of school, and field)</td>
<td>CDP NSS SEB SPED SSECES LIBGIS</td>
</tr>
<tr>
<td>Educational achievement in higher education (disaggregable by student</td>
<td>SPE (CPS) ELSEGIS SFS (CC)</td>
</tr>
<tr>
<td>characteristics)</td>
<td>CDP NSS SEB SPED SSECES LIBGIS</td>
</tr>
<tr>
<td>Financial aid received by graduate students (disaggregable by student</td>
<td>SPE (CPS) ELSEGIS SFS (CC)</td>
</tr>
<tr>
<td>characteristics, type of school, and field)</td>
<td>CDP NSS SEB SPED SSECES LIBGIS</td>
</tr>
<tr>
<td>Professional school curricula</td>
<td>SPE (CPS) ELSEGIS SFS (CC)</td>
</tr>
<tr>
<td>Note detailed information about employment of teachers and administrators at</td>
<td>SPE (CPS) ELSEGIS SFS (CC)</td>
</tr>
<tr>
<td>all levels of education including characteristics of their students and</td>
<td>CDP NSS SEB SPED SSECES LIBGIS</td>
</tr>
<tr>
<td>scholarly productivity, where appropriate (disaggregable by teacher</td>
<td>SPE (CPS) ELSEGIS SFS (CC)</td>
</tr>
<tr>
<td>characteristics)</td>
<td>CDP NSS SEB SPED SSECES LIBGIS</td>
</tr>
<tr>
<td>Educational resources and school environments at all levels of education (</td>
<td>SPE (CPS) ELSEGIS SFS (CC)</td>
</tr>
<tr>
<td>disaggregable by student characteristics)</td>
<td>CDP NSS SEB SPED SSECES LIBGIS</td>
</tr>
</tbody>
</table>

SPE(CPS) - Survey of Preprimary Enrollment, conducted using Current Population Survey
ELSEGIS - Elementary and Secondary General Information System
SFS(CC) - School Finance Survey, conducted using Census of Governments
CCD - Common Core of Data
NSS - Nonpublic School Survey
SEB - Survey of Educational Broadcasting
SEPD - Survey of Educational Personal Demand
SSECES - Secondary School Courses and Enrollments Survey

LINGIS - Library General Information System
VEHS - Vocational Education Data System
SCSHPS - Survey of Characteristics of Students in Noncollegiate Postsecondary Schools
SPSOP - Survey of Postsecondary Schools with Occupational Programs
HEGIS - Higher Education General Information System
NLS - National Longitudinal Study
SEPS - Survey of Educational Personnel Supply
SPAE(CPS) - Survey of Participation in Adult Education, conducted using Current Population Survey
The least expensive data sources to access and the easiest to use are reports with tables that describe time series disaggregated by several variables. For our purposes, multiyear tables disaggregated by race, sex, or professional field were of greatest value. Series of reports that are comparable and can be combined to form annual time series are also desirable sources. If no such data are available, the next step is to request crosstabulations that have been done by an agency or research organization but have not been published. The procedures of last resort, which we did not use during the feasibility study, are either to request that an agency perform special tabulations and other analyses on their data or to purchase data tapes and perform the analyses oneself. If a required time series does not exist, one can very cautiously combine the data from different sources to form a pseudo-time series. Abbott Ferriss (1959, 1978), for example, has used this technique effectively.

Locating Data Sources

Search efforts for the feasibility study were initially concentrated on prominent, centralized data bases, which were preferred for several reasons. For some analyses of the relationships among variables, it is required that all the measures be from the same population. For example, one would prefer that a time series on career plans and a time series on educational aspirations come from the same survey. Large data sources are also more likely to be updated periodically, and reports describing series from these sources are more likely to be issued on a regular basis. Finally, a comprehensive source has the potential of supplying several relevant sets of data, making the search process more efficient.

We first explored data bases that were mentioned explicitly in the research literature for a particular content area, such as the Current Population Reports and the NCES data files. Further searching was guided by information found in several index publications, listed and described in Table 2.
TABLE 2
Indexes to Education-Related Data Sources

<table>
<thead>
<tr>
<th>Publication</th>
<th>Years Covered</th>
<th>Types of Documents Indexed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Indicators Research Program. Report on a Feasibility Study to Develop Youth-Specific Social Indicators and Data Source Directory. Technical report to the Youth Development Bureau, DHHS. Palo Alto, Calif.: American Institutes for Research, 1977</td>
<td>1935-78, with majority of sources listed covering the years 1965-75</td>
<td>National, state (California), and local (Santa Clara County, California) data sources on the intellectual development, career development, and health and personal safety of youth.</td>
</tr>
</tbody>
</table>
Accessing Data

During this phase of the search, we made use of several extensive library collections. Key publications were frequently available only from government document depositories or from libraries associated with professional schools. Telephone contacts were made with recognized experts on the status of women and minorities in education, the federal role in elementary and secondary education, and the status of education for the professions to obtain data on variables for which no published information appeared to be available. Using the grouped variables as an informal interview guide, calls were made to individuals frequently mentioned in the research literature, to researchers who had compiled data similar to those we sought, and to individuals recommended by key organizations as being knowledgeable in a specific area.

Information on hard-to-document variables was collected by means of a telephone survey of groups who themselves were likely to be collecting data of interest. During these telephone conversations, publications lists, copies of survey instruments, and statistical reports were requested. Once these documents were received, further telephone contact was usually necessary to clarify specific questions regarding data quality.

Searching for Additional Sources

When no time series was located that directly measured a variable, we considered various options. First, low probability leads could be pursued in hope of finding a fugitive data source that would provide a direct measure of the variable. Second, we could search for indirect measures of the variable. For example, when no reliable information was found on the amount of money spent by educational lobbying organizations, data describing the memberships of these organizations were accessed as potential alternative measures. Third, we could conclude that no data were available at the present time and terminate the data
source search, at least temporarily. Since time and financial resources did not permit extended searching for all variables, some variables remain unmeasured. (As it is likely that data exist somewhere for some of these variables, information concerning sources for the unmeasured and poorly measured variables would be much appreciated.)

Recommended Procedures

We recommend the following procedures to those interested in establishing a data base for social indicator reporting.

- Construct one or more conceptual frameworks showing the relationships among variables, and use these frameworks to monitor progress in data source searching.

- Substitute a list of explicit measures and variables for the general variable labels in the conceptual frameworks. Dealing in generalities is awkward when calling a potential data source, searching a card catalog, or requesting the assistance of an expert.

- Keep variables of a similar nature grouped together for easy reference during the search. For example, measures of student characteristics, such as age, sex, racial/ethnic group, should be grouped together.

- Identify variables that should be measured from the same data source if possible (e.g., to permit analyses of the relations among them).

- For each variable, make a list of the ways it has to be disaggregated; then keep track of which of those requirements have or have not yet been met in the search.
Pursue high-yield sources first. In general, this will mean going to publications available from large, centralized data bases before contacting individuals or organizations working in the field.

If interested in U.S. government statistics, begin your search by consulting the American Statistical Index.

Locate a library that will allow you to make open-stack searches. Smaller, specialized libraries (e.g., a government documents library, an education library) at large universities typically offer this privilege.

Cultivate the friendship of a knowledgeable research librarian.

Whenever you find a table or chart that might be relevant, xerox it immediately and file it by the variable name. If two or more variables are in the same table, make multiple copies of the table and file under each variable.

Clearly label the source of all xeroxes—this will facilitate further checking of the data source as a suitable provider of information for related variables.

Clip together all xeroxes of tables that have the same primary source (e.g., a particular series of Current Population Reports). Often they display the same information disaggregated in different ways or extending over overlapping ranges of years. Check that the values in the tables agree. If not, the reason for the discrepancy (e.g., recoding, error, preliminary versus final version) should be sought.

When time permits, order relevant reports and other documents. Xeroxing can often be a false economy: the personnel costs of extensive xeroxing may be greater than the cost of the document.
- Keep copies of descriptions of the methodology used in various surveys, since the procedures may have changed over time, rendering series values incomparable. (The footnotes of tables are often very useful in this respect.)

- Develop a written protocol for use in telephone contacts, and underline key points. Use this protocol when contacting individuals in the field of interest, and refine the protocol after the first few telephone calls.

- Develop a form on which to record name, address, telephone number, position, and materials promised by a telephone contact. This form will facilitate materials check-in, the sending of thank-you letters, and recontacting of sources.

- Develop a brief description of the project, and mail it to those people you contact who wish to learn more about your search.

- Designate a back-up person to answer your telephone, and give those you are trying to contact the option of returning your call collect. (This is especially important when calling nongovernmental agencies with small budgets.)

- When calling a new and unfamiliar agency, ask to speak with someone in authority (e.g., the director, the president) who can direct you to the department most likely to have the information you desire. Depending on the organization, this information might be located in the publications department, the research office, or in the files of a staff member directing a special project.

- Get leads from the people you talk with. Even if they do not have the information you need, they may be able to direct you to someone who does.
• When data have been found for most of the variables, make a list of the variables that remain unmeasured or are only poorly measured. This list will help focus your continued activities. Cross off items as you find data for them.

• To guard against misinterpretations and to fill in gaps, have an expert in the field review the sources that you have located.

• As a last resort, use series with smaller sample sizes, series that can be compiled from diverse sources, and series that are only slightly out of date (e.g., two or three years old).

Available Data Sources

In the remainder of this report, we have listed data sources for all the variables in the conceptual frameworks (Figure 1-13). The data source lists are divided into three sections corresponding to the content areas covered by the report: (1) the status of women and minorities in education, (2) the federal role in elementary and secondary education, and (3) the condition of professional education. Within each section, the variables are ordered alphabetically, and the time series and their data sources are grouped by subject matter (e.g., level of education, type of profession) under these variables.

We have made every effort to list the primary sources for these data. When possible, we extended series by locating comparable data for earlier years, and if we could reasonably assume that a series had been continued since the most recent update, we listed it as continuing to the present. Whenever a range of years is indicated (e.g., 1962-75), the series has been updated annually during those years unless otherwise noted. We have already accessed most of these time series, with the possible exception of the most recent update.
ADMISSION PRACTICES

ACT score and high school grade norms for enrolled students from families with income under $7,500 by race.

1971


Applications, admissions, and matriculations at Stanford University by school and sex.

1971


Proportions of women in graduate applications and admissions at the University of California, Berkeley.

1971

Pearce, R. H. *Women in the graduate academic sector of the University of California*. Los Angeles: University of California, 1972.

Medical school applicants' acceptance ratio by sex and (race).

1929-30, 1932-42, 1948-present

Association of American Medical Colleges. Annual studies of applicants. (Race added in 1968.)

CAREER PLANS

Weighted national norms for freshmen on 44 probable careers by sex, race, type of college, and racial composition of college.

1966-present
CHILD REARING

Fertility rates by cohort and race.

1917-73


Fertility rates by race, age of mother, and age of father.

1940-present


Live births by educational attainment, legitimacy status, age, and race of mother.

1966-75


Children ever born per 1,000 women by race.


Number of live births, birth rates, and fertility rates by race.

1909-75


Median ages of women starting families and bearing children by race.

1960, 1970-73


CULTURAL NORMS CONCERNING CAREERS

Sex of students in noncollegiate postsecondary schools with occupational programs by type of program, status of student, and control of school.

1973


Percentages of women among master's degree recipients by discipline division and (race).

1948-present


Percentages of women among first-professional degree recipients by discipline division and (race).

1961-present

Percentages of women among doctoral degree recipients by discipline division and (race).

1948–present


Field of study of persons receiving doctor's degrees by sex, race, and marital status.

1973–present


Women employed as wage and salary workers in nonagricultural industries.

1940, 1950, 1960, 1970


Employed persons by sex.

1950, 1960, 1970


Occupational distribution of employed women and men by race and Spanish origin.

1976


Employed persons by occupational group, race, and sex.

1958–present

Occupations of employed persons by sex and race.
1960,1975
U.S. Department of Labor. Employment and training report of the President.

Women in the civilian labor force.
Women's Bureau. Economic report of the President.

Women in the civilian labor force.
1973-74

EDUCATIONAL ACHIEVEMENT

National Assessment of Educational Progress reading scores by age, sex, race, region of the country, parental education, and type of community.
1971,1975

National Assessment of Educational Progress science scores by age, sex, race, region of the country, parental education, and type of community.
1970,1973
Differences from national mean scores in learning areas by age and Spanish origin.

Various single years, 1971-75


Weighted national norms of average grade in high school of college freshmen by sex and race.

1966-present


Mathematical and verbal Scholastic Aptitude Test (SAT) score averages for college-bound high school seniors by sex.

1952-present

College Entrance Examination Board. *College-bound seniors.*

Self-reported grades in high school of students taking the SAT by subject and sex.

1971-present

College Entrance Examination Board. *College-bound seniors.*

Self-reported class rank in high school of students taking the SAT by sex.

1971-present

College Entrance Examination Board. *College-bound seniors.*

Estimated high school grade point average of students taking the SAT by sex.

1972-present

College Entrance Examination Board. *College-bound seniors.*
Number of students repeating the academic year in medical schools by ethnic group and class level.

1974–present


Mean scores on MCAT by race, sex, and academic progress of entrants to medical school.

1970


Mean medical college admission test scores of accepted applicants by sex and section of the test.

1954–present (irregular years)

Association of American Medical Colleges. *Datagram*.

Percent illiterate in the population by race and nativity.


Illiteracy by age and race.


EDUCATIONAL ASPIRATIONS

Plans of high school seniors 14-34 years old to attend college or vocational school by sex, race, and type of college.

1967, 1972-75


Educational degree aspirations of students taking the SAT by sex.

1971-present

College Entrance Examination Board. College-bound seniors.

Students' educational degree aspirations by sex and college type and control.

1971

American College Testing Program. Assessing students on the way to college (Vol. 2).

Weighted national norms for freshmen on highest degree planned by race, sex, type of college, and racial composition of college.

1966-present


Educational plans of college seniors by race.

1972

Baird, L. The graduates: A report on the characteristics and plans of college seniors, 1973, Table 2.2.
EDUCATIONAL ATTAINMENT

Years of school completed by persons 25-34, 35-44, and 45-54 years old by sex and race


Percent of population 25-34 years old who completed four years of college or more by race.

1967-74


Educational attainment by race and sex.

Cohorts born 1900 to 1939 in 5-year intervals


EDUCATIONAL RESOURCES AND SCHOOL ENVIRONMENT

Percent of pupils in elementary schools having various school characteristics by race (29 characteristics).

1965

Percent of pupils in secondary schools having various school characteristics by race (36 characteristics).

1965


Percent of pupils in elementary and secondary schools having principals with various characteristics by race and level of school (6 characteristics).

1965


Percent of pupils in elementary and secondary schools having teachers with various characteristics by race and level of school (14 characteristics).

1965


Percent of fellow pupils with various characteristics by race and level of school (elementary, 13 characteristics; secondary, 20 characteristics).

1965


Historically black colleges compared with paired historically white colleges (5 characteristics).

Various years for each characteristic: 1965, 1966, 1967

Capital funds receipts and loans of all institutions of higher education and historically black colleges by source and type of expenditure.

1965


Student financial aid funds disbursed by all institutions of higher education and historically black colleges by type of program, type of aid, and academic level of recipient.

1965


Estimated number of full-time senior teaching and research personnel for all institutions of higher education and historically black colleges by highest degree held and rank.

1966


Per-student financial statistics for a matched sample of historically black colleges and white colleges by control (28 financial statistics).

1965


Mean Roose and Anderson rating of graduate departments by sex and selected fields.

1920-71 (quinquennial)

EDUCATION OF PARENTS

Educational attainment by race and sex.

Cohorts born 1900 to 1939 in 5-year intervals


Plans of high school seniors 14-34 years old to attend college by years of school completed by the family head.

1975-76


Field of study of college students 18-24 years old by sex of student and years of school completed by the family head.

1974


EMPLOYMENT AS ADMINISTRATORS

Public elementary school employment by sex, race, and occupation.

1973-present


Administrative staff employed by public school systems by sex and type of assignment.

1975-present

Number of faculty in institutions of higher education by program function, occupational activity, and sex.

1967, 1972


Women as percentage of academic administrators in four-year colleges and universities.

1969


Sex, race, age, education, and occupation of voting members of college and university governing boards.

1976


Policymakers in traditional and minority-related positions by race and minority student population.

1974


EMPLOYMENT AS TEACHERS

Highest degree held, median years of experience, salary, and marital status of public school teachers by sex.

1975

Number of teachers in elementary and secondary schools by sex and level of school.

1930-present (biennial)


Number of professional staff other than administrative staff employed by public school systems by type of assignment, sex, state, and outlying area versus large city.

1975-present


Public school employment by race, sex, and occupation.

1974-75


Women as a percentage of full-time faculty members by rank and type of institution.

1972


Sex, rank, and race of full-time faculty in institutions of higher education.

1975-present (biennial)

Full-time instructional faculty by rank, sex, and salary.

1970-72, 1974-present


Faculty and professional staff by sex.

1918-58 (biennial)


Numbers of full-time, part-time, and full-time-equivalent employees in institutions of higher education by program function, occupational activity, and sex.

1967, 1972


Academic-year salaries of faculty members by sex, marital status, prestige of institution, and publications.

1968


Racial characteristics of faculty members in public and private universities and colleges by type of institution, sex, and age.

1969

Carnegie Commission on Higher Education. Survey of faculty and student opinion.
Women as a percentage of full-time faculty members by rank and type of institution.

1975


ENROLLMENT

Preprimary enrollment of 3-4 year olds by sex, race, and (Spanish origin).

1964-present


Preprimary enrollment of 3-4 year olds by race.

1967-76


Enrollment in elementary and secondary schools by race and school district.

1968-74, 1976, 1978


College or professional school enrollment by age and race.

1946-present

Enrollment in historically black colleges.

1966-73


Enrollment in public postsecondary area vocational schools by sex and race.

1974


Sex of students enrolled in noncollegiate postsecondary schools with occupational programs by type of program and type of school.


Percent of high school graduates 20-21 years old who completed at least one year of college by race and sex.

1947-present


Percent of spring high school graduates who attend college the following fall by race.

1967, 1972-75

High school graduation and college entrance ratios by sex.


Postsecondary school enrollment of persons 16-34 years old by race and type of school.

1967-75


Total enrollment in higher education by type of program, sex, and (race).

1963-present

U.S. Department of Health, Education, and Welfare, National Center for Education Statistics. Opening (fall) enrollment in higher education and Fall enrollment in higher education, supplementary information. (Race for 1976 only.)

Enrollment of first-time freshmen by control and level of institution, sex, enrollment status, and (race).

1963-present

U.S. Department of Health, Education, and Welfare, National Center for Education Statistics. Opening (fall) enrollment in higher education and Fall enrollment in higher education, supplementary information. (Race for 1976 only.)

Enrollment for advanced degrees in science and engineering by sex.

1959-76

Undergraduate enrollment by race and type of college.

1968-74 (biennial)


Weighted national norms for first-time, full-time freshmen enrollment by race, sex, and selectivity of university.

1966-present


Graduate enrollment (except law, dental, and medical) by race.

1968-74 (biennial)


Bachelor's, master's, doctor's, and first-professional degrees conferred in selected fields by sex and (race).

1961-present


Total minority enrollment in U.S. medical schools by race.

1969-present

Association of American Medical Colleges. Datagram.
Minority students enrolled in approved law schools by race and year of school.

1969-present


Enrollment in American Bar Association-approved law schools by sex.

1963-present


Enrollment by sex, class level, and American Bar Association-approved status of law school.

1948-71


First-year enrollment in medical schools by sex and (race).

1929-30, 1932-42, 1948-present

Association of American Medical Colleges. Annual studies of applicants. (Race added in 1968.)

Enrollment in adult basic and secondary education programs by sex, age, and race.

1972-76


Participants in adult education by age, sex, race, sponsor, and type of program.


Enrollment in vocational education by race, sex, and status.

1976


FAMILY INCOME

Household money income by race of household head.

1967-present


Median income of families by race of household head and (Spanish origin).

1947-present


Percent of primary families with members 18-24 years old enrolled full-time in college by family income.

1967-present


Plans to attend college of high school seniors 14-34 years old in primary families by family income.

1972, 1974-75

College enrollment of persons 18 years old and over by family income and race.

1976


College enrollment rates of dependent family members 18-24 years old by family income and sex.

1971-present


Annual parental income of students taking the SAT by race.

1975-present

College Entrance Examination Board. College-bound seniors.

Estimated parental contribution toward the education of students taking the SAT by race.

1971-74

College Entrance Examination Board. College-bound seniors.

FINANCIAL AID

Weighted national norms for amount and type of support college freshmen anticipate receiving by sex and race.

1966-present

Amounts spent and average awards of campus-based student assistance by race.

1973

Bureau of Postsecondary Education, Division of Student Financial Aid.

Type of support received by students during their undergraduate years by sex.

1971

Bayer, A. E. Four years after college entry. ACE Research Reports, Vol. 8, No. 1.

Student financial aid needs by sex and college type and control.

1971

American College Testing Program. Assessing students on the way to college.

Major financial considerations of disadvantaged students by race.

1971

American College Testing Program. Assessing students on the way to college.

Students receiving aid under U.S. Office of Education assistance programs by sex, race, family income, and program.

1976

Student aid disbursed by all institutions of higher education and by historically Negro colleges by type of program, type of aid, and academic level of recipient.

1965


FLEXIBLE ENROLLMENT POLICIES

Full-time and part-time enrollment in institutions of higher education by sex, type of institution, degree-credit status of student, and (race).

1946-present


GRADUATION

High school graduates and college enrollment of persons 20-24 years old by sex and race.


High school graduates by sex.

1870-1916, 1918-1958 (biennial), 1958-present

Number of high school graduates compared with population 17 years old by sex.

1901-39 (biennial), 1940-54 (biennial), 1955-present (biennial)


High school graduation and college entrance ratios by sex.


Public high school graduates by sex and state.

1961-present


High school graduates by sex and control of institution.

1954-present


Degrees, diplomas, and awards based on less than four years of work beyond high school by race.

1970


Degrees and awards conferred based on less than four years of work beyond high school by sex.

1966-present

Associate degrees and other formal awards conferred by curriculum category and division and sex.

1971-76


Bachelor's or first professional degrees conferred per 1,000 persons 23 years old and per 100 high school graduates 4 years earlier by sex.

1942-present


Master's or second professional degrees conferred per 100 bachelor's degrees 2 years earlier by sex.

1942-present


Doctor's or equivalent degree conferred per 1,000 bachelor's degrees various numbers of years earlier by sex.

1942-present


Bachelor's degree recipients as a percent of population 22 years old by sex.

1962-present (biennial)

Bachelor's degrees earned by race.

1968-1974 (biennial)


Bachelor's degrees awarded in historically black colleges and nationally by field of study.

1966-73


Bachelor's, master's, and doctor's degrees awarded by sex.

1870-1970 (decennial)


Bachelor's, master's, and doctor's degrees awarded by sex, type of school, and area of specialization.

1948-present


First-professional degrees conferred in dentistry, medicine, and law by sex.

1950-present


Doctoral degree recipients by sex, field of study, and race.

1973-1976

Research doctorates awarded by sex.

1920-present

National Academy of Sciences, National Research Council.
Doctorate records file.

INTEGRATION

Number and percent of minority students attending public schools with different racial compositions by geographic area.

1968-74, 1976, 1978


Percent of black pupils enrolled in desegregated schools in southern and border states.

1954-66


Attitudes of nonblacks toward school integration.

1972, 1974-75

National Opinion Research Center (NORC), University of Chicago. General social survey.

Number of institutions of higher education by level, control of institution, and sex composition of student body.

1969-77

Number and percentage of bachelor's degrees awarded in historically black colleges by selected fields.

1966-73


Name, type, enrollment, and year established for traditionally black colleges.

1976


MARRIAGE

Median age at first marriage by sex.

1890-1940 (decennial), 1947-present


Marital status of the population 14-34 years old by sex, age, race, enrollment status, level of school, and full-time attendance.

1971-present


Field of study of college students 14 years old and over by age, race, region of residence, type of college, attendance status, marital status, and living arrangements.

1974

Weighted national norms of college freshmen regarding importance of raising a family, marriage while in college, and marriage within a year after finishing college by sex and race.

1966-present


Weighted national norms of marital status of college freshmen by sex and race.

1970-present


REMEDIAL PROGRAMS

Estimated population percentages of students' compensatory education selection status by family economic status and race.

1977


Number of participants in Title I activities by race.

Selected single years, 1968-73


Percentage of students in compensatory reading programs by grade and race.

1973
Major federal education programs disproportionately assisting black students by percent black, dollars per student, and number of recipients.

1977


Weighted national norms for college freshmen who needed remedial work by subject area, race, and historically black college.

1971-72, 1976


Federal funding for Upward Bound by family income and race of participants.

1966-present


Federal funding for special services for disadvantaged students by family income and race of participants.

1971-present

RETENTION AND DROPOUT RATES

Percent of population of school age enrolled in school by race.


Ferriss, A. L. *Indicators of trends in American education.*

Continuation ratio between successive grades (up to grade 17) per
1,000 completing lower grade for cohorts born during five-year
intervals 1900-1935 by sex and race.

35 years, one data point every five years; the particular
years vary with the grade level

168, 172, and 173.

Dropout rates of 7-17 year olds by sex, race, and (Spanish origin).

1946-present

U.S. Department of Commerce, Bureau of the Census. *Current
Population Reports, Series P-20*, Nos. 1(1946), 19(1947),
24(1948), 30(1949), 34(1950), 40(1951), 45(1952), 52(1953),

Total population ages 6-18 not enrolled in school by Spanish origin.

1976

U.S. Department of Commerce, Bureau of the Census. *Survey of
income and education.*

Four-year bachelor's degrees per 100 first-time enrollment four
years earlier by sex.

1950-67

Ferriss, A. L. *Indicators of trends in American education.*
New York: Russell Sage Foundation, 1969. (Series is made
up of and can be updated by using NCES's data on opening
fall enrollment and earned degrees conferred.)
Ratio of bachelor's degree recipients to first-time degree-credit enrollment four years earlier by sex.

1950-70


Higher education retention rate by sex.

1950-70


Percent of students withdrawn from institutions of higher education by race, socioeconomic background, and type of institution.

1974


Percent of recipients of bachelor's degrees who receive doctorate degrees by sex.

1911-1970


Number and percent of medical students admitted who graduated or are still in school by sex.

1960-present

SCHOLARLY PRODUCTIVITY

Productivity of full-time faculty by race, degree quality, salary, and field.

1972


Productivity of currently active faculty by sex, marital status of women, and field.

1972


STATE OF THE ECONOMY

Gross National Product.

1950-present


Inflation rates.

1947-present

U.S. Department of Labor. Employment and training report of the President.

Consumer Price Indexes by type of household purchase.

1940-present

Personal income by type.

1950-present


Discouraged workers by sex, race, and reason.

1967-present


Unemployment by sex, race, and major occupational group.

1964, 1969, 1974


Unemployed persons 16 years old and over by sex, race, and reason.

1967-present

U.S. Department of Labor. Employment and training report of the President.

Unemployed rates of persons 16 years old and over by sex and race.

1947-present

U.S. Department of Labor. Employment and training report of the President.

SUBJECT MATTER

Number of years of study in high school by students taking the SAT by subject and sex.

1971-present

College Entrance Examination Board. College-bound seniors.
Weighted national norms for high school subject matter areas in which college freshmen were very well prepared by sex, race, type of college, and racial composition of college.

1975-present


Weighted national norms for freshmen on probable major field of study by sex, race, type of college, and racial composition of college.

1966-present


Intended areas of study of students taking the SAT by sex.

1971-present

College Entrance Examination Board. College-bound seniors.

College enrollment of the population 14-34 years old by major field of study, sex, and race.

1974


Percentage of bachelor's degrees awarded by selected fields in historically black colleges and nationally.

1966-73

Bachelor's, master's, and doctor's degrees conferred by sex and (race).

1948-present


Doctor's degrees conferred by sex, race, marital status, postdoctoral activities, and field of study.

1973-present


Graduate school full- and part-time enrollment by field of study for various ethnic groups.

1973


TRACKING

Type of high school program by race.

1960,1972


Type of high school program by sex, race, and father's occupation.

1972

Weighted national norms for type of high school program by sex and race.

1974–present

Data Sources for the Federal Role in Elementary and Secondary Education

COURT DECISIONS

Major court decisions affecting school finance.


Major court decisions on requirements for educational attainment in employment.

1971-72, 1975


Landmark Supreme Court decisions on public school issues.


ECONOMIC FACTORS

Gross National Product by major types of products and sector.

1929-30, 1933, 1940-65 (quinquennial), 1970-present

Gross National Product.

1950-present


Inflation rates.

1947-present

U.S. Department of Labor. Employment and training report of the President.

Public debt of the federal government: Gross debt and interest paid.

1900-1955 (quinquennial), 1960-present

U.S. Department of the Treasury. Annual report of the Secretary of the Treasury on the state of the finances; Final monthly treasury statement of receipts and outlays of the U.S. government.

ELEMENTARY AND SECONDARY EXPENDITURES

Office of Education expenditures for elementary and secondary education by program area (21 program areas).

1960-present


Federal funds for elementary and secondary education by program area (13 program areas).

1960-66 (biennial), 1968-present

Office of Management and Budget. Special analyses, budget of the United States.
Federal expenditures for elementary and secondary education by program area (23 program areas).

1929-66, 1970-present


Revenue receipts of public elementary and secondary schools from federal sources.

1919, 1929, 1939-present (biennial)


Percentage of revenues received by public elementary and secondary schools from federal sources by state.

1919, 1929, 1939-present (biennial)


Federal authorizations and appropriations for programs funded under the Elementary and Secondary Education Act by program (5 programs).

1965-present

Federal expenditures made for instructional materials under Title II of the Elementary and Secondary Act by type of material.

1966-76


Federal authorizations and appropriations for programs targeted toward elementary and secondary education (other than those funded under the Elementary and Secondary Education Act) by program (12 programs).

1965-present


Federal authorizations and appropriations for programs that include elementary and secondary education services by program (8 programs).

1965-present

Federal appropriations for state-administered programs supported by the Elementary and Secondary Education Act by program (10 programs).

1974-75


Expenditures of state-administered programs supported by the Elementary and Secondary Education Act by program and purpose (12 programs).

1975-present


Total federal funds and total grant awards to state-administered programs supported by the Elementary and Secondary Education Act by program (12 programs).

1976-present


Federal funds appropriated to states for state-administered programs supported by the Elementary and Secondary Education Act by program and type of recipient agency (12 programs, 6 agency types).

1976-present


Percentage of school districts receiving federal funds for state-administered programs supported by the Elementary and Secondary Education Act by program (8 programs).

1976-present

Percentages of grants and other federal funds received by states for state-administered programs supported by the Elementary and Secondary Education Act by program and school district size (5 programs, 8 ranges of school size).

1976-present


Grant funds received by school districts for state-administered programs supported by the Elementary and Secondary Act by program and county income relative to the national average (8 programs).

1976-present


Percentages of repeating grantees for state-administered programs supported by the Elementary and Secondary Education Act by program (7 programs).

1976-present


Federal dollars per participant in state-administered programs supported by the Elementary and Secondary Education Act by program (5 programs).

1975-present

Percentages of federal grants and grant funds appropriated for state-administered programs supported by the Elementary and Secondary Education Act by program and grant size (4 programs, 5 grant sizes).

1976-present


Funds obligated for elementary and secondary education evaluation contracts within the Office of Education by funding authority (13 funding authorities).

1968-present


Federal expenditures for participants in selected federally-aided programs by source of funds and pupil population group.

1971


Federal funds for elementary and secondary education by agency.

1976-present

Office of Management and Budget. Special analyses, budget of the United States.

Federal funds obligated for elementary and secondary educational R&D as a percentage of the total federal R&D appropriation for education.

1969-present

Federal funds obligated for elementary and secondary educational R&D by agency and program (2 agencies, 7 programs).

1969-present


National Institute of Education obligations and budget estimates for R&D by program area (5 program areas).

1973-76


Office of Education obligations for R&D by program area (8 program areas).

1974-76


National Institute of Education R&D appropriations for elementary and secondary education.

1977-present


Federal education division R&D funds for elementary and secondary education by agency and program area (3 agencies, 10 program areas).

1978-present

Intersociety Project on R&D Budgets. Intersociety preliminary analyses of R&D in the FY 1980 budget.
Obligations for educational R&D by agencies outside of the Department of Health, Education, and Welfare not included in the NSF and OH&B perspectives.

1975


Office of Education support for educational R&D by age and grade level of the target groups.

1965-68


Federal support for educational R&D by age and grade level of the target groups and by funding agency.

1968


Office of Education support for educational R&D by special characteristics of the target groups.

1965-68


Federal support for educational R&D by special characteristics of the target group and by funding agency.

1968

Office of Education support for educational R&D by geographic area of intended impact.

1965-68


Federal support for educational R&D by geographic area of intended impact and by funding agency.

1968


FEDERAL INFLUENCE


1965,1968,1973-74


FUNDING STRATEGY

Number of elementary and secondary grant-in-aid programs sponsored by the federal government by type of grant and grant allocation formula.

1975

Advisory Commission on Intergovernmental Relations. A catalog of federal grant-in-aid programs to state and local governments: Grants funded FY 1975.
GUIDELINES AND REGULATIONS

Number of federal guidelines and regulations pertaining to elementary and secondary education.

1949-present


LOBBY INFLUENCES

Memberships in the National Education Association and the American Federation of Teachers

1894-present

National Education Association. NEA handbook.

National Education Association spending for lobby activities and administration.

1956-61, 1963

Congressional Quarterly Service. Legislators and the lobbyists.

NONFEDERAL R&D RESOURCES

Foundation support of educational R&D.

1969-72


OTHER SOCIAL WELFARE EXPENDITURES

Office of Education expenditures for higher education by program area (7 program areas).

1960-72 (biennial), 1974-present

Federal funds for higher education by program area (9 program areas).

1960-66 (biennial), 1968-present

Office of Management and Budget. Special analyses, budget of the United States.
National Science Foundation. Federal funds for research, development, and other scientific activities.

Federal expenditures for higher education by program area (5 program areas).

1929-66, 1970-present


Federal funds obligated for R&D in higher education as a percentage of the total federal R&D obligations for education.

1969-present


National Institute of Education R&D appropriations for higher education.

1977-present


Federal funds for higher education by agency.

1976-present

Office of Management and Budget. Special analyses, budget of the United States.
Federal expenditures for health services by program area (5 program areas).

1929-66, 1970-present


Federal expenditures for social insurance by type of program (7 program types).

1929-66, 1970-present


POLITICAL FACTORS

Composition of the Congress by political party affiliation.

1933-present (biennial).

U.S. Congress, Joint Committee on Printing. Congressional directory.

Confidence of the public in the executive branch of the federal government and in the Congress.

1973-present


Public ratings on the performance of the Congress.


Roper Public Opinion Research Center. Survey data for trend analysis.
Ratings of public approval of the performance of the President.

1945-present

Gallup Polling Organization. The Gallup poll of public opinion.

RESEARCH FINDINGS

Funding, duration, and scope of major evaluations of Title I of the Elementary and Secondary Education Act.

1966-77 (irregular)


SCHOOL NEEDS

Revenue receipts of public elementary and secondary schools from state and local sources.

1919, 1929, 1939-present (biennial)


Foundation support for elementary and secondary education.

1969-72


Summary of expenditures for public schools by major account.

1920-60 (decennial), 1966-present (biennial)

Per-pupil expenditures in public elementary and secondary schools.

1930-present (biennial)


Number and percentage of public school pupils transported at public expense and current expenditures for transportation.

1930-present (biennial)


Pupil-teacher ratios in regular elementary and secondary day schools by institutional control and organizational level.

1958-present


Enrollment in regular elementary and secondary day schools by institutional control and organizational level.

1954-present (biennial)


Estimated numbers of instructional staff and pupils in nonpublic elementary and secondary schools.

1931-65 (biennial), 1968-present

Preprimary enrollment of children 3-5 years old.

1964-75


High school graduates by sex and by institutional control.

1965-present


Instructional staff per 1,000 pupils enrolled in public elementary and secondary schools.

1930-present (biennial)


Number of elementary and secondary schools by control of school.

1930-68 (biennial), 1971, 1974-present


Opinions of public secondary school principals on serious problems in the schools.

1977

SOCIAL FACTORS

Public opinion of major problems with which public schools must deal.

1969-present

Phi Delta Kappa, Inc. Annual Gallup poll of public attitudes toward education.

Public opinion concerning ways of improving the quality of public education by type of school attended by children of respondents.

1976

Phi Delta Kappa, Inc. Annual Gallup poll of public attitudes toward education.

Quality of the public schools: Opinions of parents with public school children.

1974-77

Phi Delta Kappa, Inc. Annual Gallup poll of public attitudes toward education.

Public opinion concerning integrated schools and interdistrict busing by race of respondents.

1977


Public opinion concerning the adequacy of neighborhood educational services by geographic location.

1975-76

U.S. Department of Commerce, Bureau of the Census. Annual housing survey reports, Series H-150-75F and 76B.
Attitudes of the public toward public schools by the type of schools attended by children of respondents and for respondents who are professional educators.

1973

Phi Delta Kappa, Inc. Annual Gallup poll of public attitudes toward education.

Public attitudes concerning federal aid for the construction of public schools.

1955, 1957, 1960-61

Roper Public Opinion Research Center. Survey data for trend analysis.

Confidence of the public in persons running educational and other institutions.

1973-present


Results of public school bond elections.

1958-75


Attitudes of white respondents on sending their children to integrated schools with various black/white compositions.

1972, 1974, 1975, 1977


Number and percentage of black students attending public schools with different racial compositions by geographic locations.

1970-74 (biennial)

Work stoppages by teachers: Number of stoppages, number of teachers involved, and person-days idle during year.

1959-present


General expenditures of state and local governments for education and other services.


Unemployment rate.

1890-present


Unemployment rate by race and age.

1947-present


Number of immigrants by country of birth.

1951-60 (total), 1961-70 (total), 1976-present


Number of entries of aliens and citizens over international land boundaries.


YOUTH NEEDS

Scholastic Aptitude Test verbal and mathematical score means.

1952-77

College Entrance Examination Board. On further examination:
Report of the Advisory Panel on the Scholastic Aptitude
Test Score Decline.

Number of Scholastic Aptitude Tests taken.

1952-77

College Entrance Examination Board. On further examination:
Report of the Advisory Panel on the Scholastic Aptitude
Test Score Decline.

Percentage of high school dropouts among persons 14-34 years old
by age, race, and sex

1970, 1976

U.S. Department of Commerce, Bureau of the Census. Current

Estimated retention rates 5th grade through college in public and
nonpublic schools.

1925-57 (biennial), 1958-68 (biennial)

Center for Education Statistics. Digest of education
statistics.

Number of high school graduates compared with population 17 years old
by sex.

1901-75 (biennial)

Center for Education Statistics. The condition of
education.
High school graduation rate by sex.

1950-present


Percentage of the population not enrolled in school and not high school graduates by age, sex, race, and (Spanish origin).

1967-75


Employment status of population not enrolled in school by age, sex, race, and educational attainment.

1976


Illiteracy rate by age and race.


Children 17 years old or under by labor force status of mother.

1970-present

Children 5-17 years old in families below the poverty level and poverty rate by state.

1970,1975


Number of children in families below the poverty level by family status and race.

1959-present


Youth unemployment rate.

1965,1970-present

Data Sources for the Condition of Professional Education

ACCREDITATION STANDARDS

Number of nursing programs accredited by type of program.

1964-present


Number of nursing programs not accredited by type of program.

1964-present


Number of nursing programs visited for the purpose of determining accreditation status.

1964-73


Number of nursing programs approved for initial accreditation by type of program.

1964-present


Number of nursing programs approved for continued accreditation by type of program.

1964-73

Number of nursing programs accredited without recommendations for improvements by type of program.

1964-73


Number of accreditation visitors to nursing programs.

1964-73


Number of organizations whose members serve on medical accreditation boards.

1977


Significant decisions affecting the accreditation process for nursing education.

1964-74


AVAILABLE OCCUPATIONS WITHIN THE PROFESSIONS

Number of persons employed in health professions by specialty.

1940-70 (decennial), 1971, 1973-75

Trends in the numbers of active physicians by specialty.

1970-76


Professionally active physicians by specialty.

1968-74 (biennial), 1975-76.


Number of physicians certified by specialty boards.

1974-present


CHARACTERISTICS OF PRACTICING PROFESSIONALS

Distribution of lawyers by city size and education.

1948-present (triennial)

American Bar Foundation. Lawyer statistical report.

Distribution of lawyers in various specialties by age and city size.

1825, 1895, 1905-1935 (quinquennial)

American Bar Foundation. Lawyer statistical report.

Percentage of females in selected professions (14 professional areas).

1960

Selected measures of physician performance by age.

1970


Employment, salary, and educational status of persons holding bachelor's degrees by major field.

1976


Occupation, salary, and employment status of persons holding bachelor's degrees by sex.

1976


Faculty salaries in higher education by rank, sex, state, and type of institution.

1979


Percentage of yearly salary increases for full-time higher education instructional staff.

1968-present

CURRICULA

Hours in required courses for law school graduation.

1949, 1969, 1974


Specifically required law school courses.

1949, 1969, 1974


Number of continuing medical education courses by type of course.

1964-present


Number and percentage of continuing medical education courses by type of physician for whom courses are designed.

1971-present


Number and percentage of continuing medical education courses offered by type of sponsor.

1961-present

Total hours of continuing medical education instruction provided by type of sponsor (6 types of sponsor).

1969-present


DEGREE OF SPECIALIZATION

Certified medical specialties by date of recognition.

1924-1971


Trend in number of active physicians by specialty.

1970-76


Number of active physicians by specialty.

1968-74 (biennial), 1975-76


DEMAND FOR PROFESSIONALS

New admissions to the bar per 100,000 of the resident population.

1920-40 (biennial), 1950-70 (biennial)

Medical personnel per 10,000 of the resident population by specialty and geographic location.

1972-76 (irregular)


Projected employment opportunities and supplies of lawyers, doctors, and nurses.

1976-85 (projected)


FACULTY CHARACTERISTICS

Total U.S. medical school graduates who were on U.S. medical school faculties in 1975.

1940-70

Association of American Medical Colleges. Datagram.

Ethnic group members on U.S. medical school faculties.

1972-present

Association of American Medical Colleges. Datagram.

Number of nurses who are full-time instructors in nursing schools by highest credential earned and type of teaching program.

1964-present (biennial)

Percentage of nurses who are full-time instructors in nursing school by highest credential earned, type of teaching program, and school accreditation status.

1972-present (biennial)


Number of nurses who are part-time instructors in nursing schools by highest credential earned and type of teaching program.

1966-present (biennial)


Percentage of nurses who are part-time instructors in nursing schools by highest credential earned, type of teaching program, and school accreditation status.

1972-present (biennial)


Number and percentage of nursing education administrators by highest credential earned and type of teaching program.

1966-present (biennial)


Number of medical school faculty with M.D. degree by areas of activity (5 activity areas).

1970-present

Association of American Medical Colleges. *Datagram*.

Number of medical school faculty with M.D. degree by numbers and major areas of responsibility (5 areas of responsibility).

1970-present

Association of American Medical Colleges. *Datagram*. 

121
Number of women physicians teaching part- or full-time in medical schools.

1970-present


FINANCIAL AID

Percentages of doctors in various specialties reporting receipt of financial aid while in medical school by funding source.

1950, 1954


Amounts of scholarships and loans administered by medical schools.

1973-present


Average amounts of loans received by medical students by funding source.

1967-present


Average amount of scholarships received by medical students by source of scholarship.

1974-present

Number and total amounts of loans granted by the American Medical Association Education and Research Foundation to students.

1962-present


Number and characteristics of medical students receiving financial aid by source of aid.

1974

Mantovani, R. E. *Studies of medical student financing: Medical student finances and personal characteristics*. (ERIC No. ED 136 734).

Proportion of medical student income received from public and private institutional sources.

1974

Mantovani, R. E. *Studies of medical student financing: Medical student finances and personal characteristics*. (ERIC No. ED 136 734).

Number and amounts of physician shortage-area scholarships awarded.

1974-76


Number of students awarded scholarships for health training by specialty.

1967-73


Amounts of student scholarship funds awarded to health institutions by specialty.

1967-73


123

131
Number of students receiving loans for health training by specialty.

1965-73


Amounts of student loan and scholarship funds awarded to schools by type of program and training.

1965-73


Amounts of student loan funds awarded to schools for health training versus nursing education.

1965-73


Number of medical students awarded loans and scholarships by type of program and training.

1965-73


Number of graduations from basic RN programs with NLN accreditation by type of program and primary source of student support.

1970-present


Average national stipends for graduate medical education students.

1968-present

Association of American Medical Colleges. Datagram.
Average stipends for initial year of graduate medical education.

1968-present

Association of American Medical Colleges. Datagram.

Amount of funds awarded to health institutions for student loans, scholarships, and traineeships.

1965-76


Amount of funds awarded to health institutions for student loans, scholarships, and traineeships by specialty.

1965-76


Amount of funds awarded to schools for student loans and scholarships by control of school.

1965-76


Total amounts of American Medical Association Education and Research Foundation unrestricted grants to medical schools.

1959-present

LICENSING REQUIREMENTS

Number of states with licensing requirements for various health-related occupations.

1973


Number of states with licensing requirements for health professionals by type of requirement.

1975


Admission to the bar by state.

1972-present

National Conference of Bar Examiners. The bar examiner.

Percentage of candidates passing the bar examination.

1948-present

American Bar Foundation. Lawyer statistical report.

Number of states with licensing requirements for continuing medical education by date requirement first established.

1977-present

PROFESSIONAL KNOWLEDGE

New books and new editions published in law and medicine.

1950-present


PROFESSIONAL STANDARDS

National scientific medical society membership.

1971

American Medical Association. Profile of medical practice.

Total voting memberships in organizations of medical interest.

1978-present


Number of medical specialty societies with continuing education requirements by date requirement first established.

1977-present


RECRUITMENT, SELECTION, AND RETENTION RATES

Number of applicants to medical schools by sex and (race).

1929-30, 1932-42, 1948-present

Association of American Medical Colleges. Annual studies of applicants. (Race added in 1968.)
First-year enrollment in medical schools by sex and (race).
1929-30,1932-42,1948-present
Association of American Medical Colleges. Annual studies of applicants. (Race added in 1968.)

Number of applications to medical schools per individual by sex and (race).
1929-30,1932-42,1948-present
Association of American Medical Colleges. Annual studies of applicants. (Race added in 1968.)

Medical school applicants' acceptance ratio by sex and (race).
1929-30,1932-42,1948-present
Association of American Medical Colleges. Annual studies of applicants. (Race added in 1968.)

MCAT scores by examinee's anticipated type of medical career.
1973-present
Association of American Medical Colleges. Datagram.

MCAT scores by level of examinee's parental income.
1973-present
Association of American Medical Colleges. Datagram.

MCAT scores by examinee's precollege geographic location.
1973-present
Association of American Medical Colleges. Datagram.

Numbers of female students and female graduates from medical school.
1914-59 (quinquennial),1960-present
Association of American Medical Colleges. Datagram.
Percentage of medical schools enrolling 10% or more women.

1944-69 (quinquennial), 1970-present
Association of American Medical Colleges. Datagram.

Number and percent of medical students admitted who graduated or are still in school by sex.

1960-present

Number of minority applicants and acceptees to medical schools.

1972-present
Association of American Medical Colleges. Datagram.

Mean MCAT scores of accepted, nonaccepted, and total applicants by section of the test.

1972-present
Association of American Medical Colleges. Datagram.

Mean scores on MCAT by race, sex, and academic progress of entrants to medical school.

1970

Medical school enrollment by year in school.

1930-present
Number of MCAT examinees by sex, undergraduate major, and region of the country.

1950-present

Association of American Medical Colleges. * Datagram.*

Number of students withdrawing from medical school for academic reasons or for advanced study.

1963-present


Net attrition rate in medical schools by class year.

1960-present


Number of medical school transfers by type of previous school.

1964-present


Number of students who withdrew or were dismissed by reason for withdrawal.

1977


Number of enrollments of nurses in master's programs, percentage of change over previous year, and percentage enrolled full time by the National League for Nursing region.

1958-present

Percentage of enrollments of nurses in master's programs by functional area of study and by full-time and part-time study.

1968-present

Number of admissions to basic RN programs and percentage change from previous year by type of program.

1957-present

Number of admissions to basic RN programs accredited by the National League for Nursing by type of program and primary source of financial support.

1969-present

Number of graduations from basic RN programs and percentage change from previous years by type of program.

1958-present

Number of enrollments in basic RN programs and percentage change over previous year by type of program.

1958-present
Number of enrollments in baccalaureate nursing programs by National League for Nursing accreditation, type of program, and type of speciality.

1970-present


Number of enrollments and graduations of nurses in doctoral programs and percentage change from previous years by type of department.

1957-present


Number of enrollments and graduations of nurses in master's programs and percentage change from previous years by National League for Nursing accreditation.

1964-present


Enrollment in American Bar Association-approved law schools by sex.

1963-present


First-year placements in law schools as compared to the numbers of LSAT and (LSDAS completions).

1963-present

First-year placements in law schools as compared to J.D. or LL.B. degrees awarded three years later.

1963-present


Total new admissions to the bar as compared to J.D. or LL.B. degrees awarded.

1963-present


Ratio of tests administered to the number of first-year law students.


Change in market share of full-time equivalent law students by quality of law school.

1958, 1973


Total law school enrollment by year in school.

1922-43, 1946-present

New bar admissions.

1920-1957

American Bar Foundation. *Compilation of published statistics on law school enrollments and admissions to the bar, 1889-1957* (Research Memorandum Series No. 15).

Total number of lawyers.


American Bar Foundation. *Compilation of published statistics on law school enrollments and admissions to the bar, 1889-1957* (Research Memorandum Series No. 15).

Law school enrollment in schools approved and not approved by the American Bar Association.


Total number of law schools.

1928-39, 1941, 1944, 1947-present


First-time enrollment for science/engineering advanced degrees as a percentage of baccalaureates in the same field for the preceding year.

1960, 1965, 1970


Science/engineering doctorates as a percentage of the number of first-time enrollees for an advanced degree in the same field seven years earlier.

1963-73

Bachelor's or first professional degrees conferred by sex per 1,000 persons 23 years old and per 100 high school graduates 4 years earlier.

1942-present


Master's or second professional degrees conferred by sex per 100 bachelor's degrees 2 years earlier.

1942-present


Doctor's or equivalent degrees conferred by sex per 1,000 bachelor's degrees various numbers of years earlier.

1942-present


Master's and doctor's degrees awarded by sex.

1870-1970 (decennial)


Master's and doctor's degrees awarded by sex, type of school, and area of specialization.

1948-present

First-professional degrees conferred in dentistry, medicine, and law by sex.

1950-present


Percentages of women among first-professional degree recipients by discipline division and (race).

1961-present


Percent of recipients of bachelor's degrees who receive doctorate degrees by sex.

1911-1970


Doctor's degrees conferred by sex, race, marital status, postdoctoral activities, and field of study.

1973-present


Graduate enrollment (except law, dental, and medical) by race.

1968-74 (biennial)

SCHOOL POLICIES AND PRACTICES

Law school enrollment by American Bar Association accreditation status.


Change in market share of full-time equivalent law students by quality of law school.

1958, 1973


Number of basic RN programs and percentage of change over previous year by type of program.

1958-77


Mean salaries of strictly full-time basic science faculty in medical schools by department and rank.

1969-present

Association of American Medical Colleges. Datagram.

Mean salaries of strictly full-time clinical science faculty in medical schools by department and rank.

1969-present

Association of American Medical Colleges. Datagram.

Estimated cost of completed, initiated, and planned facilities construction in medical school projects by intended use of the facility.

1960-present

Amount of funds spent by medical schools for construction (including equipment) of completed facilities.

1960-present


Distribution of medical school expenditures by department.

1976-present


Distribution of medical school expenditures by object and source.

1976-present


Distribution of medical school expenditures by object and function.

1960-present


Expenditures for medical school capital assets.

1976-present


Obligations for medical school capital assets.

1976-present

Medical school expenditures by function (11 functions).

1960-present

Medical school expenditures by functional category (7 categories).

1959-present
Association of American Medical Colleges. *Datagram*.

Private and public medical school expenditures for basic operating and sponsored activities by source of income.

1960-present
Association of American Medical Colleges. *Datagram*.

Percentage distribution of medical school expenditures for basic operations and sponsored programs by source of income and control of school.

1960-present
Association of American Medical Colleges. *Datagram*.

Revenues and expenditures of public and private medical schools.

1967-present

Sponsors of allied health education programs.

1977
Medical school faculties' total teaching responsibilities.
1963-1966-present
Association of American Medical Colleges. Datagram.

Number of continuing education courses by type of sponsor (2 types of sponsors)
1962-present

Number of continuing medical education courses by type of sponsors and cosponsors (6 types of sponsors and cosponsors).
1975-present

Number of full-time faculty positions in medical schools and percentage of budgeted positions that are vacant.
1960-present

Percentage of full-time and part-time medical school faculties in basic science and clinical science departments.
1967-present
Association of American Medical Colleges. Datagram.

Full-time and part-time faculty in medical school by specialty.
1969-present
Association of American Medical Colleges. Datagram.
Educational innovations expected to be in use in undergraduate and graduate institutions in 1980.

1968


Medical school student-faculty ratios.

1967-present


Median medical school student-faculty ratios by selected student and faculty categories.

1976

Association of American Medical Colleges. Datagram.

SOURCES AND LEVELS OF FUNDING

Amount of medical school financial support by funding source.

1958-present


Medical school expenditures by source of funds.

1958-present


Revenues and expenditures of medical schools by purpose.

1958-present

Federal obligations to medical schools by purpose.

1950-present

Association of American Medical Colleges. Datagram.

Distributions of revenue restricted to specific programs of medical schools.

1967-present


Distributions of sponsored and total support in medical schools.

1964-present


Distributions of support for general operations in medical schools.

1964-present


Number of medical schools by size of total support.

1972-present


Number of medical schools by size of sponsored support.

1972-present

Number of medical schools by amount of regular support for general operations.

1972-present

Federal obligations for biomedical R&D by agency.

1947, 1950-present
Association of American Medical Colleges. *Datagram*.

National Institutes of Health appropriations by funding category.

1950, 1955-present
Association of American Medical Colleges. *Datagram*.

National Institutes of Health appropriations and obligations.

1955-present
Association of American Medical Colleges. *Datagram*.

National expenditures for medical research by funding source.

1940, 1947, 1950-present
Association of American Medical Colleges. *Datagram*.

Federal support for medical R&D by agency.

1950-65, 1966-present
Association of American Medical Colleges. *Datagram*.

National Institutes of Health funds obligated by function.

1956-present
Association of American Medical Colleges. *Datagram*. 
National Institutes of Health awards to U.S. medical schools by type of award.

1967-present

Association of American Medical Colleges. Datagram.

State appropriations for public and private medical schools.

1972-present

Association of American Medical Colleges. Datagram.

Amounts of construction grants awarded to medical institutions by training area.

1965-77


Amounts of construction grants awarded to medical institutions by specialty.

1965-77


Amounts of formula grants awarded to medical institutions by training area.

1965-76


Amounts of formula grants awarded to medical institutions by specialty.

1966-76

Amounts of special project grants awarded to medical institutions by training area.

1965-76


Amounts of special project grants awarded to medical institutions by specialty.

1968-76


Amounts of grants awarded to medical schools by funding purpose and control of school.

1965-76


Amounts of special project grants awarded to medical institutions by funding purpose.

1972-76


Amounts of funds awarded to medical institutions by funding strategy.

1965-76


Amounts of American Medical Association Education and Research Foundation unrestricted grants to medical schools.

1959-present

STEREOTYPES OF PROFESSIONALS

Public attitudes toward the American Medical Association.

1965, 1973

Roper Public Opinion Research Center. Survey data for trend analysis.

Public confidence in persons running medical institutions.

1973–present


Public confidence in medical institutions.

1962, 1972-73

Harris, L. The Harris survey.

STUDENT CHARACTERISTICS.

Premedical school year in which physicians decided to study medicine by field of medicine selected.

1974

Association of American Medical Colleges. Datagram.

Mean scores on standardized professional school entrance examinations by type of examination (3 types of examinations).

1966–present


Background characteristics of college seniors in selected professional areas by area of study (6 areas).

1973

Association of American Medical Colleges. Datagram.
Percentage of college seniors entering professional training who rated their abilities in the top one percent of all college seniors by area of training (6 areas).

1973

Association of American Medical Colleges. Datagram.

Changes in enrollment of junior-year undergraduate students by major.

1973-74


Percentage distribution of college majors chosen by National Merit Scholars.

1966-present


Weighted national norms for freshmen on highest degree planned by race, sex, type of college, and racial composition of college.

1966-present


Distribution of occupational preferences of college freshmen by sex and race.

1968-present

Percentage of new first-year medical students with premedical grade point averages of A, B, or C.

1950-present


Statistical profile of persons receiving doctor's degrees by field of study, sex, race, percent with B.A. in same field as doctorate, postdoctoral activities, and marital status.

1973-present


Total medical school enrollment by class level, sex, citizenship, and race.

1969-present

Association of American Medical Colleges. Datagram.

Percentage distribution of medical students by socioeconomic background and by race.

1976

Association of American Medical Colleges. Datagram.

Number of female students and graduates of medical schools.

1915-60 (quinquennial), 1961-present

Association of American Medical Colleges. Datagram.

Number of female applicants and enrollees in medical schools.

1939-59 (decennial), 1964, 1969-present

Percentage minority enrollment in medical schools by race and class level.

1972-present


Geographical source of entering students in public and private medical schools.

1958-present


Mean medical college admission test scores of accepted applicants by sex and section of the test.

1954-present (irregular years)

Association of American Medical Colleges. Datagram.

Number of full-time students enrolled in health institutions by specialty.

1971-77


Women physicians serving in residencies by specialty and hospital affiliation.

1969-present

Black U.S. citizens serving in residencies by specialty and hospital affiliation.

1969-present


Number of foreign graduates in U.S. medical school programs by country in which medical education was originally given.

1969-present


Number of students admitted to medical schools with advanced standing by type of school and class level.

1968-present


Number of students repeating the academic year in medical schools by ethnic group and class level.

1974-present


Enrollment for advanced degrees in science and engineering by sex.

1959-76


Number of minority group students enrolled in American Bar Association approved law schools by race and class level.

1969-present

Total enrollment in law schools approved by the American Bar Association by sex.

1963-present


Total enrollment by sex, class level, and American Bar Association-approved status of law school.

1948-71