A. Overview of U.S. Health Market

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FOR TOPICS A.3 TO A.6 (NOT COVERED IN THE COURSE) SEE
A.1 U.S. Health Care Expenditures, Uses and Sources

These 2007 data are projections made in 2006 based on 2004 data.
For data see [www.cms.hhs.gov/NationalHealthExpendData/](http://www.cms.hhs.gov/NationalHealthExpendData/)
[Also see Health United States.]

A.1.1 Total expenditures in 2007

- $2,320 billion
- $7,600 per capita  (Based on population of 307 million)
- 16.8% of GDP  (Based on GDP of $13,800 billion).

Total Expenditures have risen dramatically and continuously this century.

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>% of GDP</td>
<td>3.5</td>
<td>5.1</td>
<td>7.1</td>
<td>8.8</td>
<td>12.0</td>
<td>14.8</td>
<td>16.8</td>
<td>20.0</td>
</tr>
</tbody>
</table>
A.1.2 Use of Funds in 2007

- 68% of funds are used in hospital care, physician services, and drugs and products.

<table>
<thead>
<tr>
<th>Category</th>
<th>$/Capita</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital Care</td>
<td>2585</td>
<td>34</td>
</tr>
<tr>
<td>Physician and Clinical</td>
<td>1650</td>
<td>22</td>
</tr>
<tr>
<td>Prescription Drugs &amp; Supplies</td>
<td>980</td>
<td>13</td>
</tr>
<tr>
<td>Other Professional</td>
<td>760</td>
<td>10</td>
</tr>
<tr>
<td>Nursing Home Care</td>
<td>470</td>
<td>6</td>
</tr>
<tr>
<td>Home Health Care</td>
<td>190</td>
<td>2</td>
</tr>
<tr>
<td>Administration Costs</td>
<td>540</td>
<td>7</td>
</tr>
<tr>
<td>Public Health</td>
<td>240</td>
<td>3</td>
</tr>
<tr>
<td>Research</td>
<td>240</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>7560</td>
<td>100</td>
</tr>
</tbody>
</table>

Expanded description of some categories:
- Other Professional is dental, other professional care, and personal health care.
- Administration Costs = Government Administration + net cost of private health insurance

Health employs ten percent of the workforce including professionals:
- 800,000 physicians
- 400,000 dentists, optometrists, pharmacists, pediatricians
- 2,200,000 registered nurses
A. Overview

A.1.3 Source of Funds in 2007

- Approximately 47% public (Medicare/Medicaid) and 53% private.
- Only 11% is out-of-pocket (self-pay including coinsurance and deductibles).
- These figures understate government role as they ignore the tax deductibility of health insurance premiums. (Also health insurance of govt. employees is treated as a private source).

![Pie chart showing source of U.S. health funds in 2007]

<table>
<thead>
<tr>
<th>Category</th>
<th>$/Capita</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medicare</td>
<td>1440</td>
<td>19</td>
</tr>
<tr>
<td>Medicaid</td>
<td>1130</td>
<td>15</td>
</tr>
<tr>
<td>Other public</td>
<td>950</td>
<td>13 (47)</td>
</tr>
<tr>
<td>Private</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private insurance</td>
<td>2620</td>
<td>35</td>
</tr>
<tr>
<td>Out-of-pocket</td>
<td>850</td>
<td>11</td>
</tr>
<tr>
<td>Other private</td>
<td>550</td>
<td>7 (53)</td>
</tr>
<tr>
<td>Total</td>
<td>7560</td>
<td>100</td>
</tr>
</tbody>
</table>
A.2 Trends in U.S. Health Care Expenditures

A.2.1 Trends in Utilization

- Hospital days little changed but much more labor-intensive
- More physician visits

<table>
<thead>
<tr>
<th>Category</th>
<th>1929</th>
<th>1970</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Hospital days (per 100 people)</td>
<td>9</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td>Hospital employees per patient</td>
<td>&lt;0.5</td>
<td>3.1</td>
<td>8.2</td>
</tr>
<tr>
<td>Annual Physician visits (per person)</td>
<td>2.6</td>
<td>5.0</td>
<td>3.9</td>
</tr>
</tbody>
</table>

A.2.2 Trends in Use of Funds (as % of Total Expenditures)

- Switch away from physician, drugs and dental
- Switch to hospital and nursing home care

<table>
<thead>
<tr>
<th>Category</th>
<th>1929</th>
<th>1970</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital</td>
<td>23</td>
<td>36</td>
<td>34</td>
</tr>
<tr>
<td>Physician</td>
<td>36</td>
<td>20</td>
<td>22</td>
</tr>
<tr>
<td>Drugs and Products</td>
<td>18</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>Products</td>
<td>3</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Nursing Home</td>
<td>0</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Home Health</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Dental</td>
<td>12</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Other personal</td>
<td>1</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Administration</td>
<td>3</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Public Health</td>
<td>3</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Research</td>
<td>1</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>
A.2.3 Trends in Source of Funds (as % of Total Expenditures)

- Dramatic switch away from out-of-pocket
- Dramatic switch to private insurance and more recently government.

<table>
<thead>
<tr>
<th>Category</th>
<th>1929</th>
<th>1960</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Out-of-pocket</td>
<td>81</td>
<td>49</td>
<td>11</td>
</tr>
<tr>
<td>Private insurance</td>
<td>2</td>
<td>22</td>
<td>35</td>
</tr>
<tr>
<td>Government</td>
<td>14</td>
<td>25</td>
<td>47</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

A.2.4 Other Trends

- Medical care annual inflation rate is above that for all items CPI but is hard to measure due to improvements in quality and new goods and services.
- Health care expenditures average around 10 percent of GDP in OECD countries.
- U.S. has the largest expenditures in the world, due to higher base and higher growth rates.

A.2.5 Timeline of Major Innovations in Health in the U.S.

- Late 1800's more scientific medical practice and education begins in Europe, especially Germany.
- 1880's Johns Hopkins Medical School established in the U.S.
- 1910 Flexner Report leads to switch to scientific Medical Schools in the U.S.
- 1930's Blue Cross established for hospital insurance.
  1930's Blue Shield established for medical insurance.
- 1965 Medicare established for people over age 65.
  1965 Medicaid established for needy people.
- 1990's movement to managed care, including health maintenance organizations.
- 2000’s more managed care but less HMO’s and more PPO’s and POS

A.2.6 Current Issues

- Affordability: Rapid increase in health insurance premia in early 2000’s
- Access: 50 million uninsured
- Quality: Viewed as high but some questions e.g. hospital deaths due to error.
- New technology: Improves quality but increases costs
A.3 Literature

This area is rapidly growing, more so than virtually any other area of economics.

Research even a couple of years old may already be superseded. Minimize time looking at old references. As quickly as possible find the recent literature, then work back.

The main UCD library for health is the Health Sciences library.
Other libraries are Shields and the MedCenter library at UCDMC in Sacramento.
See also http://www.econ.ucdavis.edu/faculty/cameron/e132/othhlth.html

A.3.1 Databases

Databases to find articles include:

MEDLINE  www.pubmed.gov  [Citations from MEDLINE and other life science journals]
ECONLIT  Electronic data base accessed through UCD Library website www.lib.ucdavis.edu

A.3.2 Journals

Many of the following journals are available on-line from a university IP address.
You should check via  http://www.lib.ucdavis.edu  as online access changes over time.

Health Affairs is an especially good journal to look at first as it is current, topical and accessible.

Health Economics Journals:

Health Affairs  http://healthaffairs.org  Online article access via UCD IP.
Health Economics  Online at UCD. More technical academic journal.
Journal of Health Economics  Online at UCD. More technical academic journal.

Health Services Journals:

Health Care Financing Review  HealthSci W1 HE183
Health Services Research  HealthSci W1 IN387
Inquiry  HealthSci W1 HE340
Milbank Quarterly  HealthSci W1 MI600 (to 1991 only); Shields HV97 M62
American Journal of Public Health  HealthSci W1 AM 441; Shields RA421 A5

Medical journals that include health economics and health policy are:

Journal of American Medical AssocenHealthSci W1 J379
Shields R15 A5

New England Journal of Medicine  HealthSci W1 NE668

Medical Care  HealthSci W1 ME230
A.3.3 Working Papers

*NBER Working Papers* [http://www.nber.org](http://www.nber.org) Has much of the best current academic research. The working papers can be downloaded free, provided you connect via a university IP address.

A.3.4 Textbooks

Most health economics texts were first written after 1990. The following list has most (all ?). Few of these are at UCD libraries, but most are at Berkeley.


A.4 Sources for Aggregate Data

Annual expenditure data are collected by the Centers for Medicare and Medicaid Services (CMS), website http://www.cms.hhs.gov/NationalHealthExpendData/. Formerly HCFA, the CMS is the federal agency that administers the Medicare, Medicaid and Child Health Insurance Programs and is part of the U.S. Department of Health and Human Services (DHHS).

Additional health data are collected by the National Center for Health Statistics (NCHS), website www.cdc.gov/nchs/. NCHS is charged with collecting health statistics and has many surveys, including the annual National Health Interview Survey. NCHS is part of the U.S. Department of Health and Human Services.

Some data is also gathered by the Agency for HealthCare Research and Quality (AHRQ), with website http://www.ahrq.gov/. Formerly AHCPR, AHRQ is part of the U.S. Department of Health and Human Services.

Health data are published with a lag of one-two years. Main sources (all annual) are:

- **Statistical Abstract of the United States**
  This is the best initial data source and includes key data from the other sources below. Published by Bureau of the Census (www.census.gov/), part of the U.S. Department of Commerce, with a two-year delay. e.g. 1998 edition has data for 1996. Available in Shields library HA202 S73 and HealthSci library.

- **Health United States**
  Published by National Center for Health Statistics (www.cdc.gov/nchs/), part of the U.S. Department of Health and Human Services, with a one-year delay. Available in Shields library RA407.3 A3 and HealthSci library W2 AN148h.

- **Health Affairs**
  Beginning in 1998 this has an issue that includes an article on HCFA estimates of past annual expenditures and an article on HCFA projections for future expenditures. Available in Shields library RA410 A1 H36 and HealthSci library ZW84 AA1 H42. Also online at http://healthaffairs.org via UCD IP address.

- **Health Care Financing Review**
  Published by Health Care Finance Administration. Available in HealthSci library W1 HE183 and from website www.cms.hhs.gov/.

- **Employee Benefit Research Institute (EBRI)**
  Extensive data on health benefits received by employees. http://www.ebri.org/

- **Kaiser Family Foundation**
  Extensive data on health insurance and the uninsured. http://www.kff.org/

Some of these publications, e.g. Health United States, can be downloaded free over the internet. Go to the agency website or use the Melvyl catalog to obtain a more detailed website.
A.5 Individual-level Data Sets

See "Appendix 1: Sources and Limitations of Data" in the annual publication *Health United States* for a list and summary of the various data sets used in preparing that publication.

Many (all ?) of the data sets can be obtained through Inter-university Consortium for Political and Social Research (ICPSR). See the website [http://www.icpsr.umich.edu](http://www.icpsr.umich.edu) for a list of data sets. (At U.C. Davis the Institute for Governmental Affairs can help in obtaining ICPSR data). The *ICPSR Guide to Resources and Services* gives a fairly detailed summary of these data sets.

Increasingly additional surveys are sponsored by organizations such as The Robert Woods Johnson Foundation. *Health Affairs* has a section on data sets.

### A.5.1 Cross-Section Data Sets

- National Health Interview Survey
  Conducted by the National Center for Health Statistics
  Best annual survey. About 120,000 persons. Not longitudinal.

- Many other data sets also conducted by the National Center for Health Statistics.
  See the website [www.cdc.gov/nchs/](http://www.cdc.gov/nchs/).

### A.5.2 Panel Data Sets

These follow the same individuals for many years and are preferred.

- Medical Expenditure Panel Survey (MEPS), beginning 1996.
  Conducted by the Agency for Health Care Research and Quality (AHRQ).
  This superseded NMES. It has five rounds of interviews over a 2 1/2-year period.
  These data are then linked with additional information collected from the respondents' medical providers, employers, and insurance providers. This series of data collection activities is repeated each year on a new sample of households, resulting in overlapping panels of survey data.

  Conducted by the Agency for Health Care Policy Research (AHCPR).
  Most detailed expenditure data. Five rounds of interviews at 4 month intervals. 35,000 persons. Not an annual survey.

- Rand Health Insurance Study
  Major experiment in late 1970's where 7,000 people randomly assigned to different health insurance policies and followed for several years. Results used a lot as policy input.

- Panel data sets used in labor economics and can have some limited data on health:
  - Survey of Income Program and Participation (conducted by Bureau of Census for BLS).
  - National Longitudinal Surveys (conducted by Ohio State University and NORC)
  - Panel Survey of Income Dynamics (conducted by University of Michigan).
A.6. Other Health Resources

A very useful resource is the web-site http://www.healthfinder.gov/
This is a free gateway to reliable consumer health and human services information website
developed by the U.S. Department of Health and Human Services. It provides link to selected
online publications, clearinghouses, databases, and web sites.

A.6.1 Government Agencies

- Centers for Medicare and Medicaid Services (CMS), in Department of Health and Human
  Services (DHHS). Website www.cms.hhs.gov/
  Runs Medicare and Medicaid. Produces Health Care Financing Review.

- National Institutes of Health (NIH) in DHHS.
  Finances most health research. Website www.nih.gov/.

  (formerly Agency for Health Care Policy Research (AHCPR)
  Runs the National Medical Expenditure Services. Finances much health economics research.

- National Center for Health Statistics (NCHS) in DHHS. Website www.cdc.gov/nchs/.
  Runs the National Health Interview Survey and many other surveys. Produces Health U.S.


A.6.2 Sources of Research Funding

The following list is a partial list.

National Institutes of Health. By far the biggest funding agency.
Economists particularly look to National Institute for Aging and National Institute for Child
Health and Human Development.

Agency for HealthCare Research and Quality
Major source for health economists. And has annual dissertation support program (deadline Jan).

Health Care Financing Administration
Has annual call for large projects.

Robert Woods Johnson Foundation
Major private foundation source. And has postdoctoral fellowship program in health policy.

Kaiser Family Foundation
Includes useful policy studies on web site.

California Healthcare Foundation
Created from privatization of California Blue Cross / Blue Shield in 1996.