

THE U.S. MEDICAL LABORATORIES INDUSTRY
(April 2010 - 10th Edition)

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<u>Nature & Characteristics of The Industry:</u> Discussion of industry characteristics, influence of government agencies, routine vs. esoteric tests, in-hospital, commercial and physician-office labs, how tests are processed, lab facilities (regional labs, sales ports, collecting stations, etc.), industry structure, lab marketing and advertising practices.	
* <u>Highlights of ALL chapters:</u> Discussion of 2007-2009 key industry trends & developments, discussion of industry consolidation, market size (1993-2008 actual, 2009-2010 estd., 2010-2013 forecasts), share of mkt. by hospitals, commercial labs, POLs, home test mkts., size/outlooks for the major test mkts. (Pap tests, drug tests), nature/size of esoteric test mkt. industry structure & key operating ratios of medical labs, industry profitability. Includes tables, opinions of brokerage analysts, industry consultants, recent legislative developments.	
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* Discussion of industry size as estimated by: brokerage firm analysts, major lab chains, consulting firms, government sources - merits/limitations of each.	
* Government Census: commercial lab receipts (1980-2008), annual percent changes, analysis	
* Competitor & brokerage analyst estimates of industry size, comparison, discussion (1999-2007), receipts as % total health care expenditures	
* Marketdata estimates of industry size: 1993-2008, industry demand factors, effects of recession, forecast for 2009-2013 for lab receipts & healthcare expenditures	
* Industry receipts by test segment (routine, esoteric, anatomic pathology (1999-2009, 2010-2013 projections, in dollars and as % total industry)	
* Major test segments, receipts as % of total industry: 1999-2013F	
* Major test provider share of industry sales: breakdown by: hospital labs, independent commercial labs, physician office labs, other (1999-2009, \$ and % of total, 2013 projections)	
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* Summary of Pap screening, evolution of guidelines from 1990s to date	
* Analysis of new technologies boosting growth of this segment: Cytyc's <i>ThinPrep</i> test vs. AutoPap test by Tripath Imaging, DNA Pap test by Digene, etc.	
* Profiles/descriptions & Revenues of Hologic (Cytyc), Digene , Tripath Imaging -(2009/2008 Revenues)	
* Demographics of users: results of <u>Prevention Index</u> survey (frequency of testing: 1987-95, demographics), Natl. Health Interview Survey (demographic profile of women tested)	
* Market Size: Marketdata & competitor estimates of no. of tests performed and \$ value, historical and current year, growth rate, avg. prices,	

- * **Who performs Pap tests?**, public vs. private sector (Planned Parenthood tests 1986-2007)
- * Discussion: Can existing professionals handle the work volume? No. of cytology training programs, rebound since 1988, salaries/vacancy rate of cytotechs, daily workload limits, recent reforms, discussion of past error rates, poor work/screening practices

The Workplace Drug Testing Market (\$300)

78-109

- * Estimated cost of drug abuse in the U.S. workplace, societal costs
- * Size/growth rate of testing, no. of tests done, scope of drug testing in U.S. today, estimated no. of workers tested, transportation workers (NIDA, trade journals opinions, AMA)
- * **Types of drug tests used** (urine, blood, hair), shift to hair and saliva analysis - discussion of new emerging tests, changes in Federal testing planned (SAMHSA)
- * **Trends in drug use:** latest 2008 findings of Quest Drug Testing Index (1988-2008), decline in amphetamine usage, test positive rate trends

Table: annual positivity rates for U.S. workforce: 1988-2008

Table: positivity rates, by type drug: 2002-2008, by testing reason: 2002-2008

Market size: Marketdata estimates of drug test mkt. \$ value,/growth for 1989-2009, demand, outlook to 2013 F-negative effects of a recession and hiring on mkt., reasons for flat growth, major competitors involved, avg. test costs

Table: Estd. Revenues of the top 5 drug testing companies: 2004-2008

- * The home drug test market. Nature of, Mkt. size estimates, Phamatech, First Check
- * **Testing by the insurance industry:** Discussion of Lab One, Clinical Reference Labs, Osborn Labs - estimated shares of market, mkt. size in \$
- * Major findings of AMA Drug Testing Survey (2004 is latest): prevalence of testing, by corporations, testing of current employees, new hires, test-positive rates, employer actions, avg. cost per employee, effectiveness, testing methods used, etc.
- * 2004 AMA survey results: workplace medical testing, 1997-2003 trends: tables for... testing rates by companies for new hires/current workers, reasons for drug testing, historical data
- * The private sector - worker privacy issues, court rulings, random testing, state policies
- * The public sector - DOT/transportation worker testing (regulated industries): labs qualified by SAMHSA, certification requirements

List: Name, address, phone no. of the 48 labs certified by NIDA for federal testing.

Competitor Profiles (in-depth descriptions, estd. and actual drug test revenues, etc.) for: Quest Diagnostics, Lab Corp. of America (and LabOne), Medtox Scientific. (2008 revenues)

The Esoteric Test Market (\$400)

110-135

- * Discussion of what defines esoteric vs. routine tests, no. of labs performing, major trends emerging, discussion of Medicare reimbursement
- * Coverage of latest mkt. developments, constraints & positives for growth
- * Competitor & brokerage analyst estimates of esoteric vs. routine, other test segments
- * Discussion of Genzyme Genetics report re genetic testing mkt. (2001-2005)
- * **Market size/growth:** sources of data (The Dark Report, Lab Industry Report, Genzyme, Marketdata research, estimates), analysis of mkt. \$ size and rationale for estimates. Analysis of growth - 2000-2009 mkt. size estimate, 2010 & 2013 forecasts.
- * Ranking of top companies in the market: 2006 vs. 2009 (Marketdata estimates or actual sales),
- * The 7 main classes of esoteric tests (oncology, immunology, toxicology, genetics, hematology, etc.)

The Esoteric Test Market (continued)

Tables

- * Industry receipts, by: routine, anatomic pathology, esoteric: 1999-2013F (\$ and % of total)
- * Esoteric tests, by kind: \$ receipts 2003, 2005, 2009 (endocrinology, genetics, immunology, infectious disease, oncology, serology, toxicology)

Competitor Profiles

(address, capabilities, specialties, no. of tests performed, revenues-when available) for: ARUP, American Esoteric Labs/Sonic Healthcare, Bio-Reference Labs, Clinical Pathology Labs, Genzyme, LabCorp of America (Esoterix, Dianon, Viroed, Dynacare), Mayo Medical Labs, Medtox Scientific, Quest Diagnostics (AML, Ameripath, Unilab, LabOne) – 2004-2009 revenues.

Physician-Office Labs (\$150)

136-143

- * Discussion of estimated number in U.S., growth/decline, regulations that have cut their share of industry revenues, estd. current share of industry receipts in 2009 effects of CLIA on group practices, historical investigations about overuse of lab tests, conflicts of interest, debates, etc. Brokerage firm estimates.

Tables:

- No. of POLs, by lab type (2009 CMS data)
- POLs, by CLIA certification type (2006)
- No. of labs, by type/location of facility (2009 CMS data)
- No. of all labs and POLs, CLIA registered: 1993-2009
- POLs, by application type: 1995-2005
- Annual receipts and avg. receipts per POL: 1999-2006, projected 2007-2013

Structure & Operating Ratios Of The Commercial Lab Industry (\$300)

144-179

- * Discussion of 2007 Census data- data available so far, status of reporting & Industry snapshot: 1987-2007, key ratios
- * Summary and discussion of key findings: no. of US labs, 1982-2007 20-year industry ratios summary, single vs. multi-unit operations, legal form of organization, ratios by receipts size of company & establishment (lab), top 50 firm's mkt. share levels, geographic analysis/receipts by state (1997 vs. 2002 Census data), financial health/composite industry balance sheet ratios

Tables:

- * 20-year summary of industry structure: 1987-2007
- * Medical labs' sources of revenue, by kind: 2006-2008
- * Non-employer stats. For 2002, receipts, by legal form of company
- * Medical labs, by legal form of organization: 2002, 1997 & 1992 (corporation, individual proprietorship, partnership, etc.)
- * Industry concentration ratios: 2002, 1997 & 1992
- * Medical labs, by annual receipts size of FIRMS: 2002, 1997 & 1992, (no. of firms, labs, receipts, as % total industry)
- * Medical labs, by receipts size of FIRMS (under \$100,000/yr.-\$100+ mill.): 2002, 1997 & 1992, receipts, annual payroll as % receipts, no. of employees)
- * Medical labs, by receipts size of ESTABLISHMENTS (under \$10,000/yr.-\$10+ mill.): 2002, 1997 & 1992, receipts, annual payroll as % receipts, no. of employees)
- * Labs' ratios (as above) by single vs. multi-unit operations: 2002, 1997 & 1992
- * No. of medical labs, **by state**: 1997 vs. 2002 vs. 2007
- * No. and receipts of labs, avg. receipts per lab, by state: 1997 vs. 2002
- * Receipts of medical labs, ranked by state (1992, 1997, 2002)
- * No. & receipts of non-employer labs, by state: 2007
- * Composite financial statement for medical labs as a group- average balance sheet & income statement/key ratios: 2005-2009

Lab Staff Issues: Salaries, Vacancy Rates, Turnover (\$250)

180-197

- * Results of 2008 ASCP/Lab Medicine Magazine Survey:
 - Discussion of hourly wages and % increases in beginning/avg. pay scales: medical technologists, cytotechs, histologic techs, ML techs, phlebotomists, national data:2000-2005 comparisons.
- * U.S. Bureau of Labor Statistics data: employment of lab techs/technologists: 2000-2008, no. employed and avg. annual income, 2007-2014 projections
- * ASCP 2008 Wage & Vacancy survey, major findings
- * Medical Technologists & Medical Technicians employment & mean income (2000-2008)
 - Table: Avg. hourly wages, by 12 lab staff positions: 2003, 2005
 - Table: Vacancy rates, by 12 lab positions: 2000-2008
 - Table: No. of month to fill vacant positions
- * Summary of ASCT salary survey, 2008, cytotech vs. other positions, yearly salaries
 - Table: Hourly salary range, by lab position
 - Table: Hourly salaries, by region
 - Table: No. of cytotech vacancies per lab
 - Table: No. of years in the field, in current position, in current lab.

Medical Lab Observer Magazine 2003-2009 survey highlights:

- * Summary & discussion of, tables for:
 - Annual salary, medians: 2003-2009, by 7 job types, staff & supervisory
 - Annual salary, medians: 2003-2009, by region
 - Annual salary, medians: 2003-2009, by education
 - Annual salary, medians: 2003-2009, by years in the field
- * Discussion of medical lab staff training programs

Tables:

- no. of accredited cytotechnology programs: 1976-2000
- grads from accredited programs: 2001-2004, annual increase in workforce
- projected yearly increase in medical lab techs 2005 to 2014

Company Profiles - The Top Industry Competitors (\$300)

198-222

(For most companies below: historical development of firm, kinds of tests performed, 2006-2009 financial performance, 2010 guidance, divisional breakdowns and structure, recent mergers, acquisitions or joint ventures, marketing agreements, company strategies, etc.)

- * AmeriPath (Quest)
- * Associated Regional & University Pathologists
- * Bio-Reference labs
- * Clinical Pathology Labs (Sonic Healthcare)
- * Laboratory Corp. of America Holdings
- * Mayo Medical Laboratories
- * Quest Diagnostics
- * Spectrum Laboratory Network
- * Sonora Quest Laboratories

Reference Directory Of Industry Information Sources

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(Lab industry trade associations, trade journals, consulting firms, government agencies, special reports and surveys, stock analysts, etc.), address, phone, key contacts