

# TEN MAJOR TRENDS FACING THE HEALTHCARE INDUSTRY IN THE AMBULATORY SPACE ON A FIVE-YEAR HORIZON

CompuGroup Medical User Conference  
October 18, 2016

---

Bruce A. Friedman, M.D.  
Emeritus Professor of Pathology  
University of Michigan Medical School  
Ann Arbor, Michigan

Email: [friedman@labinfotech.com](mailto:friedman@labinfotech.com)

Blog: [www.labsoftnews.com](http://www.labsoftnews.com)

Twitter: [@labsoftnews](https://twitter.com/labsoftnews)

# Framing the Lecture

- ✓ Will start by listing my personal choices for top ten healthcare trends on a five-year horizon with some focus on labs and IT.
- ✓ Following each trend, I will list, in a second slide, what I foresee as the implications of each for the lab industry.
- ✓ In some cases, I will also next list opportunities & challenges that may arise from the trend for providers and vendors.
- ✓ Will focus on ambulatory care but healthcare is an ecosystem; what happen in the world of hospitals effects on ambulatory care.
- ✓ My natural instincts are to pay the most attention to what is happening in lab/diagnostic medicine & information technology.

# Four C's of the New Healthcare Model

Care

Cost

Connectivity

Convenience

# Major Trend #1

## “Big Medicine” Extends Its Domination over Healthcare Industry

“Big Medicine” emerges in full flower, encompassing health systems, ambulatory care, insurance companies, big pharma, federal government, and PBMs.

# Implications of Major Trend #1 (Big Medicine)

- Some health systems will *outsource* all lab functions to national reference labs, emphasizing cost reductions.
- Many of these latter organizations tend to view labs & radiology as cost centers rather than mission critical.
- Other systems will insource labs to their own labs to maintain control & quality; view diagnostics as critical.
- All major software buy decisions generated in C-suites, sometimes with pathology input, but step may be skipped.
- CIOs tend to favor “enterprise-wide solutions” unless strong functionality/cost case can be made against this approach.

# Opportunities & Challenges of Major Trend #1 (Big Medicine)

- ✓ Emergence of “Big Medicine” changing the culture of healthcare; corporate ideas will dominate thinking.
- ✓ May be challenging because some execs will be biased against smaller companies; favor major EHR vendors.
- ✓ Healthcare executives rarely willing to pay *solely* for quality improvements; assume that addressed by professionals.
- ✓ Software vendors must translate their product functionality advantages into bottom-line factors during sales calls.
- ✓ Sales and marketing strategies of medical software companies thus need to be examined for direction/relevance.

## Major Trend #2

### Healthcare Payers Demand Cost Reductions

Continuing and significant cost-containment pressures exercised by payers with special emphasis on all diagnostic services driven, in part, by MACRA. Fee-for-service fades away over multi-year horizon.

# Implications of Major Trend #2 (Cost Containment)

- ✓ Overriding goal for providers under value-based care will be pursuit of right test, right patient, right time.
- ✓ High lab test volume becomes the enemy whereas this approach was winning strategy under fee-for-service.
- ✓ Cost containment *should* favor “integrated diagnostics” with more attention to orders and integrated reports.
- ✓ Clinicians and execs will seek advice from lab professionals about fastest path to correct diagnosis.
- ✓ Health insurance companies beginning to buy provider organizations to gain more control over expenses.

# Opportunities & Challenges of Major Trend #2 (Cost Containment)

- ✓ Extract more information from a smaller number of test results using by applying “deep learning” technologies.
- ✓ Ambulatory care less expensive than inpatient care; admission to hospital will become an unusual event.
- ✓ More attention needs to be paid to integrating diagnostic reports (pathology + labs + radiology) to enhance value.
- ✓ In these diagnostic reports, less emphasis on tabular array of data; more on recommended diagnostic path.
- ✓ Greater use of predictive analytics using algorithms to predict a diagnosis earlier in clinical workup of patient.

## Major Trend #3

### Changes in Configuration, Design, and Purpose of Hospitals

Emergence of bedless hospitals equipped mainly with critical care beds. Greater emphasis on outpatient surgery. Many of these facilities will function as “command centers” for management of telemedicine visits and remote critical care beds.

# Implications of Major Trend #3 (Hospital Design)

- ✓ Bedless hospitals don't necessarily equate to labless hospitals; only patients will be migrating centripetally.
- ✓ “Command centers” will include large and complex clinical labs, often servicing the entire health system.
- ✓ Look for the emergence of stand-alone emergency & critical care centers, some also with critical care beds.
- ✓ These emergency & critical care centers will support MDs & nurses who help manage remote virtual ICUs.
- ✓ New paradigm required to coordinate care between ambulatory care sites and these command centers.

# Opportunities & Challenges of Major Trend #3 (Hospital Design)

- ✓ Most of current cost of healthcare can be attributed to lifestyle choices by patients; these are avoidable costs.
- ✓ Future hospitals & ambulatory care centers will place more emphasis on preventive medicine & wellness.
- ✓ “Command center hospitals” & office practices will include facilities like fitness centers and yoga studios.
- ✓ Payers will provide greater reimbursement for preventive medicine and wellness activities; future cost avoidance.
- ✓ Huge retraining efforts required of all current healthcare professionals; now trained to diagnose/treat disease.

## Major Trend #4

### Telemedicine Becomes “New Normal”

Telepresence health services will expand as part of the healthcare decentralization process away from hospitals and closer to consumers.

# Implications of Major Trend #4 (Telemedicine New Normal)

- ✓ Substituting IT for bricks-and-mortar facilities creates more flexibility in planning for expansion of services.
- ✓ Less innovative organizations will resist this trend because it involves major changes in healthcare culture.
- ✓ Reimbursement lagging now but payers will ultimately endorse as soon as approach shown to be cost-effective.
- ✓ Harmonizes well with consumer-directed care and decentralization of healthcare delivery services.
- ✓ Will place training burden on healthcare providers; younger professionals used to to this practice “style.”

# Opportunities & Challenges of Major Trend #4 (Telemedicine New Normal)

- ✓ Teleconsultations create new challenges for lab testing; patients not available for blood draws in office.
- ✓ Harmonizes with increasing interest in direct access testing (DAT) with patients ordering their own lab tests.
- ✓ Look for more blood drawing centers in retail drug store walk-in clinics; expect changes in LabCorp/Quest PSCs.
- ✓ Look also for greater variety of POC testing devices with lower cost-per-test; intense competition for central labs.
- ✓ Challenges of interfacing these small blood drawing & testing centers with EHRs; emphasis on interoperability.

# Major Trend #5

## Majority of MD's Becoming Health System Employees

Decreased number of physicians entering private practice with the majority functioning hospital employees. Hospital C-suites will control most modes of medical practice including quality and IT. Influence of medical societies will decrease. Aging-out of large percentage of lab professionals.

# Implications of Major Trend #5 (MDs as Health System Employees)

- ✓ Healthcare quality issues will be driven mainly by the C-suite with some oversight by accrediting agencies
- ✓ Physicians and medical society influence over quality will wane as more MDs become employees.
- ✓ Because of C-suite focus on bottom line, will be difficult to sell products mainly on basis of quality improvements.
- ✓ Software products will need to generate cost reductions as their primary goal in addition to quality enhancements.
- ✓ Vendors need to provide current and future clients with definitive proof of cost savings created by their products.

# Opportunities & Challenges of Major Trend #4 (MDs as Health System Employees)

- ✓ Reduction in the number of physician-owned practices will have major effects on physician office IT strategies.
- ✓ Hospital CIOs prefer to interact with large vendors and standardize the hardware in machine rooms.
- ✓ Large health systems will seek to harmonize their office physician practice EHRs with hospital EHRs.
- ✓ This change will favor large EHR vendors like Epic and Cerner but products often too complex for offices.
- ✓ Change will improve quality of some lagging office practices as they adopt more standardized approach

# Major Trend #6

## Sicker Patients Gravitate to Ambulatory Care & Telemedicine Settings

As hospitals evolve as “command centers” and telemedicine improves with remote telemetry, it will become more common and expected to manage sicker patients in office settings and remotely in their homes.

# Implications of Major Trend #6 (Sicker Patients in Ambulatory & Telemedicine Settings)

- ✓ Sicker patients moving centrifugally will change nature of office practice and demands on office personnel.
- ✓ Physician-to-physician links will need to be established between office practices and hospital command centers.
- ✓ Analogous to recent trends in outpatient surgery with increasingly more complex procedures performed.
- ✓ New technology will emerge that will enhance diagnostic abilities and tools available to office-based physicians.
- ✓ Good example: deployment of portable ultrasound devices; ultrasound becomes part of normal exam.

# Major Trend #7

## Consumerism Drives Decentralization of Healthcare

Central clinical labs are particularly vulnerable as lab testing becomes more decentralized. Consumers, who tend to be very enthused about lab testing, seize the opportunity to take more control over their health management.

# Implications of Major Trend #7 (Consumerism Drives Decentralization)

- ✓ Majority of patients will not be looking for any major changes; will not make any new demands on system.
- ✓ Younger consumers better versed in new information technology and opportunity to make more choices.
- ✓ Look for expansion of direct access testing (DAT) industry; laws prohibiting in states falling rapidly.
- ✓ Decentralization & disintermediation of many common lab tests; esoteric tests continue in central labs.
- ✓ Will be accelerated if/when drug store chains place emphasis on lab testing as feature of their walk-in clinics

# Major Trend #8

## Wearables Devices & Home Mini-Labs Gain Broad Acceptance

Health wearables and sophisticated home mini-labs emerge as mature products. Patients will monitor their health status frequently and self-refer for problems they can't manage personally. Will upload test results to cloud-based personal medical records.

# Implications of Major Trend #8 (Wearables/Home Labs)

- ✓ First step is to try to imagine in what direction “health wearables” are headed; start with Fitbit devices.
- ✓ Will move from pulse and exercise measurements to complete vital signs, EKGs, and pulse oximetry.
- ✓ These results will be stored on cell phones and also uploaded to personal health records in the cloud.
- ✓ Measurements will be linked with interpretive and predictive analytics; foretell future health problems.
- ✓ Professionals working in command centers will monitor selected patient data and intervene when necessary.

# Opportunities & Challenges of Major Trend #8 (Wearables/Home Labs)

- ✓ Will need to understand how to interact with patients who have generated much of their own personal data.
- ✓ In time, insurance companies and health systems may purchase home-monitoring devices for patients.
- ✓ Most important bottom-line issue will be diminution in readmission rate; hospitals penalized now if too high.
- ✓ Increasingly large amounts of money will be allocated to preventive medicine and less to disease treatment.
- ✓ Wearable market will be driven more by Silicon Valley and less by well-known medical device manufacturers.

# Major Trend #9

## Precision Medicine as Mature Discipline

Precision medicine and genomics emerge as mature disciplines. Every patient will have their whole genome scan (WGS) as part of their on-line medical record with constant updates required about predisposition to disease.

# Implications of Major Trend #9 (Precision Medicine as Mature Discipline)

- ✓ Cancer genomics and immunotherapy have become standard of care; success with very high cost for drugs.
- ✓ Cancer cells analyzed to determine which is the most effective drug based on cells' genetics weaknesses.
- ✓ So much money at stake that pharma companies trying to exert more influence at lab testing stage.
- ✓ Regarding WGS, major costs not in genomic testing but rather related to ongoing data analysis.
- ✓ Dilemma of data transparency for patients; many will not want to know about their predisposition to diseases.

## Major Trend #10

### Health Networks Connect Providers, Patients, and Consumers

Health networks emerge, ultimately global, with cloud-based integrated individual records contributed to by multiple providers. Consumers can select their own providers based on credentials and expertise.

# Implications of Major Trend #10 (Health Networks)

- ✓ We need a network to tie together all of the disparate digital elements of our evolving decentralized system.
- ✓ Some EHR vendors have exacerbated the problem by creating proprietary files structures to hinder integration.
- ✓ Health system execs often favor current proprietary approach because it hinders healthcare shopping.
- ✓ Possible that only the federal government has political power and resources to develop national health network.
- ✓ In short term, growing health systems will be deploying their own networks; possible future coalescence.

# Take Home Points from Lecture

- ✓ Cost of healthcare has increased to unsustainable point for economy; fee-for service has exacerbated problem.
- ✓ Cost-containment measures now taking hold that will demand new approach; more efficient and effective.
- ✓ Healthcare economics favoring larger health systems that can compete and respond to payer demands.
- ✓ Rapid improvements in IT that promote decentralization of care & increased consumer power and choice.
- ✓ Health care delivery will change more in next ten years than in prior fifty; are you ready for this tsunami?