

## Vice President's Conversation on the Future

### Trend Research: Healthcare

#### Descriptor Definition

This descriptor white paper describes the current trends and challenges facing the health care system in the U.S. and Ohio that are creating market force and public policy demands for health system transformation. It then describes what changes health system transformation is likely to create for the health care system financing, delivery and workforce.

#### Authors Insights:<sup>i</sup> Descriptor Relevance

Health care is a leading economic sector in most Ohio counties and for the country as a whole. In 2012 U.S. health care spending reached \$2.8 trillion, accounting for 17.2% of the GDP or \$8,395 per person. This level of spending vastly exceeds all other industrial countries and provides significantly less value. This amount of spending does not include health care coverage for everyone and U.S. health outcomes lag behind other industrialized countries on most measures. These realities have created pressure to transform the healthcare system. Given how many people the health care industry employs, along with how important available and affordable, high quality health care is for each Ohioan, this transformation will have profound economic, social, and health effects for Ohio's citizens, businesses, health care providers and state and local government.

#### Trend Information and Interpretation

In addition to the impact that health care has on the health of Ohioans, Ohio's health care system touches Ohioans in multiple ways, including as workers, taxpayers, employers, and as an important economic engine for Ohio. According to data from the Bureau of Labor Statistics, 767,800 Ohioans worked in the health and social services sectors in December 2013 up from 727,300 in December 2009. These jobs accounted for 14.5% of total nonagricultural employment and 16.5% of the employment gain between December 2009 and December 2013. National employment projections estimates that total employment will increase by 15.6 million between 2012 and 2022 with healthcare and social services jobs accounting for over 5 million these new jobs.

Total health spending estimates at the state level are difficult to ascertain. The Ohio Business Roundtable (BRT) estimated total annual Ohio health spending to be roughly \$89 billion in 2006 rising to \$200 billion by 2018 unless significant reforms are implemented.

Healthcare spending varies greatly between and within states. In Ohio, total spending on Medicare Part A and B per enrollee for 2005 was \$7,893.18, below the national average but over \$1,900 more per enrollee than the lowest spending state (Oregon). Within Ohio's ten hospital referral regions, spending varied by over \$2,000 per enrollee, ranging from \$9384.27 in Elyria (which is higher than the average for the highest spending state) to \$7356.57 in Canton.

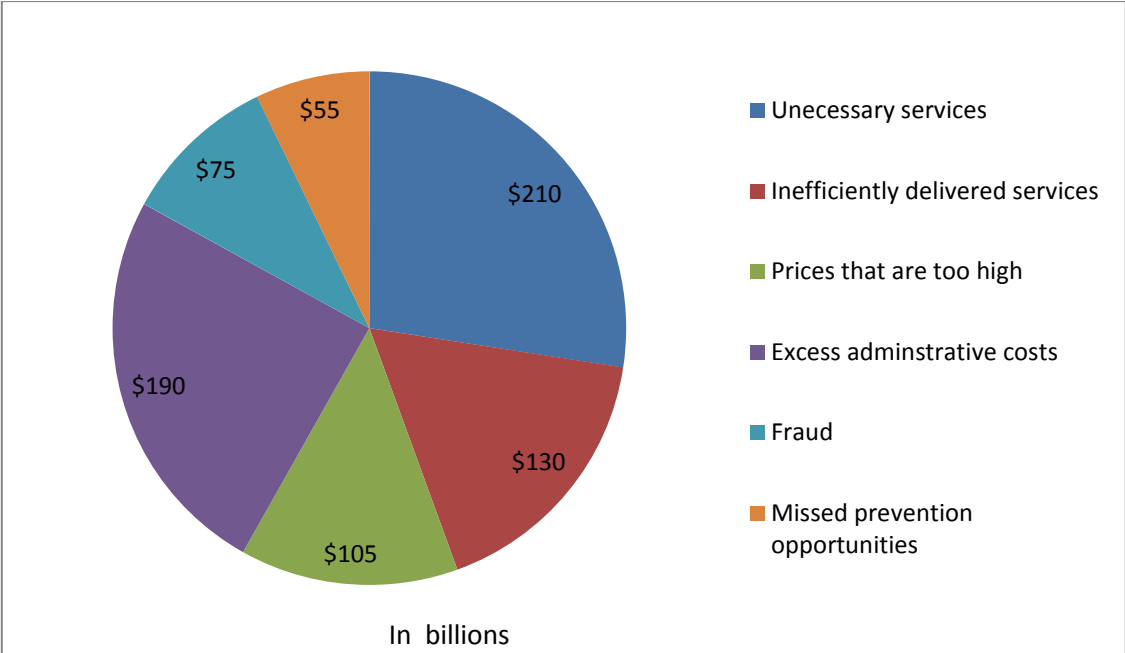


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Such variation would be of minimal concern if all of this spending produced value, but research from Jonathan Skinner and others associated with the Dartmouth Atlas indicate that areas with lower health spending have equal or better health outcomes than higher spending regions. Moreover, multiple studies indicate that upwards of 30 percent of all health care spending is of no value or creates negative value, equaling \$750 billion in 2012 (see figure below). The Midwest Business Group on Health analysis broke this waste into five areas: overuse; underuse; inappropriate use; administrative waste; and operational waste.

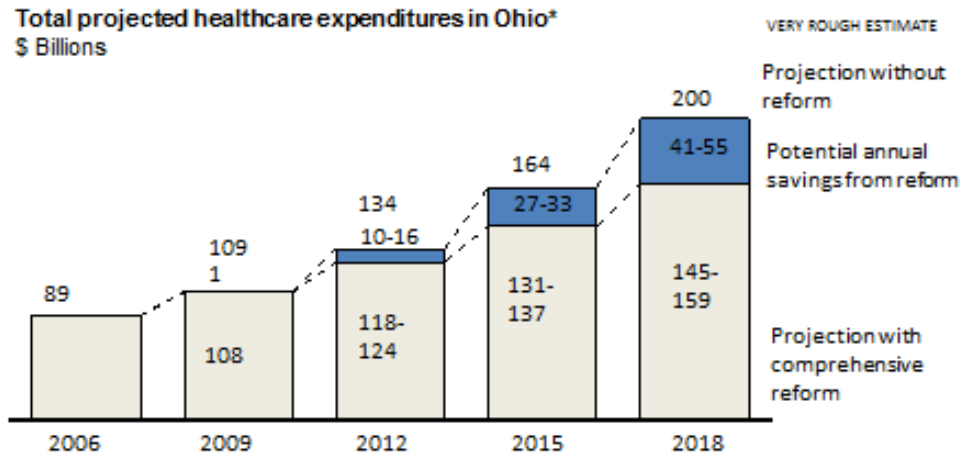
**Estimated Waste in the U.S. Health Care System By Source of Waste**



From Institute of Medicine, Better Care at Lower Cost. 2012. figure 8-1 page 231

The BRT report reached a similar conclusion. It examined Ohio’s health care system in eighteen areas and found waste and non-value added spending in each of these areas. Its report concluded that comprehensive health reform could result in total health care spending growing to between \$145 and \$159 million in 2018 versus \$200 million, a savings of between \$41 and \$55 million. Richard Stoff, CEO of the BRT noted that these potential savings are equal to total funding for the current state budget. Along with saving money, this report projected that its proposed reforms would increase access to coverage and health care while improving health care quality, affordability, and health outcomes.

## Aggressive Action Could Create \$50 Billion of Value Annually by 2018



\* Assumes all reforms are pursued within next 12 months and impact increases based on timing of specific opportunities

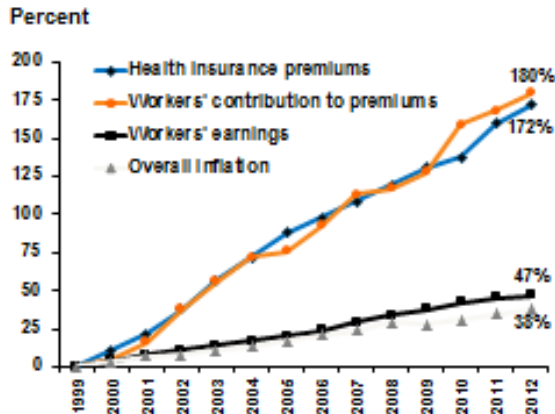
Source: Team analysis; Ohio Business Roundtable presentation at Ohio Health Quality Improvement Summit, Nov. 17, 2008

Ohio's health care system confronts multiple challenges if it is to become an affordable, high value, high performing system. One challenge is the lack of universal coverage. Over 1.27 million 18 to 64 year old Ohioans were uninsured in 2010 up from 1.07 million in 2004 (from 15 percent to 18.8 percent).

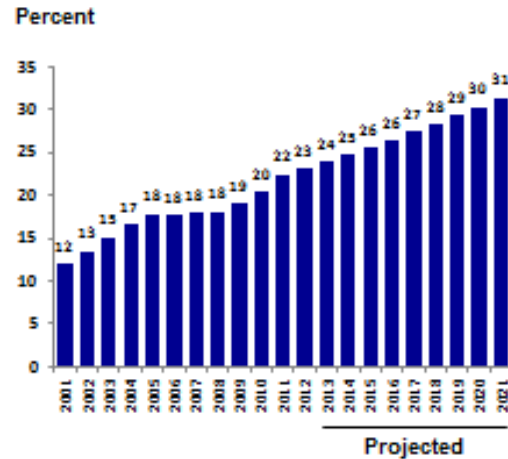
This increase in the number of uninsured is a combination of a decline in the number of people covered through employer-based health insurance; insurance underwriting practices that made it harder or impossible for older and sicker individuals to purchase coverage in the individual market; and a Medicaid program which provided no coverage for low income, childless adults. For instance, the percent of Ohioans with health coverage through an employer fell from 66.3 percent to 57.4% between 2004 and 2010. Workers in Ohio's smallest firms had even lower rates of employer-based health coverage, with only 19.1% of workers in firms with less than 10 employees having coverage through their employer in 2010. This lower rate is a combination of factors including that fewer smaller firms offer workers health insurance and a larger percent of these workers do not take up the offer of coverage compared to larger firms. Across all firms, however, the cost of health insurance premiums vastly exceeded the increase in wages which has led more people to decline to take up either family coverage or all health insurance coverage.

### Exhibit 3. Premiums Rising Faster Than Inflation and Wages

Cumulative changes in insurance premiums and workers' earnings, 1999–2012



Projected average family premium as a percentage of median family income, 2013–2021



Sources: (left) Kaiser Family Foundation/Health Research and Educational Trust, *Employer Health Benefits Annual Surveys*, 1999–2012; (right) authors' estimates based on CPS ASEC 2001–12, Kaiser/HRET 2001–12, CMS OACT 2012–21.

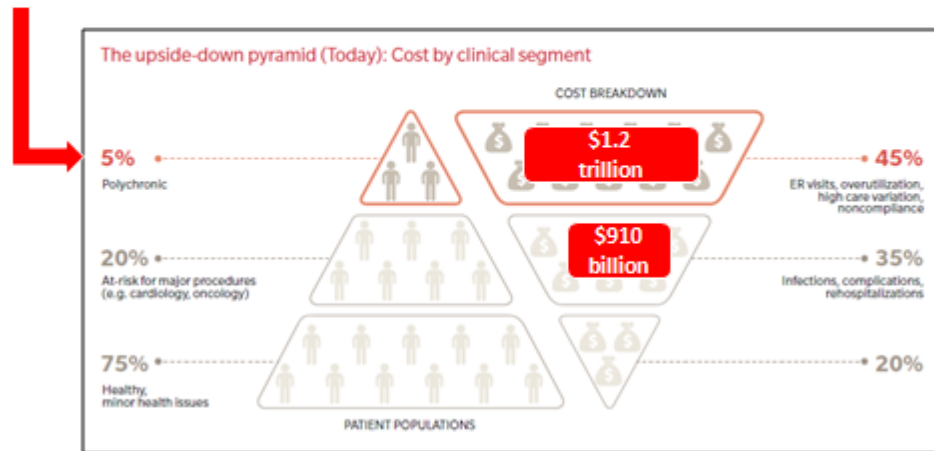
A second challenge is that we have a sick care system versus a health care system. The preponderance of health spending occurs after someone is already sick. The payment system further rewards specialty care over primary care and acute care over primary and preventive care. The payment system drives volume when it pays on a fee-for-service basis that pays for specified units of service, not outcomes. As a result, most physicians must see patients for office visits as they do not get paid for phone or email consultations even if those consultations could result in effective care. In addition, this emphasizes episodic health care versus longitudinal health planning with patients.

A third challenge is that sick care is provided in fragmented and disconnected service units versus coordinated episodes of care. Only recently have purchasers and health plans focused attention on the reality that 5 percent of patients consume 45-50 percent of total spending and 20 percent consume around 80 percent of spending.

## Providers: Shifting to Population Health Management Delivery

### TOP OF THE PYRAMID

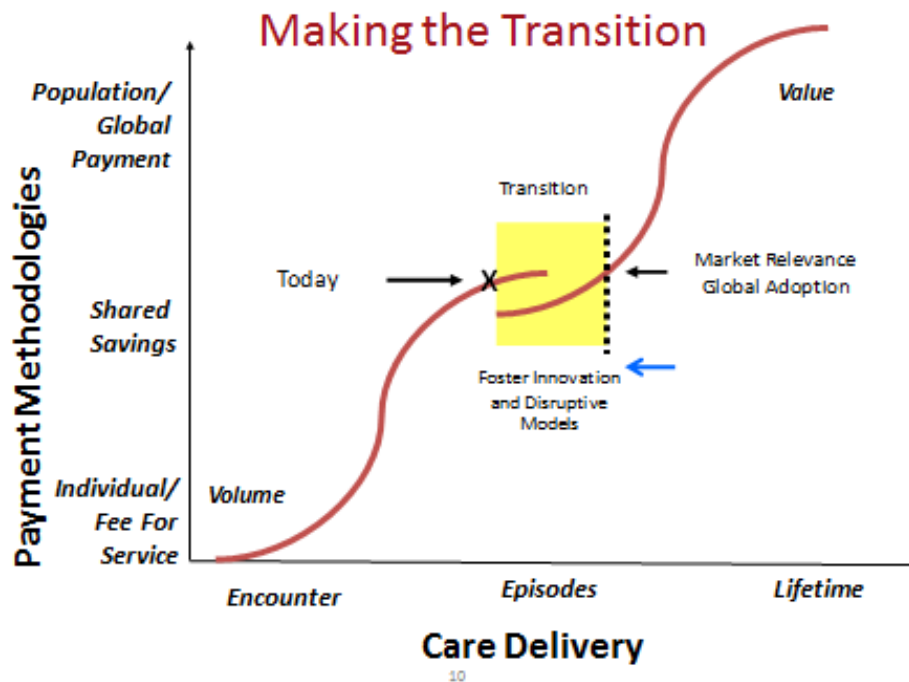
Frail Elder, Poly-chronic, Urban Poor



Source: The Volume-to-Value Revolution, Oliver Wyman, 2012.

Even with this emerging population health focus, the payment system does not pay for needed complementary services to physician care, such as integrated mental and behavioral health, nutrition, medication management services or social determinants and deprivations that impact overall health status. Without these services effective care management cannot take place and health cannot be achieved.

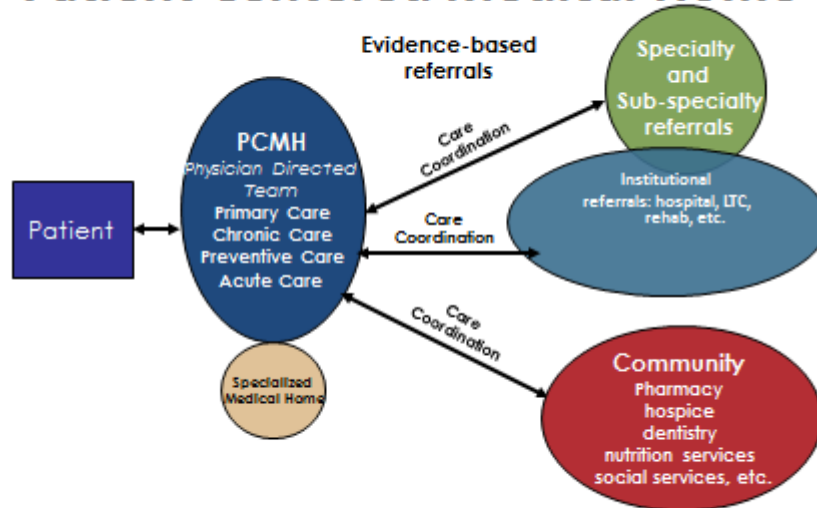
A fourth challenge is that the current payment system fails to align incentives toward more effective care and better health outcomes. With each provider paid individually for their unit of work there is a lack of incentive to better coordinate their activities. If quality improvements yield better patient health and reduce patient demand for care, providers lose money while insurers and health plans profit. Yet it is often the providers that must invest dollars to pay for the quality improvements, such as the costs of adopting electronic health records. Failure to share these costs and savings retards adoption of value enhancing innovation



A fifth challenge is that health plans often have had limited or excluded coverage for some important health care benefits, most notably mental health, , care coordination, dental and vision care services. For example, many current healthcare plans pay for only one dietetic health education visit for a person with diabetes, but will pay for a preventable amputation. This system also has been reluctant to pay for other critically important services, especially for people with chronic health conditions. Such services include medication management therapy by pharmacists and social worker assistance with helping people access community-based services.

A sixth challenge is the provider centric orientation of how care is currently provided. There is no health care system. This orientation denies the customer (patient), the necessary information and advocacy to effectively navigate the complexities of the healthcare situation. Rather than talking with the patient, all too often providers talk at the patient. This orientation impedes patient engagement and compliance with their care. The transformative PCMH model creates a true continuum of care that enables access, care coordination and support.

## Patient Centered Medical Home



o Courtesy of Lloyd Michener MD- Professor and Chair of Community and Family Medicine, Duke University

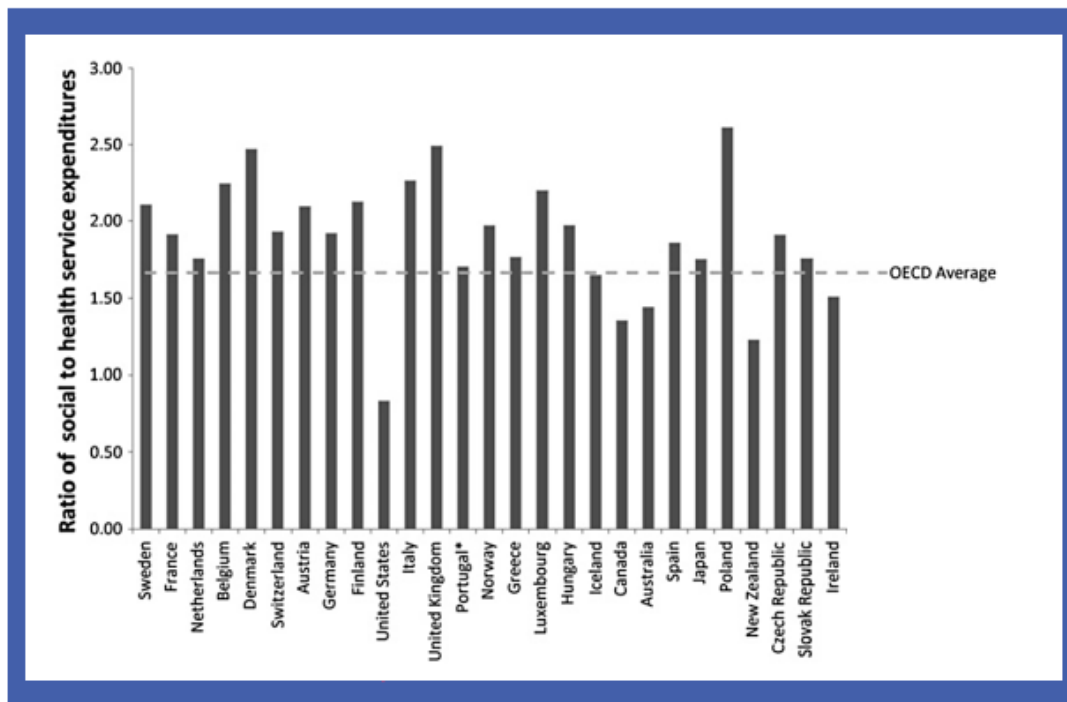
A seventh challenge is the lack of effective use of technology to improve care processes, facilitate patient self care management, and more easily connect providers to their patients. The use of information technology within health care is years behind its use in other industries. Only recently have hospitals and physician practices begun to implement electronic health record systems (EHR). Even where this adoption is happening it is still very difficult to share information electronically between providers, especially those using different EHR systems.

These system challenges, along with other challenges, have resulted in the U.S. having the highest level of health spending while having poor health outcomes compared to other countries. One study comparing the U.S. with 23 leading industrial countries in 2012 finds that the US has the following:

- 23<sup>rd</sup> in life expectancy
- Highest in infant mortality, deaths per 1,000 live births
- Highest in males and female potential years of life lost all causes per 100,000
- Second highest in male deaths amenable to care per 100,000 males
- Highest in female deaths amenable to care per 100,000 females

Another study found U.S. health outcomes make sense when one compares total health and social service spending. When looking at this total spending, the U.S. ranks 13<sup>th</sup>, not 1<sup>st</sup>. Moreover, the study found a significant relationship between the ratio of social service spending to total health spending and health outcomes.

## Ratio of social to health services spending by country



Source: *BMJ Quality & Safety*. Health and social services expenditures: associations with health outcomes. EH Bradley, BR Elkins, J Herrin, B Elbel, March 2011

Within the U.S. there is variation in the effectiveness of health care among the states. Unfortunately Ohio fares poorly in comparison to other states:

- 40<sup>th</sup> per United Health Care Foundation’s America’s Health Rankings
- 31<sup>st</sup> per Commonwealth Fund’s 2014 State Scorecard
- 29<sup>th</sup> across a series of quality measures per AHRQ’s 2012 National Health Quality Report

Specific health care system measures that indicate how much quality improvement needs to take place include:

- Ohio ranking 44<sup>th</sup> in ER use
- Ohio ranking 43<sup>rd</sup> for preventable hospitalizations
- Ohio ranking among the bottom five states for:
  - breast cancer deaths per 100,000 women
  - Medicare 30-day hospital readmission
  - Hospital admissions among Medicare beneficiaries for ambulatory sensitive conditions

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- Ohio spending almost \$3.3 billion dollars on Medicare Part A and B than it would have compared to the best state

### **Public and private sector initiatives in response to these challenges and trends**

Prior to the election of President Obama and the passage of the ACA there was growing agreement that the U.S. health system was in need of transformation. In 2005, then U.S. Senate President Bill Frist (R-TN) wrote that current U.S. health care sectors cannot meet the needs of a 21st century America without a true transformation on the scale of what most American industries went through in the 1980s and 1990s. Newt Gingrich formed the Center for Health Transformation and created a vision for what he saw as needing to happen. The Commonwealth Fund established the Commission for a High Performing Health System.

This vision has gone beyond simply a call to action. Federal and state government, along with health plans, employers and foundations are testing different strategies to create a transformed health system. Increasingly, there is consensus that achievement of the following Triple Aim goals is feasible and would be transformative:

- improving the individual experience of care
- improving the health of populations and
- reducing the per capita cost of care for populations

Achieving the Triple Aim goals requires several basic building blocks, including:

- Increasing health care coverage and access to health care services
- Adoption of health information technology and the electronic exchange of health information
- Increased emphasis on primary care, with a focus on patient-centered medical homes
- Development of interdisciplinary health teams and longitudinal models of care delivery
- Integration of physical and behavioral health care
- Heightened focus on the social determinants of health that foster poor health and complicate the ability to respond well to health care treatment
- Increased patient and provider engagement
- Emphasis on quality, outcomes and value over payment for discrete units of service

### **Examples of federal action include:**

The federal government has a long standing role in health care policy starting even before John Kennedy called for, and Lyndon Johnson pushed through Medicare, universal coverage for the aged; and the more limited Medicaid program for the poor almost 50 years ago. Going back more than 100 years there have been bipartisan calls for and actions on health care reform. In 1912, Theodore Roosevelt championed universal coverage as an opportunity to improve health. During the 1920's the Committee on the Costs of Medical was formed when hospital care surged from 7% to 13% of the average family medical budget. In 1946, President Truman signed the Hill-Burton Act to finance the construction of hospitals to make them more accessible and affordable.

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Each administration since then has struggled with the challenges of the uninsured, rising health care costs, and challenges with health care quality and health care financing. President Nixon approved Health Maintenance Organizations, but stalled on universal coverage. President Reagan signed the Emergency Medical Care & Active Labor Act (EMTALA), guaranteeing the right to be seen in emergency departments without regard to ability to pay. While President Clinton failed to enact the Health Security Act, he did champion and worked to enact the Vaccines for Children Act, State Child Health Insurance Program and Newborns and Mothers Health Protection Act.

The Bush Administration sponsored several important health care reforms, most notably:

- Passage of Medicare Part D to extend pharmacy benefits to Medicare recipients; Increased funding for community health centers and rural health centers in health professional shortage areas; and
- An Executive Order to establish a national health information exchange system

The Obama Administration enacted the most significant effort to create universal health coverage in the U.S. to date with the Patient Protection and Affordable Care Act (ACA). But even before the passage of ACA, the Obama Administration supported several health care system improvement efforts through the American Recovery and Reinvestment Act of 2009 (ARRA). One of its most notable elements was to provide funding and other support to promote the adoption of electronic health records and the creation of state-based health information exchanges. It also included several measures aimed at increasing access to health care coverage and health care services.

While the Affordable Care Act built on ARRA's components, most of the ACA's focus was on increasing access to affordable health insurance by eliminating insurance underwriting practices and providing for federally subsidized health coverage through Medicaid or private health plans sold through health insurance exchanges. But, the ACA also included sections aimed at creating the building blocks needed for health system transformation, including

- Establishment of the Center for Medicare and Medicaid Innovation (CMMI) to test different alternative payment models, patient-centered medical homes, chronic care management models, and other quality improvement activities
- Changes in Medicare payments targeting improved quality and outcomes, such as penalties for too high of rate of hospital readmissions or health-acquired infections
- Support for Medicaid innovation around chronic care management, home-based care, and integrating payment for people with both Medicare and Medicaid
- Increased funding for community health centers
- Increased funding for workforce development, especially focusing on primary care

## **Ohio public sector initiatives**

Building on earlier bipartisan efforts, the Kasich Administration is spearheading the push for health system transformation in Ohio. The Administration's efforts, being coordinated by its Office of Health Transformation, include:

- implementing Medicaid expansion
- sponsoring quality improvement initiatives in areas such as prenatal care and psychotropic medication use
- promoting integration of physical and behavioral health
- multi-payer payment reform to expand PCMH and to introduce episode of care payments
- Integrating Medicare and Medicaid payments for persons eligible for both programs
- Workforce development, including
  - Medicaid Technical Assistance & Policy Program (MEDTAPP) Healthcare Access Initiative
  - Plans to redirect Medicaid GME dollars toward community-based training sites with an emphasis on interdisciplinary training and primary care

The Ohio General Assembly has intensified its focus on health care reform, especially related to the Medicaid program. This activity has included seeking to establish a target spending growth limit for Medicaid. It is unclear whether the General Assembly will maintain Ohio's Medicaid expansion in the upcoming budget. Some members continue to oppose it entirely, while others may want to modify it to resemble more private coverage initiatives like Indiana or Pennsylvania are attempting to do. To support this work the General Assembly has established its own Medicaid oversight office with an Executive Director and staff to support the work.

## **Examples of state initiatives outside of Ohio that may have application within Ohio include:**

- Training of community health workers (New Mexico)
- Project ECHO from New Mexico, a lifelong learning and guided practice model that revolutionizes medical education and exponentially increases workforce capacity to provide best-practice specialty care and reduce health disparities.
- Interdisciplinary community health teams established to assist small primary care practices in working with their patients with chronic health conditions (Vermont, North Carolina)
- Alternative payment models (Massachusetts, Arkansas, Oregon)
- Expanding patient-centered medical homes (Colorado, Arkansas)

Change will not be easy, especially as someone's cost saving is someone else's revenue. These efforts will create opportunities and challenges for every patient, as well as anyone making a living in the business of health care from insurers to providers to suppliers to employees in these organizations. Some businesses may become obsolete or have to change their business model. Some employees, especially those whose jobs are tied to administrative complexity, may find their jobs being eliminated.

## The relationship between health care and other key sectors

Ohio's health care sector interacts significantly with other key economic, social, and environmental sectors. This interaction comes in three basic ways:

1. Areas that impact health care through their role with the incidence of disease or injury, severity of illness, and other demands for health care services
  - health and wellness
  - crime
  - climate change
  - education (those with less education show worse health outcomes, greater demands on system)
  - environment
  - land use
  - population growth, especially immigration with new diseases, aging of population and ability to raise revenues to pay for health care
  - economic and employment
  - social skills
  - food production
  - technology change
2. Areas that create inputs needed for an effective health care system
  - education
  - infrastructure
  - technology change
  - energy
  - health and wellness
  - social, economic and political differences
3. Areas where a more effective health care system creates impacts
  - health and wellness (better manage chronic conditions leads to better health and wellness)
  - social, economic and political difference (reduce health disparities)
  - economic and employment growth (healthier workforce; different demand for workers; may be fewer workers needed in some areas of health care service, especially administrative tasks, but more in direct care)
  - crime and terrorism (recent study links better mental health care to lower crime)
  - education (better health leads to better ability to learn)
  - population growth (more infants living, longer life expectancy)
  - technology change

Ohio's health care system also has specific impacts on the human element, aging population, globalization, and agriculture. Examples in each of these areas include:

- On The human element:
  - Communities with more uninsured have poorer health care quality for everyone

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- People without effective access to affordable care delay care often leading to worsening health problems that harm themselves and their family
- Poor health care quality results in higher rates of medical errors and unnecessary hospital admissions or readmissions
- On the Aging population
  - Health care needs increase as the population ages,
  - Lack of an effective health care system increase financial costs, reduces outcomes of length and quality of life for seniors
- On Globalization
  - There is an increasing market for healthcare tourism where people either leave Ohio for other places (within the US or overseas if our costs remain too high OR come to Ohio if we have effective, affordable or specialized, innovative care compared to other places
  - More firms are making business location decisions with health care system issues as a deciding factor. For example, IBM's Chief Medical Officer, Paul Grundy, reportedly informed state and local Ohio leaders that IBM would not locate another business operation in Ohio until Ohio had a transformed health care system.
- On Agriculture broadly defined
  - Many agricultural workers and small farmers lack access to affordable health coverage
  - Hospitals needs better, more affordable foods for their patients and may be open to locally sourced food options

Better food options and dietary practices can reduce pressures on the health care system by reducing incidence of conditions such as diabetes

### **Overall Summary of Trend Information**

The current structure of health care financing and delivery is increasingly unsustainable. Our system relies too much on institutional rather than community based care, is too expensive and has too many people without coverage, while providing too much poor quality and negative outcomes. Purchasers of health care are beginning to demand value for the money and this demand is fostering market force and public policy changes. The changes will result in new demands on hospitals, academic teaching institutions, and provider practices. These changes will foster disruptive innovations that will result in some businesses closing or changing their role in health care. If the health system becomes more efficient and reduces its administrative layers, health system transformation will result in many jobs becoming unnecessary, especially those involving paper transactions. These individuals will need to be retrained for new health system positions, will need new training for positions outside of health care or may face a hard time find new employment.

## Alternative States for the Future

### THE QUESTION FOR THE FUTURE

- The question is not:
  - "What will medicine look like in 20 years?"
- The questions are:
  - "What can medicine be in 20 years?"
  - and
  - "What can we aspire to be as leaders in fulfilling that vision?"



Even though health spending growth has slowed to its lowest rate in years, total health spending will continue to rise for public program like Medicare as every day for the next 10 years 10,000 more people become eligible. Thus the economic pressures of health care will continue impact government, businesses, health care providers, and patients.

These pressures will require difficult conversations and decisions on the following areas that make up any health care system:

- How to finance the costs of health care (role of taxpayers, individual patients, employers)
- How to assure that coverage equals access to health care
- How to pay health care providers
- How to organize the delivery of health care
  - For primary, secondary and tertiary care
  - For long term care
- How to right size the health care workforce, their education and scope of practice
- How to enact options to control health care costs
- How to foster high quality, effective care
- How to prevent illness
- How to address the social determinants of health that exist independent of the provision health care
- What will be the underlying approach to medical ethics and equity in the rationing of health care

There are multiple choices in how to achieve these elements. Each choice creates winners and losers and different pressures on existing practices. By 2035 three scenarios seem most likely to occur.

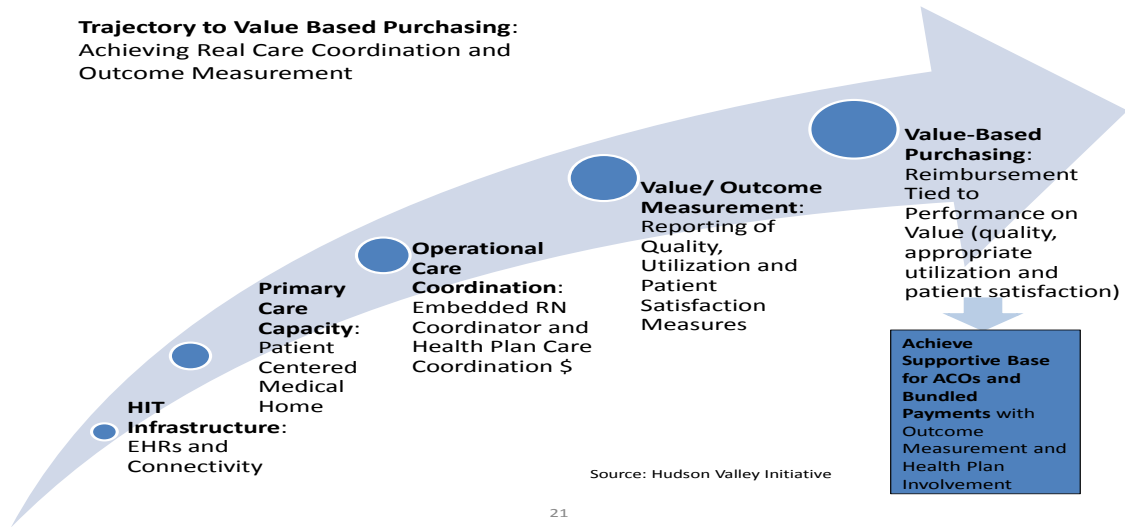
Scenario 1: Muddling through, piecemeal health system reform (15% likelihood by 2035)

This scenario consists of an inability of the public and private sector to enact substantive, systematic change. Under this scenario, those negatively impacted by reform efforts are able to protect the status quo and prevent enactment through legislative protections, legal actions, or unwillingness to assist with implementation. In this scenario, costs will continue to rise, fluctuating over time, more people will find paying for health care insurance and/or health care services prohibitive resulting in an increased level of uninsured and underinsured. Providers will face rate cuts to handle spending pressures resulting in more of them refusing to see Medicare and Medicaid patients and/or in doing more units of service to make up for the rate reductions. Older providers may elect to retire from practice early. Patients will face rising out-of-pocket obligations and reductions in covered benefits.

Under this scenario certain changes are enacted to the existing health system, but these changes deal with the overall problem by nibbling around the edges. In this scenario there are incremental increases in health coverage, with using exemptions under the ACA to avoid the individual mandate obligation. There are voluntary experiments around quality improvement and payment reform, testing different models, but those models are encouraged to be implemented without any meaningful authority or ability to ensure that they are effectively implemented and adopted.

Scenario 2: Health care system transformation (65% likelihood)

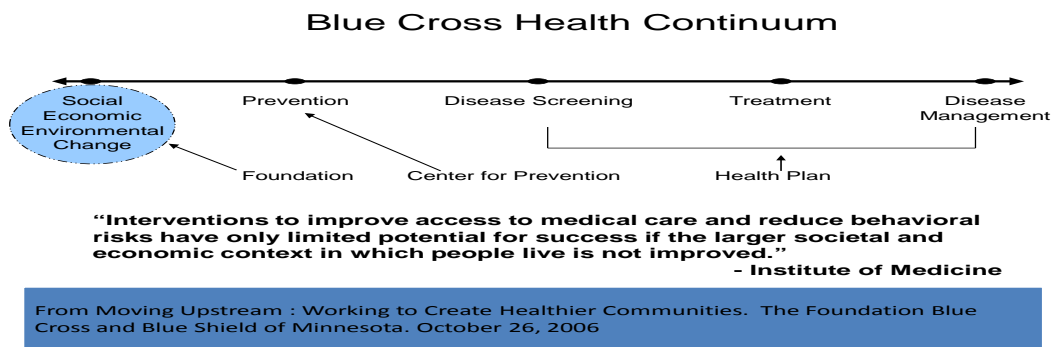
Under this scenario purchasers of health care (employers, government, and individual patients), spurred by the pressures of health costs and health spending create enough impetus for those purchasing health care to demand through public policy and private purchasing decisions that the delivery and financing of health care change causing movement from a sick care to a health care approach. This movement will change relationships between the patient and provider, between providers, with suppliers that while leading to a more efficient and effective system will cause some significant changes in demand for supplies, for types of workers, for jobs being hired, and for the organization of health care practices. These actions focus mostly on health care financing and delivery with some attention to issues such as social determinants of health to the extent that those determinants have direct and immediate impact on health care outcomes tied to the delivery of health care services.



Scenario 3: True health transformation (20% likelihood)

In 1948 the World Health Organization defined health as **“a state of complete physical, mental and social well being and not merely the absence of disease or infirmity”**

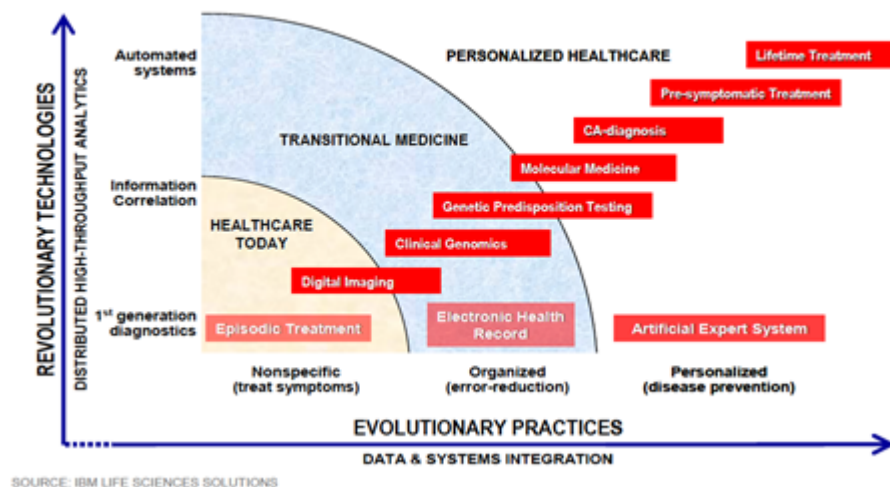
Transforming the health of our society requires a change of mind-set about how our culture regards health. Health is the overall impact of lifestyle and behaviors, genetics, and environment. We currently spend the vast majority of our healthcare dollars on medical interventions: e.g. sick care, not health care. Dynamic innovation in how we deliver and finance health care must be joined with resources that address the social and genetic determinants of health.



To achieve this end, the *service-learning* resources of the Medical Center and the University can be used to support community health efforts in pursuit of its land-grant mission of discovery, innovation and the dissemination of knowledge. While in the short term, our impact is through health care delivery and financing reform, we must set a course that uses the research strengths of our academic



institutions to set the course for health. We also need to be able to combine personalized health care, tailored as best to each individual, with a population health orientation that focuses resources on addressing the greatest challenges to the overall health of the community. In combining these two levels of focus we shift from an approach of episodic treatment of a health problem to a lifetime health orientation and longitudinal treatment approach.



To play an active leadership role in bring about this scenario, the following are important

- Clinically and academically integrating with multiple health sciences disciplines within one organization to train the new workforce in transdisciplinary team-based care and how health is a factor in all policy considerations
- Promoting a creative mindset
- Catalyzing collaborative, interdisciplinary research on a large scale that fosters translational research which integrates basic science, healthcare, public health, and other necessary, supporting disciplines. This research agenda needs to go beyond simply the clinical care dynamic. Yet, there remains a need to continue exploration for innovations that improve the delivery of care and treatment of given diseases
- Better engaging with OSU Extension, the College of Social Work and other areas not defined as part of the Health Sciences Colleges
- Real community partnerships, involving those affected by this transformation into its creation

## References

Agency for Health Care Research and Quality. 2012 National Health Quality Report. State Snapshots. Ohio. [http://nhqrnet.ahrq.gov/inhqrdr/Ohio/benchmark/summary/All\\_Measures/All\\_Topics](http://nhqrnet.ahrq.gov/inhqrdr/Ohio/benchmark/summary/All_Measures/All_Topics)

Atul Gawande. June 1, 2009. The Cost Conundrum. *The New Yorker*. <http://cchs.ua.edu/wp-content/blogs.dir/24/files/2014/06/The-New-Yorker-2009-Gawande.pdf>

Ohio State University Extension

Cornelius Frolik - Dayton Daily News . January 5, 2014. Ohio, U.S. expects major job growth in health care. <http://www.norwalkreflector.com/article/3999161> Pulled October 10, 2014.

Commonwealth Fund. Mirror, Mirror on the Wall: How the Performance of the U.S. Health Care System Compares Internationally. 2014 Update. Executive Summary. June 2014  
[http://www.commonwealthfund.org/~media/files/publications/fund-report/2014/jun/1755\\_davis\\_mirror\\_mirror\\_2014\\_exec\\_summ.pdf](http://www.commonwealthfund.org/~media/files/publications/fund-report/2014/jun/1755_davis_mirror_mirror_2014_exec_summ.pdf)

Commonwealth Fund. 2014 State Scorecard Results. Ohio.  
<http://datacenter.commonwealthfund.org/scorecard/state/37/ohio/>

Denis Cortese and Robert Smoldt. June 2012. A Roadmap To High-Value Healthcare Delivery. [http://healthcaretransformationinstitute.org/sites/default/files/HVHC\\_070612%20final.pdf](http://healthcaretransformationinstitute.org/sites/default/files/HVHC_070612%20final.pdf)

Donald Berwick, Thomas Nolan and John Whittington. The Triple Aim: Care, Health and Cost. Health Affairs. May 2008. Pages 759-769.

Elizabeth Bradley and Lauren Taylor. The American Health Care Paradox: Why Us Spending More Is Getting Us Less. Public Affairs a Member of the Perseus Books Group. 2013

Institute of Medicine. Better Care at Lower Cost. September 2012 <http://www.advisory.com/Daily-Briefing/2012/09/07/IOM-report>

Institute of Medicine. July 2013. Variation in Health Care Spending: Target Decision Making, Not Geography. <http://iom.edu/Reports/2013/Variation-in-Health-Care-Spending-Target-Decision-Making-Not-Geography.aspx>

Jonathan Skinner. 2012. Causes and Consequences of Regional Variation in Health Care. In Handbook of Health Economics. Volume 2. Chapter 2.  
[https://www.dartmouth.edu/~jskinner/documents/Skinner\\_CausesandConsequences.pdf](https://www.dartmouth.edu/~jskinner/documents/Skinner_CausesandConsequences.pdf)

Tom Main and Adrian Slywotzky. 2012. The Volume-To-Value Revolution: Rebuilding the DNA of Health From the Patient In. Oliver Wyman. [http://www.oliverwyman.com/content/dam/oliver-wyman/global/en/files/archive/2013/OW\\_ENG\\_HLS\\_PUBL\\_Volume\\_to\\_Value\\_Revolution.pdf](http://www.oliverwyman.com/content/dam/oliver-wyman/global/en/files/archive/2013/OW_ENG_HLS_PUBL_Volume_to_Value_Revolution.pdf)

Midwest Business Group on Health. 2003. Reducing the Costs of Poor-Quality Health Care Through Responsible Purchasing Leadership.

Ohio Business Roundtable. Improving Ohio's Health System. 2009.

Ohio Department of Job and Family Services. Ohio Labor Market Information. Current Employment Statistics and Labor Market Review. <http://ohiolmi.com/ces/lmr.htm> pulled October 10, 2014

Ohio Governor's Office of Health Transformation. Transforming Payment for a Healthier Ohio. June 8, 2014. <http://www.healthtransformation.ohio.gov/LinkClick.aspx?fileticket=TDZUpL4a-SI%3d&tabid=138>

Ohio State University Extension

Ohio Department of Job and Family Services. Ohio Labor Market Information. Current Employment Statistics and Labor Market Review. <http://ohiolmi.com/ces/lmr.htm> pulled October 10, 2014

Sharon Silow-Carroll et al. March 2013. How Colorado, Minnesota, and Vermont Are Reforming Care Deliver and Payment to Improve Health and Lower Costs. The Commonwealth Fund. [http://www.commonwealthfund.org/~media/Files/Publications/Case%20Study/2013/Mar/1665\\_SilowCarroll\\_Medicaid\\_synthesis\\_FINAL\\_v2.pdf](http://www.commonwealthfund.org/~media/Files/Publications/Case%20Study/2013/Mar/1665_SilowCarroll_Medicaid_synthesis_FINAL_v2.pdf)

United Health Care Foundation. 2014 America's Health Rankings. Ohio. [http://nhqrnet.ahrq.gov/inhqrdr/Ohio/benchmark/summary/All\\_Measures/All\\_Topics](http://nhqrnet.ahrq.gov/inhqrdr/Ohio/benchmark/summary/All_Measures/All_Topics)

William Frist. January 20, 2005. "Health Care in the 21st Century." The New England Journal of Medicine. <http://www.nejm.org/doi/full/10.1056/NEJMsa045011>

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<sup>i</sup> Along with the research-based data and statistics included in this document, is information provided by the research paper author(s). Although these author insights are not directly cited with research references, they reflect research, observation, logic, intuition, and well-considered expectations compiled by the author(s). The Author Insights sections of this paper are offered for discussion and to help provide a wider perspective for incorporating the descriptor data into the possible future trends. These conclusions are drawn by the author(s) using their knowledge of the scholarly references and their years of professional experience related to the descriptor, and are provided to help the reader more effectively envision the future impact and effects of the descriptor. This note is borrowed the Political, Economic and Social Differences in Ohio descriptor paper by Greg Davis.

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