...PAST, PRESENT, AND FUTURE
COULD THIS REALLY BE THE DOCTOR OF THE FUTURE?
$10 MILLION TO WHOEVER CAN CREATE A DEVICE THAT CAN DIAGNOSE 15 COMMON DISEASES WITHOUT INPUT OR OVERSIGHT OF A HEALTHCARE PROFESSIONAL

“We envision a future where mobile technology will bring consumers their healthcare diagnoses in a way that is more accurate, more accessible, and more understandable than today’s doctors.”
BUT BEFORE LOOKING FORWARD, LET’S JOURNEY BACK TO...

...“THE GOOD OLD DAYS”
STAGE ONE: HEROIC MEDICINE

THE AGE OF “HEROIC” MEDICINE (Colonial times to 1750)

Midwives, herbalists, and patients themselves provided “primary care.”

Physicians were reserved for cases where “heroic measures” were called for.
WHAT WERE THESE "HEROIC" MEASURES?

"Surgery" was sharp, brutal, and occasionally effective.
NAME THE NUMBER ONE, ALL PURPOSE MEDICINE FOR EVERYTHING FROM CONSTIPATION TO VENEREAL DISEASE

Did you say calomel?
The equivalent of prescribing meth – with many of the same effects.

Active ingredient? Mercury.
No college degree necessary to become a physician

Doctors trained through the apprentice system
STAGE TWO: MEDICINE AS A TRADE (1750 to 1910)

First medical society in America founded in 1766 (the New Jersey Medical Society)

A growing number of state medical societies develop their own training programs, regulations, standards of practice and certification, and “proprietary” medical schools
THE “PROPRIETARY” MODEL

- Medicine is taught in small trade schools, unaffiliated with a college or university, run to make a profit.
- In most cases, a college education, lab work and dissection are not required.
Abraham Flexner....not a physician nor a scientist. An educator. Visited all 155 U.S. and Canadian medical schools and published his report under the aegis of the Carnegie Foundation.
His description of Chicago’s 14 medical schools: “A disgrace to the state whose laws permit their existence...indescribably foul...the plague spot of the nation.”
THE FLEXNER REPORT ADVOCATES

• Reduce medical schools from 155 to 31 (no Canadian schools to close)
• Must have a high school education, at least two years of college
• Medical school should be four years
• Train doctors in a scientific manner, engage in medical faculty research
• No medical school can be created without permission of the state government
• Practical knowledge “medical education involves both learning and learning how; the student cannot effectively know unless he knows how”
• Adopt the Johns Hopkins model
By 1935, there are only 66 medical schools in the U.S., 57 of them are part of a university
All “proprietary” schools closed
Women students virtually eliminated due to fewer openings
1933 – Number of medical specialties offering board certification: 4

**Specialization**

Number of board certified specialties grows to almost 200. Specialists top the food chain.

**Fee-for-service**


**The Workshop**

Hospitals become the physician’s workshop. Physicians provide scientific knowledge, patient referrals; hospitals provide space, equipment, personnel and management.
TODAY: ANOTHER BIG CHANGE

THE AGE OF SPECIALIZATION, FEE-FOR-SERVICE, AND THE HOSPITAL AS WORKSHOP HAS BEEN TURNED UPSIDE DOWN.
TODAY: ANOTHER BIG CHANGE
TODAY: ANOTHER BIG CHANGE

From Specialization to
Primary care medical home “quarterbacks”/chronic care coordinators driving the system
TODAY: ANOTHER BIG CHANGE

From fee-for-service

The new mantra:

No more “HEADS ON BEDS”

“NO OUTCOMES, NO INCOME”
FROM FEE-FOR-SERVICE TO FEE-FOR-VALUE

What are the metrics involved in changing compensation formulas?

- Patient malady improvement and maintenance
- Patient satisfaction
- Administrative/Governance responsibility
- Community outreach
- Peer Review
- Chart documentation and maintenance
- Minimum average patients per day
- Citizenship
- Timely communication
- Completion of departmental objectives
TODAY: ANOTHER BIG CHANGE

The hospital as workshop to

✓ Major healthcare systems AND...
✓ Large medical groups
✓ Physician owned specialty hospitals
✓ Urgent Care centers
✓ Ambulatory surgery centers
✓ Free standing emergency departments
✓ Community Health Centers
✓ Retail clinics
✓ Employers
✓ Insurance companies
The hospital as workshop to

The new mantra:
“Be everywhere, all the time”
STAGE FOUR: THE AGE OF TEAMWORK (2000s AND BEYOND)

FROM “HEROIC” APPRENTICE, TO TRADESPERSON, TO SPECIALIST TO...POINT GUARD?

- Runs the team
- “Dishes off” to other specialists, nurse practitioners, physician assistants, pharmacists, therapists
- Communicates
- Makes others better
- Knows the “scouting report” (makes data-driven decisions)
- Paid on wins, not points
- Performs in multiple venues (including “home games”)
- Can watch perform on TV (telemedicine)
- There is a shortage of good ones
THE POVERTY QUESTION: “YOU SHOULD TAKE THE A-TRAIN”

Source: Richard Cooper, M.D. – University of Pennsylvania/The Wharton School
THE POVERTY QUESTION: "YOU SHOULD TAKE THE A-TRAIN"

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Source: Richard Cooper, M.D. – University of Pennsylvania/The Wharton School
### WHO IS ON THE TEAM TODAY?

**The physician workforce:**

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total In Practice</td>
<td>697,101</td>
</tr>
<tr>
<td>Number in primary care (FP, IM, PED)</td>
<td>227,756 (32.7%)</td>
</tr>
<tr>
<td>Number in specialties</td>
<td>469,345 (67.3%)</td>
</tr>
<tr>
<td>Total residents and fellows</td>
<td>123,190</td>
</tr>
<tr>
<td>Total final year residents and fellows</td>
<td>32,600</td>
</tr>
<tr>
<td>Percent male</td>
<td>473,137 (67.9%)</td>
</tr>
<tr>
<td>Percent female</td>
<td>223,964 (32.1%)</td>
</tr>
<tr>
<td>Percent international medical graduates</td>
<td>173,616 (24.9%)</td>
</tr>
<tr>
<td>Percent 55 and older</td>
<td>294,945 (42.3%)</td>
</tr>
<tr>
<td>Percent 60 and older</td>
<td>196,020 (28.1%)</td>
</tr>
</tbody>
</table>

Source: AMA Master File
# HOW DO WE STACK UP?

<table>
<thead>
<tr>
<th>Country</th>
<th>Physicians per 1,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Greece</td>
<td>6.2</td>
</tr>
<tr>
<td>2. Austria</td>
<td>4.9</td>
</tr>
<tr>
<td>3. Norway</td>
<td>4.2</td>
</tr>
<tr>
<td>4. Portugal</td>
<td>4.1</td>
</tr>
<tr>
<td>5. Germany</td>
<td>4.0</td>
</tr>
<tr>
<td>6. Sweden</td>
<td>3.9</td>
</tr>
<tr>
<td>7. Switzerland</td>
<td>3.9</td>
</tr>
<tr>
<td>8. Spain</td>
<td>3.8</td>
</tr>
<tr>
<td>9. Czech Republic</td>
<td>3.7</td>
</tr>
<tr>
<td>10. Italy</td>
<td>3.7</td>
</tr>
<tr>
<td>11. Iceland</td>
<td>3.6</td>
</tr>
<tr>
<td>12. Denmark</td>
<td>3.5</td>
</tr>
<tr>
<td>13. Slovak Republic</td>
<td>3.4</td>
</tr>
<tr>
<td>14. Australia</td>
<td>3.3</td>
</tr>
<tr>
<td>15. Estonia</td>
<td>3.3</td>
</tr>
<tr>
<td><strong>25. United States (Active Only)</strong></td>
<td><strong>2.5</strong></td>
</tr>
</tbody>
</table>

*Source: Becker's Hospital Review, July 2014*
WHAT IS THE VALUE OF A RECRUITING PROFESSIONAL TODAY?
WHAT IS THE VALUE OF A RECRUITING PROFESSIONAL TODAY?
A Voice for Physicians

www.physiciansfoundation.org
A 2012 survey conducted by the Association of American Medical Colleges reveals:

- 33% of students were publicly humiliated at least once during medical school
- 15% were targets of sexist remarks
- 9% said they were required to run personal errands for doctors

Source: 2012 Association of American Medical Colleges Survey
An estimated 400 physicians commit suicide each year, the equivalent of one entire medical school class.

The physician suicide rate is 20% to 30% higher than the general public’s.

Source: Louise Andrew, M.D. ET AL. Physician Suicide, Medscape Reference, March 8, 2012
WHAT DO YOU PLAN TO DO IN THE NEXT ONE TO THREE YEARS?

- Continue as I am: 56.4%  
- Cut back on hours: 18.2%  
- Retire: 9.4%  
- Switch to concierge: 6.2%  
- Work locum tenens: 9.1%  
- Cut back on patients seen: 7.8%  
- Seek a non-clinical job within healthcare: 10.4%  
- Seek employment with a hospital: 7.3%  
- Work part-time: 6.4%  
- Close my practice to new patients: 2.4%  
- Other: 5.3%  

Kentucky:
- Continue as I am: 55.4%  
- Cut back on hours: 15.5%  
- Retire: 7.3%  
- Switch to concierge: 4.7%  
- Work locum tenens: 13.5%  
- Cut back on patients seen: 8.3%  
- Seek a non-clinical job within healthcare: 9.3%  
- Seek employment with a hospital: 8.8%  
- Work part-time: 7.8%  
- Close my practice to new patients: 2.1%  
- Other: 4.1%

Source: A Survey of America’s Physicians: Practice Patterns and Perspectives, The Physicians Foundation/Merritt Hawkins, 2014
## Kentucky Physician Workforce

### Active Physicians per 100,000

<table>
<thead>
<tr>
<th>Kentucky</th>
<th>State Median</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>220.9</td>
<td>244.5</td>
<td>35&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

### Active Primary Care per 100,000

<table>
<thead>
<tr>
<th>Kentucky</th>
<th>State Median</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>77.6</td>
<td>90.3</td>
<td>39&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

Source: 2013 State Physician Workforce Data Book
### Percentage of Active Female Physicians

<table>
<thead>
<tr>
<th>Kentucky</th>
<th>State Median</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>27.5%</td>
<td>30.8%</td>
<td>35th</td>
</tr>
</tbody>
</table>

### Percentage of International Medical Graduates

<table>
<thead>
<tr>
<th>Kentucky</th>
<th>State Median</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>20.6%</td>
<td>18.2%</td>
<td>21st</td>
</tr>
</tbody>
</table>

### Percentage of Active Physicians Age 60 or Older

<table>
<thead>
<tr>
<th>Kentucky</th>
<th>State Median</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>25.9%</td>
<td>26.5%</td>
<td>32nd</td>
</tr>
</tbody>
</table>

Source: 2013 State Physician Workforce Data Book
THE COMMON DENOMINATOR?

PHYSICIANS WILL PRACTICE IN A GROWING NUMBER OF WAYS....MOST OF WHICH WILL REDUCE ACCESS TO THEIR SERVICES

- PART-TIME
- CONCIERGE
- HOSPITAL EMPLOYED
- LOCUM TENENS
- NON-CLINICAL ROLES
- ELIMINATE CERTAIN PAYERS (MEDICAID/MEDICARE/CHARITY)
- TRADITIONAL (INDEPENDENT)
- COMMUNITY HEALTH CENTERS
• Physicians are seeing 3.0% fewer patients per day than in 2012
• They are working 6.0% fewer hours from 2008
• They spend 20% of their time on non-clinical paperwork

Source: A Survey of America’s Physicians: Practice Patterns and Perspectives, The Physicians Foundation/Merritt Hawkins, 2014
RESULT: A “SILENT EXODUS”

- A 6% reduction in work hours (from 2008) = a loss of 44,250 FTEs
- 3.0% fewer patients seen per = over 30 million fewer patient encounters
- 20% of time spent on paperwork = a loss of over 139,000 FTE’s

Source: A Survey of America’s Physicians: Practice Patterns and Perspectives, The Physicians Foundation/Merritt Hawkins, 2014
CURRENT PHYSICIAN SHORTAGE PROJECTIONS

Association of American Medical Colleges

20,000 too few physicians today

Why the big change?

The AAMC projects about 250,000 physicians will retire over the next ten years

91,000 too few physicians by 2020

131,000 too few physicians by 2025

Source: Washington Post, September 2013
How long to schedule a physician appointment in 15 top metros?

<table>
<thead>
<tr>
<th>Metro Area</th>
<th>Average Wait Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boston</td>
<td>45.4</td>
</tr>
<tr>
<td>Denver</td>
<td>23.6</td>
</tr>
<tr>
<td>Philadelphia</td>
<td>20.6</td>
</tr>
<tr>
<td>Portland</td>
<td>19.4</td>
</tr>
<tr>
<td>Minneapolis</td>
<td>19.2</td>
</tr>
<tr>
<td>Detroit</td>
<td>17.8</td>
</tr>
<tr>
<td>Washington, D.C.</td>
<td>17.8</td>
</tr>
<tr>
<td>New York</td>
<td>16.8</td>
</tr>
<tr>
<td>San Diego</td>
<td>16.2</td>
</tr>
<tr>
<td>Seattle</td>
<td>16.0</td>
</tr>
<tr>
<td>Atlanta</td>
<td>14.0</td>
</tr>
<tr>
<td>Houston</td>
<td>14.0</td>
</tr>
<tr>
<td>Miami</td>
<td>13.6</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>12.2</td>
</tr>
<tr>
<td>Dallas</td>
<td>10.2</td>
</tr>
<tr>
<td>Overall</td>
<td>18.5</td>
</tr>
</tbody>
</table>

Source: Merritt Hawkins 2014 Wait Time Survey
WHO ACCEPTS MEDICAID?

<table>
<thead>
<tr>
<th>Metro Area</th>
<th>Acceptance Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boston</td>
<td>73.0</td>
</tr>
<tr>
<td>Portland</td>
<td>63.5</td>
</tr>
<tr>
<td>Detroit</td>
<td>63.4</td>
</tr>
<tr>
<td>Houston</td>
<td>55.8</td>
</tr>
<tr>
<td>Miami</td>
<td>53.8</td>
</tr>
<tr>
<td>Seattle</td>
<td>48.0</td>
</tr>
<tr>
<td>Philadelphia</td>
<td>47.3</td>
</tr>
<tr>
<td>Washington, D.C.</td>
<td>43.1</td>
</tr>
<tr>
<td>New York</td>
<td>39.8</td>
</tr>
<tr>
<td>San Diego</td>
<td>39.4</td>
</tr>
<tr>
<td>Atlanta</td>
<td>37.0</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>36.4</td>
</tr>
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<td>Denver</td>
<td>34.4</td>
</tr>
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<td>Minneapolis</td>
<td>23.6</td>
</tr>
<tr>
<td>Dallas</td>
<td>23.0</td>
</tr>
<tr>
<td><strong>Overall</strong></td>
<td><strong>45.7</strong></td>
</tr>
</tbody>
</table>

Source: Merritt Hawkins 2014 Wait Time Survey
THE $64,000 QUESTION:
HOW WILL THE PHYSICIANS OF THE FUTURE COPE?
BY EMBRACING A NEW STAFFING PARADIGM

THE “CONE OF COMPLEXITY”

- Medical specialists
- Primary care physicians
- Pharmacists (PharmD)
- Advanced practice Nurses/PAs
- Nurse specialists
- Therapists
- LPNs
- Nurses aides
- Case managers
THE ROLE OF NP’s AND PA’s – A SUPPLEMENT, NOT A SUBSTITUTE

BY EMBRACING A NEW STAFFING PARADIGM

155,000 NPs

86,000 PAs

17 states allows NPs a full, unsupervised scope of practice
THE NP OR PA WILL SEE YOU NOW... ONLINE

- April, 2010, Park Nicollet rolls out online diagnosis/12 month pilot program
- Online diagnosis of minor problems (cold, flu, acne, bladder infections/allergies)
- $25 per visit
- PAs provide diagnosis
- Available in Alaska, Colorado, Connecticut, Kentucky, Maryland, Massachusetts, Minnesota, New York, Rhode Island, Washington and Wisconsin

Source: Zipnosis
THE RETAIL BOOM

- Retail clinics relieve the burden of routine office visits on physicians
- 1400 retail clinics today
- Number of visits to retail clinics 2007: 1.4 million
- Number of visits to retail clinics 2010: 4.1 million
- CVS owns 750 “Minute Clinics” today, plans on 1,500 by 2017
- Walgreen’s own 400 Healthcare Clinics today, plans on expansion
- Average cost for a 14-day episode of 10 most common diagnoses in a retail clinic: $484-$543
- Average cost in doctors office, hospital outpatient department, or ED: $704

Source: Modern Healthcare, November 2013
A term coined by Clement Bezold, PhD, at the Institute for Alternative Futures for Physicians, for physicians who will focus on care management of patients with multiple chronic conditions, treating illnesses, and monitoring physical activity, nutrition, and social/behavioral determinants of health.

Source: AMN’s Guide to Healthcare Staffing
• The chance to finish medical school early attracts students burdened with six-figure education loans

• Allowing students to finish medical school faster and reduce student loan debt entices medical students to move to primary care rather than more lucrative specialties

• NYU, Texas Tech University, and Columbia University have already launched three-year medical school programs

• The 2015 MCAT will include questions that focus on the psychological, social, and biological foundations of behavior

• Kaiser Permanente implemented training program focusing on empathy and patient satisfaction

• Since implementing program, member satisfaction scores have risen steadily while reducing costs

• Milt Hammerly, M.D., studied “emotional intelligence” and concluded that higher emotional intelligence leads to greater patient satisfaction and clinical outcomes

Source: Hospital and Health Networks, October 2013
• Healthcare provider who possesses “the temperament and personality of a good grandparent”

• Improve preventive care and self-care while keeping people out of clinical settings who could be better cared for at home

• A 2012 Health Affairs study calculated the cost of each Grand-Aides encounter to be $16.88 – considerably less costly than a doctor or emergency department visit

• Allow physicians to focus their time on new patients and to give more attention to the most critical cases

Source: Journal of the American Board of Family Medicine
Shared Medical Appointments
- 6 to 15 patients
- 90 minutes
- Physicals
- Well-child check-ups
- Pre-natal care
- Chronic illness management

“There is sufficient data to support the effectiveness of group visits in improving patient and physician satisfaction, quality of care, quality of life and in decreasing emergency department and specialist visits.”

Source: Journal of the American Board of Family Medicine
A growing number of hospitals are using “telepresence robots” to expand access to medical specialists.

Mobile videoconferencing machines that stand about on wheels and are about five feet tall with a large screen that projects the doctor’s face.

Approved by the USFDA.

Source: Associated Press, November 2013
There are more than 40,000 healthcare apps on iTunes.

American Well in 2013 offers what it claims is the first live, immediate, virtual physician exams via mobile devices, the web, and at kiosks for $49 for 10 minutes with a physician — or just send a picture of your sore throat!

Source: National Journal, November 2013
Wireless home monitoring devices will increasingly connect patients to physicians

Patients can take their own weight, blood pressure, and other key metrics and in doing so avoid those “everything is the same” doctor visits

The Boston-area Center for Connected Health program enrolled 1,200 patients and produced a 50% reduction rate in heart failure related 30-day readmissions and a 44% reduction in non-heart failure readmissions

Key: Pay doctors for non-face-to-face visits

Source: HealthLeaders, October 2013
GOODBYE “EMINENCE-BASED” MEDICINE

“Eminence Based Medicine”
Making the same mistakes with increasing confidence over an impressive number of years

~BMJ, Vol. 1 Sept 2001

“Evidence Based Medicine”
Rapidly integrating individual clinical expertise with the best available external clinical evidence from systematic research.
• Keep patients (and doctors) out of the ED

• A study of Medicare Advantage enrollees showed that telephone management intervention delivered by nurses reduced diabetes-related hospitalizations by 37% and diabetes related ED visits by 29%

• Through case management, the study predicts overall demand for endocrinologists could be reduced by 4-5%

Source: Health Affairs, November 2013
Denmark may be the trendsetter.

After determining patients were not having their end-of-life wishes met, the country changed course from well over half of people dying at hospitals a decade ago to 92% dying at home today.

Source: Pharma and Healthcare, July 2013
THE REAL AGE OF HEROIC MEDICINE?

✓ “Targeted therapies” avoid the “carpet bomb” approach
✓ Reduced side effects, reduced doctor visits
✓ BioPrinters
✓ Face Transplants
✓ Teleradiology/Telemedicine
✓ Non-invasive Techniques
✓ Gene Therapy
✓ Neuroprosthetics

One out of three people born in the United States today will live to be 100
Fast PCR machine can recognize disease-causing pathogens by obtaining the bacterium or virus DNA and rapidly copying it to identify the illness.

Submit a sample and have it processed while the doctor performs a check-up.

Appropriate treatment could be decided upon before the exam is completed.
BUT CAN THIS…

…REALLY REPLACE THIS?

Time will tell, but so far, nobody has picked up their $10 million prize
A Raised Hand – Blog by Kurt Mosley

Follow on Twitter: @Kurt_Mosley
If you have any questions, please contact Kurt Mosley at:
Kurt.Mosley@amnhealthcare.com

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