The Academic Health Center Concept

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The Association of Academic Health Centers International (AAHCI)

• The *only* global organization representing *all* the education, research, and patient care/population health missions of both fully developed and developing academic health centers, systems, and networks

• More than 90 members in the U.S. and 50 worldwide
AAHCI seeks to help our members:

• Apply knowledge to improve health and well being, and

• Build the knowledge economy and apply it in patient care
What is an academic health center and why is it important?

• An academic health center combines education, research, patient care, and population health in a highly synergistic manner
An academic health center can achieve the “Virtuous Cycle”

The clinical and academic missions support each other and make each other better
An academic health center is uniquely positioned for 21\textsuperscript{st} century medicine

- It is flexible and forward-looking
- It works with many disciplines
- It has the capacity to adapt as well as to reinvent the future of healthcare
- Its focus is health and well-being

It creates a “learning health system”
The ultimate goal:

• Improved health and well-being through:
  – Education of the 21st century health workforce
  – Science and research
  – Creation and adaptation to new technologies
  – Sharp focus on population and global health
Healthcare faces many challenges!!*

- Business sector and market forces
- Consumer empowerment
- Disease patterns
- Globalization
- Pace of change
- Politics and policies
- Population demographics
- Science
- Societal needs and values
- Technology

*In alphabetical order

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Education

• New skill sets needed:
  – Work in interprofessional teams
  – Work with big data and smart machines
  – Understand and communicate probabilities to increasingly informed patients
  – Focus on health equity
Science and research

• We are in a new phase of medical discovery that will focus on precision medicine
• This changes the paradigm for care delivery, drug discovery, and virtually everything else
Technology

• We are entering the era of the “Fourth Industrial Revolution”
  – The convergence of a large number of technologies
• Changes fundamentally the nature of the medical practice
Population and global health

- Focus on health equity by design
- Creative management of chronic diseases
- Taking full advantage of smart phones and other global technologies
The forces at play in 21\textsuperscript{st} century healthcare are in effect creating a “new physics” of patient care

• These forces are creating a perfect storm for the transformation of healthcare
• Academic health centers are the ideal institutions to be at the center of these transformations
The new “physics” of patient care

\[ E = mc^4 \]
The **Emerging model of healthcare**\(^a\), where:

- \( m \) = the population, both individually and collectively
- \( c^4 \) =
  - \( c^1 \) = care anywhere
  - \( c^2 \) = care in teams
  - \( c^3 \) = care by large data sets
  - \( c^4 \) = care by machines

\(^a\) Inspired by Eric Dishman’s Ted Talk at [http://www.ted.com/talks/eric_dishman_health_care_should_be_a_team_sport.htm](http://www.ted.com/talks/eric_dishman_health_care_should_be_a_team_sport.htm).
Care anywhere (c¹)

- Technology is moving with and inside the patient’s body, wherever the patient may be
- Large, fixed infrastructures are necessary, but could be configured differently
- Consumers want convenience and one-stop shopping
Care in teams ($c^2$)

• The sacrosanct one-to-one doctor patient relationship is being replaced by relationships with multiple health professionals

• Figuring out how to gain the most value from team care is key

• Reimbursement must be supportive

• Scope of practice needs careful re-design
Care in large data sets ($c^3$)

- Collections of huge meta-data sets are becoming standard for patients, eventually leading to continuous monitoring.
- A new interpretive and functional infrastructure is required to manage this data.
- Locus of decision-making is shifting.
Care by machines (c4)

• They can out-perform humans in many tasks (surgery, data storage and recall)
  – They don’t have to be perfect, but just make less mistakes than humans
• Their abilities don’t decline with age and are easily updated
• They are “friendly” to administrators and supervisors
• They don’t get tired
• In short, machines are a real threat to conventional medical practice
Robots trending in healthcare
- Examples -

• Data management: Watson-like models
• Dispensing meds: robot pharmacists
• Administering cancer treatments: Nano robots
• Diagnosing diseases: pap smear screening
• Caring for the elderly: 24 hour live-in robots
• Surgical robots: now a billion dollar industry in a growing range of medical specialties
• Medicine is becoming digital...we’ll eventually be able to use artificial intelligence instead of doctors for much of our health care

  - Vivek Wadhwa in Forbes, 12/14/15,
Managing the interface between humans and machines

- Calls for a new role for healthcare practitioners-

This is the first offering of the new AAHC Thought Leadership Institute
But there is more to healthcare...

The new “physics” of patient care

\[ E = mc^5 \]
c⁵ = Compassion

• Not every patient can be saved, but illness may be eased by the way doctors respond

- Adapted from Intoxicated By My Illness, Anatole Broyard, Ballentine Books, 1992

C⁵ must become even more of a priority in our education programs
The path forward for academic health centers in 21st century healthcare

Be guided by a strong commitment to aligning patient care, teaching, and research

The AIM Program

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**Purpose of AIM**

The AAHCI Aligned Institutional Mission (AIM) Program is intended to assist academic health centers in:

- setting and meeting their strategic goals;
- measuring organizational alignment; and
- benchmarking their success

The AIM program respects the diversity and cultural heterogeneity of our member institutions around the world. AIM is not a “one size fits all” program. It will be tailored to benefit each institution on an individual level. It is AAHC peer reviewed and evaluated.
Implementation Plan – Phases

**Development Phase**
Design and optimization – 2016/2017

**Pilot Phase**
Full model testing, fine tuning, program finalized and prepared for launch – 2017/2018

**Launch**
Full roll-out, program to be supported by application fees – 2018
Development Sites

• Seoul National University, Seoul South Korea
• Universitas Indonesia Faculty of Medicine, Jakarta Indonesia
• University of Arkansas, Little Rock USA
• University of Southern California, Los Angeles USA

Pilot Sites Now Being Identified
In conclusion: Academic health center goals

- *Restructure health professions education* to meet changing and evolving societal needs
- *Link research* to improved health outcomes
- *Transform patient care* based on population needs and priorities
An academic health center will be well-positioned for success if:

• It captures the power of an organization that *aligns* teaching, research, and patient care
• It focuses on the *next generation* of education, research and patient care
• It has the *transformational leaders* to change culture and behavior
• It enters into *strategic partnerships* that advance health and well-being
Thank you