Capacity Building for a Global Health Workforce
Presentation for the Innovations in Global Medical & Health Education Forum

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The world is changing rapidly.

Increasing demand
More tools
Enhanced capacity for collaboration

NCDs
Aging
Health Disparities
Emerging & Re-emerging Infections

Urbanization
Climate change
Science & Technology & Data

Globalization
Democratization of Health
Healthcare system must change.

Needs:

• Disease → Health and Wellness
• Treating organs → Treating the whole person
• High-tech therapies for disease treatment → High-touch to promote health behaviors
• Hospital-based → Community-based
• Personalized & precise
• Patient-Focused
• Democratized
Health workforce should meet healthcare needs in terms of:

**Capacity** and **Competence**
Health professionals for a new century: transforming education to strengthen health systems in an interdependent world

The Lancet and Education of Health Professionals for the 21st Century Commission

“Health is about people: the core driving purpose of professional education must be to enhance the performance of health systems for meeting the needs of patients and populations in an equitable and efficient manner.”
Insufficient capacity and poor distribution...

A. Population

B. Burden of disease

C. Number of medical schools

D. Workforce

Need greater capacity and better distribution...

### Urban/rural distribution of doctors and nurses worldwide, 2012

<table>
<thead>
<tr>
<th>Population</th>
<th>Nurses</th>
<th>Physicians</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban 50%</td>
<td>Rural 50%</td>
<td>Rural 38%</td>
</tr>
<tr>
<td>Urban 62%</td>
<td></td>
<td>Urban 76%</td>
</tr>
<tr>
<td>Rural 24%</td>
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</table>

**Sources:**

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Gaps in skills and competencies...

Current HPE:
• Teaches disease-centered care
• Emphasizes acute care
• Is fragmented and poor teamwork
• Episodic encounters rather than continuous care
• Provides insufficient understanding of community health
• Provides little training on use of information systems
• Mismatch of competencies to patient and population needs
Health professionals need new skills and competencies…

• Social and economic health determinants
• Primary care + public health
• New technologies
• Data collection and analysis
• Policies, systems, regulations
• Leadership & management
• Interprofessional & collaborative skills
Need a 21st century reform

## Multiple levels of learning

<table>
<thead>
<tr>
<th>Level</th>
<th>Objectives</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Informative</td>
<td>• Information</td>
<td>Experts</td>
</tr>
<tr>
<td></td>
<td>• Skills</td>
<td></td>
</tr>
<tr>
<td>Formative</td>
<td>• Socialization</td>
<td>Professionals</td>
</tr>
<tr>
<td></td>
<td>• Values</td>
<td></td>
</tr>
<tr>
<td>Transformative</td>
<td>• Leadership attributes</td>
<td>Change agents</td>
</tr>
</tbody>
</table>

To train an effective workforce, education system must be aligned with health system needs

Institute of Medicine: IOM Global Forum on Innovation in Health Professional Education

62 Members
18 professions
Nursing · Pharmacy · Dentistry · Public Health · Physician Assistants · Psychology · Social Work · Complementary and Alternative Health · Physical Therapy · Nutrition and Dietetics · Occupational Therapy · Speech, Language, and Hearing · Veterinarian · Optometry · Allied Health · Communication Sciences · Counselors (mental health)

8 countries
China · Thailand · India · Uganda · South Africa · USA · Canada · Belgium

45 Sponsors
HPE should address both capacity and competency issues:

- Develop a right-skilled and efficient workforce
- Enhance interprofessional practice
- Connect with the community
- Build leadership
- Build IT competency
Develop a right-skilled and efficient workforce

- Health professionals should be using their training and skills to their maximum potential.
- If multiple people have the training to perform a given task, we must avoid duplication of effort. The task should not be given to the person who is overly trained but rather to the next levels providers to practice at the top of their training.
Develop a right-skilled and efficient workforce

“Simply increasing the numbers of physicians is unlikely to resolve workforce shortages in the regions of the country where shortages are most acute and is also unlikely to ensure a sufficient number of providers in all specialties and care settings. The evidence instead suggests that, although the capacity of the GME system has grown in recent years, it is not producing an increasing proportion of physicians who choose to practice primary care, to provide care to underserved populations, or to locate in rural or other underserved areas.”
Develop a right-skilled and efficient workforce

Educate to the highest level possible
Develop a right-skilled and efficient workforce

_HPE should include training for many types of health workers._

Eg. Community health workers, health officers
- Often relate better to patients
- Possess better knowledge of community structures, entry points into patients’ lives
- Lower cost

**Le Nest, China:** Trained volunteers and professionals provide NCD disease management education, physical and psychological interventions, physical therapy, and hospital-visit counseling for a fixed yearly membership fee.
Enhance inter- and trans-professional practice

Enhance inter- and trans- professional practice

Transdisciplinary professionalism: *an approach to creating and carrying out a shared social contract that ensures multiple health disciplines, working in concert, are worthy of the trust of patients and the public.*

Connect with Community

University of the Philippines, Manila School of Health Sciences

- Students are recruited from underserved communities, who nominate scholars.
- Required “service leave” in home community
- Competencies based on local needs
  - Eg. Training for multitasking, since shortage of health workers makes it necessary for professionals to do juggle many tasks
    - Training as community organizers
    - Training for leadership and supervision
    - Training for co-ownership and co-creation with other professionals and community.
Health Leadership Development: Vision

There is a growing demand for trained leaders with real-world experience and innovative approaches to healthcare leadership

Initial goal to train current and future leaders across health care in four themes
- Leadership, Management, Innovation, Quantitative health sciences

Longer term goal to contribute to developing the workforce of the future
- New roles across clinical and non-clinical care to enable task shifting, care teams, and coordination

Dzau VJ 2014
Duke Medicine is defining a Health Leadership Development core curriculum, from which we can create multiple learning experiences from customized training to degree programs with an initial focus on clinician leaders.

**The Training Continuum**
- **Executives**
  MBA, MHSA (future)
- **Faculty**
  CCHAMP, MMCi, LEADER
- **Residents & Fellows**
  MLPR, Master in Clinical Leadership
- **Medical Students**
  PCLT, Feagin, LEAD, MD/MBA
- **Undergraduates**
- **High School Students** (City of Medicine Academy)

**Competencies**
- **Strategy**
- **Leadership**
- **Financial Decision Making**
- **Finance**
- **Healthcare Ethics**
- **Customer Relationship Management**
- **Marketing**
- **Service Operations**
- **Negotiation**
- **Managing Human Resources**
- **Effective Decision Making**
- **Healthcare Law**
- **Healthcare System Overview**
- **Innovation**
- **Quality and Safety Management**
- **IT for Healthcare**

*Advising the nation • Improving health*
Duke Medicine: Creation of Leadership and Management Programs

Management and Leadership Pathway for Residents (MLPR)
● 15-18 months of *project driven* management rotations/modules combined with clinical training. Rotations aligned with clinical requirements, trainee interests, and institutional priorities where trainees are teamed with DUHS senior leadership

Chancellor’s Clinical Leadership in Academic Medicine Program (C-CHAMP)
● Provides a management toolkit for mid-career clinicians, that allows them to lead and grow their departments and divisions with increased efficacy.

The Master of Management in Clinical Informatics (MMCi)
● MMCi represents an innovative curriculum that develops the leadership workforce of the future who are fluent in the use of data to drive strategic decision making.
A Learning Health System Curriculum at Duke

<table>
<thead>
<tr>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
</tr>
</thead>
</table>
| **Who:** All GME trainees  
Begin with IM, Peds, ED, Radiology | **Who:** 5-8 GME trainees  
(resident and fellow) | **Who:** Strategy group |
| **What:** ACP-HVCC or adapted interactive curriculum | **What:** Learning Health Care curriculum, with test cases drawn from DUHS-prioritized HVCC concepts | **What:** planning IT integration; choosing health system priorities; commercialization |
| **How:** Group discussion format; digital formats | **How:** Ongoing group project work | **How:** Planning group integrated w/ IDEAs, DIHI |
| **Deliverables:** Curriculum, with post testing; field evidence of impact | **Deliverables:** LHC curriculum; two demonstration projects | **Deliverables:** Project options for Level 2; IT-based tools; development strategy |
| **Leads:** S. Woods/C. Avery | **Leads:** Abernethy/Zaas | **Leads:** Cho/Kaminiski |
Education needs to meet the unique needs of the place.
Countries & regions are different:
Unique states of economic and health system development.

<table>
<thead>
<tr>
<th>Country</th>
<th>Economy</th>
<th>WHO 2000 Health Systems Ranking (out of 190)</th>
<th>Infant Mortality Rate (deaths/1,000 live births)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Singapore</td>
<td>High-Income (GNI $12,746/capita or more)</td>
<td>6</td>
<td>2.59</td>
</tr>
<tr>
<td>United States</td>
<td></td>
<td>38</td>
<td>5.2</td>
</tr>
<tr>
<td>Qatar</td>
<td></td>
<td>45</td>
<td>6.6</td>
</tr>
<tr>
<td>China</td>
<td>Upper-middle-income (GNI $4,126- $12,745/capita)</td>
<td>144</td>
<td>15.20</td>
</tr>
<tr>
<td>Tanzania</td>
<td>Low-income (GNI $1,045/capita or less)</td>
<td>156</td>
<td>45.1</td>
</tr>
<tr>
<td>Rwanda</td>
<td></td>
<td>172</td>
<td>61.3</td>
</tr>
</tbody>
</table>
Countries & regions are different:
Unique health burdens.
Countries & regions have different needs

• Low income countries, developing health system (Tanzania, Rwanda)
• Upper middle countries, developing health system (China)
• High income countries, developing health system (Qatar)
• High income countries, developed health system (Singapore)
• High income countries, high cost health system (USA)
Low-income economies

Needs often include:
• More health workers
• Physical infrastructure
• Accreditation systems
• Retention of faculty and graduates
Low-income economies: Tanzania

KCMC & Duke:
• IT infrastructure
• Research capacity
• Administrative and regulatory capacity
Low-income economies: Rwanda

Rwanda Human Resources for Health Program
Building clinical skills through mentoring and training partnerships.
Upper middle income economies, developing health system: China

Needs:

- Many medical graduates in China do not enter into professional practice, but pursue employment in other areas such as industry.
- Narrowly-focused curriculum.
- Rigid pedagogical methods.
- Much of clinical training is confined to hospitals.
- Graduates have limited knowledge about primary care and disease prevention.

Upper middle income economies, developing health system: China

Undertaking a major education reform, started in 1998

Independent medical training → health professional education in universities.

- Increasing number of students
  - National target of 300,000 GPs by 2020

- More clinical experience
  - GPs should have 3 years of medical education + 2 years of residency training

- Incentives for rural practice
  - Rural Doctors Program: students serve 6 years at township health centers in return for free tuition and living expenses

High-income economies, developed health system: Singapore

Needs:
• Medical leaders
• Biomedical research
High-income economies, developed health system: Singapore

• Duke-NUS: Part of the National University of Singapore system but curriculum is patterned after Duke School of Medicine

• Exposes medical students and doctors to clinically-related research

• Signature research areas include: Health services and systems research, cancer and stem cell biology, CV and metabolic disorders, emerging infectious diseases, neuroscience and behavioral disorders
High-income economies, developing health system: Qatar

Needs:
- Stronger local capacity
- More efficient workforce
- HPE that transcends silos
High-income economies, developing health system: Qatar

Response:

- Trying to make health professions more attractive
- Weil Cornell Medical College in Qatar
- Academic Health Center
- Interprofessional Health Council
- Qatar National Research Fund—grants for developing IP competency
- Qatar University College of Medicine
High-income economies, high-cost health system: United States

Needs:

• Lower cost
• Health equity
• Personalized & precise
• Patient-Focused
• Quality and outcomes
• Better balance between specialization and primary care
Examples of IOM activities
High-income economies, high-cost health system: United States

Responses:
• Leadership development
• Increasing emphasis on primary care
• Reform GME
• Enhance nursing and provider education
• Interprofessional education
• Physician-scientist development
• Incentives for service in low-resource areas
• New financing models (with incentives for innovation)
• Increased opportunity for innovation
Whatever the context, every place will have to innovate.
To build education systems that meet 21st century local and global needs, we will need to have innovation in:

- Organizational structure
- Financing structures
- Curriculum
- Pedagogy/teaching methods
- Leadership development
- Recruiting methods
Education needs to be innovative

Engaged learning: Flipped classrooms

Resourceful learning: Simulations

Self driven Learning

Democratized education: Massive Open Online Courses
Students need to learn how to be Innovative

GME Innovation Fund
Workshops | Bootcamps | Design-thinking training | Forums for sharing ideas

DIHI Workshop Application

Do you have an interesting problem? Great! DIHI wants to hear what you think should be done better. We want to solve problems related to the experience and delivery of health care that could benefit from a fresh, multi-disciplinary perspective. Together we will create a targeted workshop session with those familiar with the problem (domain experts) and other problem-solvers in pursuit of exploring a solution space. We are always accepting new applications.

In one sentence, tell us what the problem is that you'd like to solve.
Global HPE Reform: Enabling Actions

- Mobilize leadership
- Enhance investments
- Align accreditation
- Strengthen global learning
Conclusion

• The world is in need of a global health education reform.
• Reforms should be globally informed but locally specific.
• Moving forward, let’s train health professionals who can:
  o Connect with patients
  o Identify problems and imagine new solutions
  o Lead us toward a brighter future

Goal: Transformative & interdependent professional for equity in health