Healthcare Professional Education and Training

Lifelong Learning

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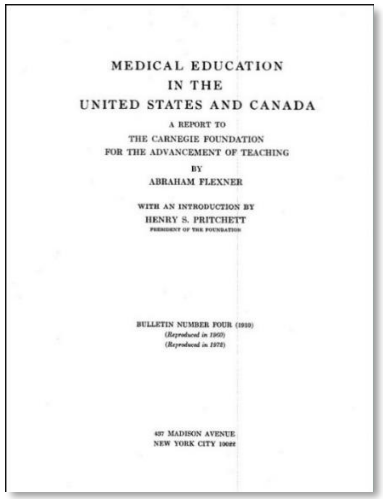
清華大學 Tsinghua University

How do we currently educate & train our healthcare workforce?

Flexner report (1910)



MEDICAL EDUCATION
IN THE
UNITED STATES AND CANADA

A REPORT TO
THE CARNEGIE FOUNDATION
FOR THE ADVANCEMENT OF TEACHING
BY
ABRAHAM FLEXNER

WITH AN INTRODUCTION BY
HENRY S. PRITCHETT

BULLETIN NUMBER FOUR (1910)

Physicians

Lancet Commission (2010)

EDUCATION OF HEALTH PROFESSIONALS FOR THE 21ST CENTURY:
A GLOBAL INDEPENDENT COMMISSION

THE LANCET

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

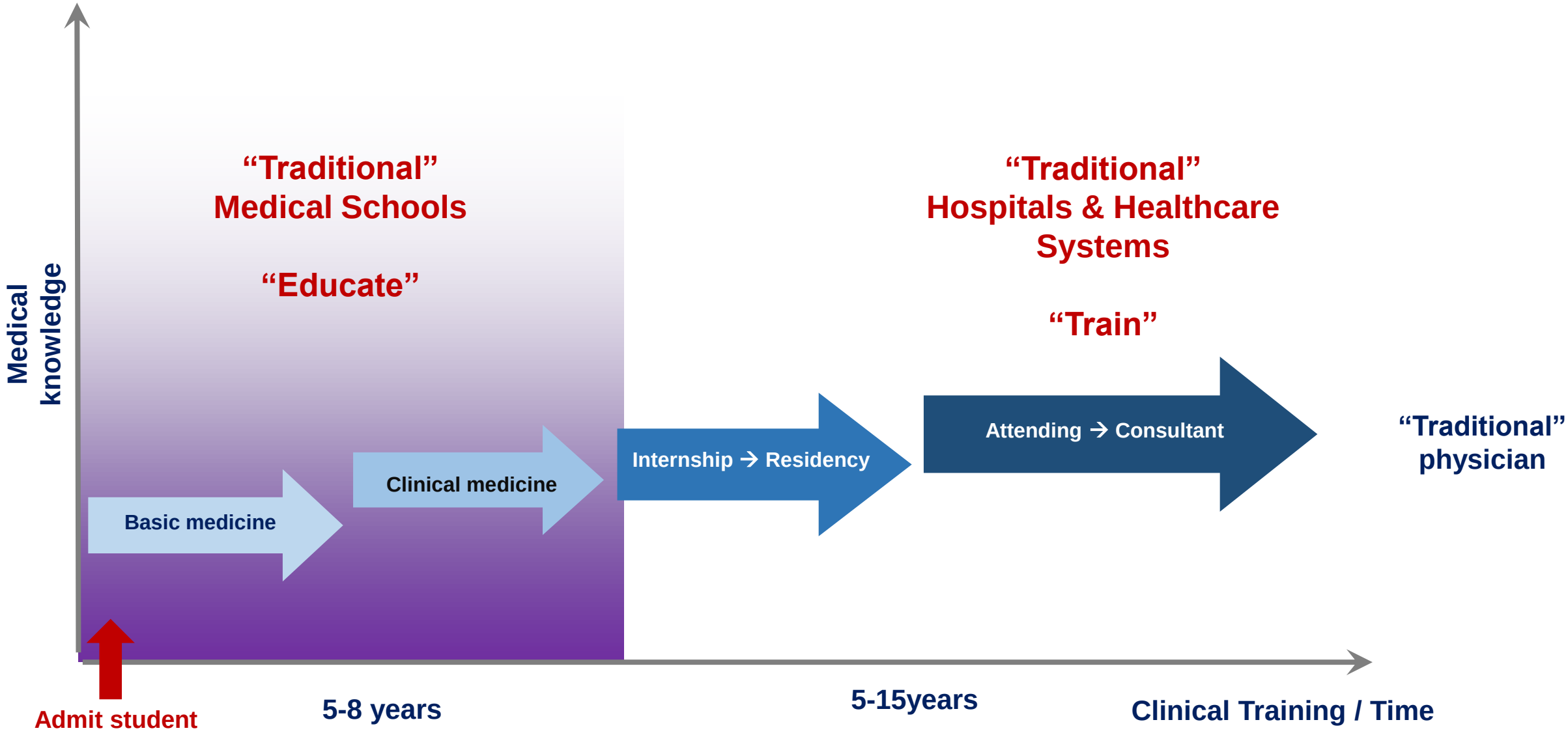
Julio Frenk, Lincoln Chen*, Zulfiqar A Bhutta, Jordan Cohen, Nigel Crisp, Timothy Evans, Harvey Fineberg, Patricia Garcia, Yang Ke, Patrick Kelley, Barry Kistnasamy, Afaf Meleis, David Naylor, Ariel Pablos-Mendez, Srinath Reddy, Susan Scrimshaw, Jaime Sepulveda, David Serwadda, Huda Zurayk*

Healthcare professionals
…team-based care…
…**non-physician** workforce

…Future

…how do we select, admit and train physicians and other healthcare professionals in the **era of rapid technological** and **societal changes**?

How do we currently educate and train our healthcare professionals?



How do we currently educate and train our healthcare professionals?

1. How do we **select and admit** appropriate students for medicine and healthcare?

2. What do we need to do to **prepare** these future healthcare professionals?

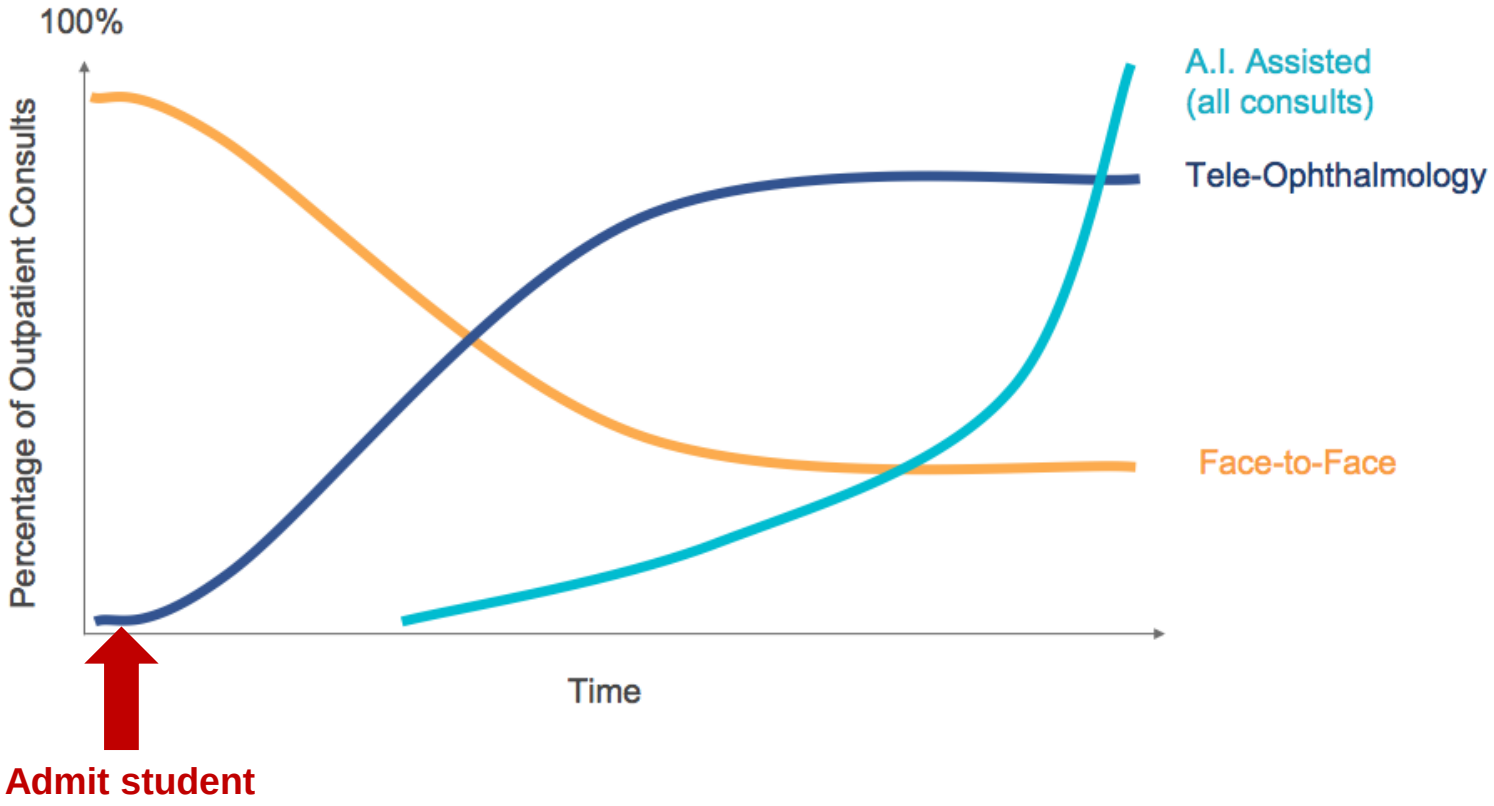
3. How and importantly, **where** do we **educate and train** them?


What is my role in the care of this patient? Why have I not been told this is how I will be working?


What has medical school taught me for this role? Do I want to continue to be a physician?

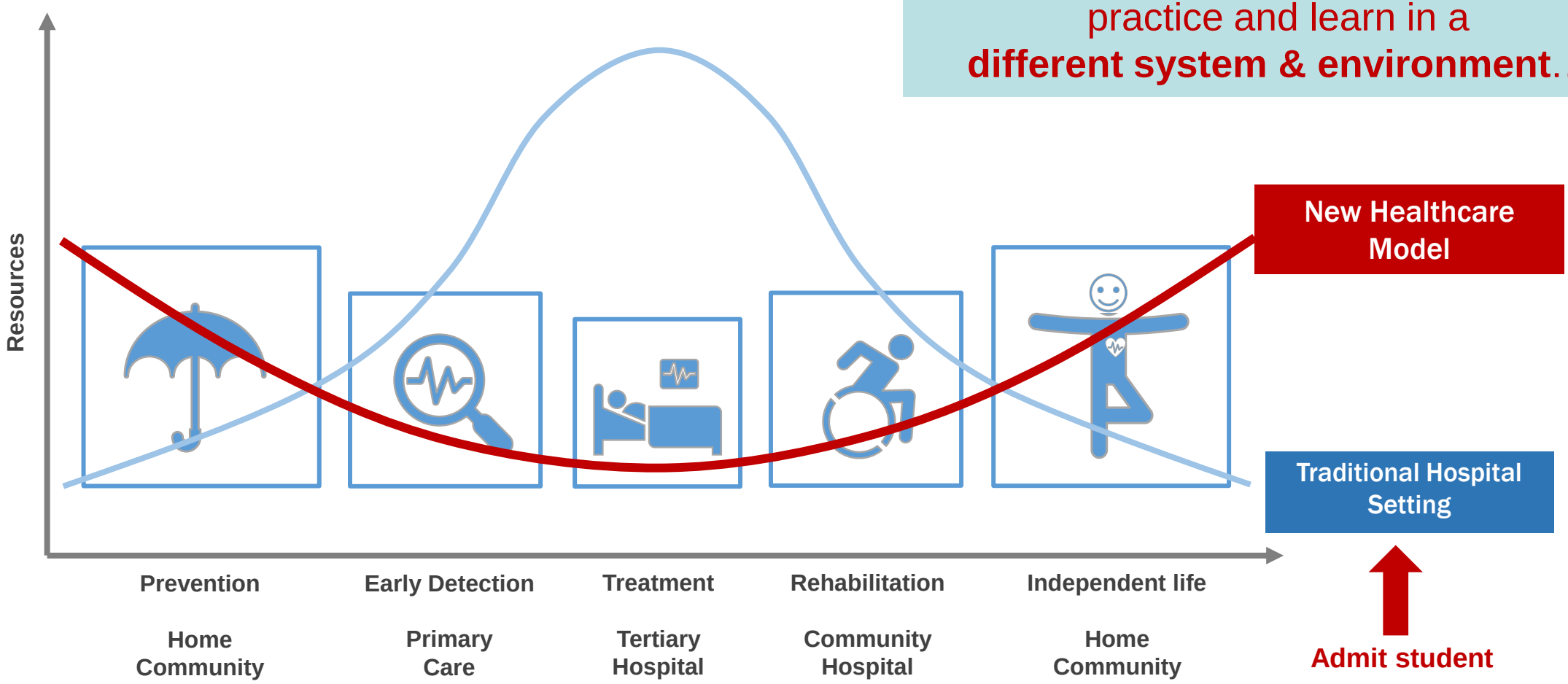
#1. Is our current Admission & Selection **process** “appropriate”?

Healthcare Consults in the Future



#1. Is our current Admission & Selection **process** “appropriate”?

…students we select and admit will work practice and learn in a **different system & environment**…



Quelle: Own illustration based on George Crooks, Digital Health & Care Innovation Center, ICIC, Odense 24.5.2022

#1. Is our current Admission & Selection **criteria** “appropriate”?

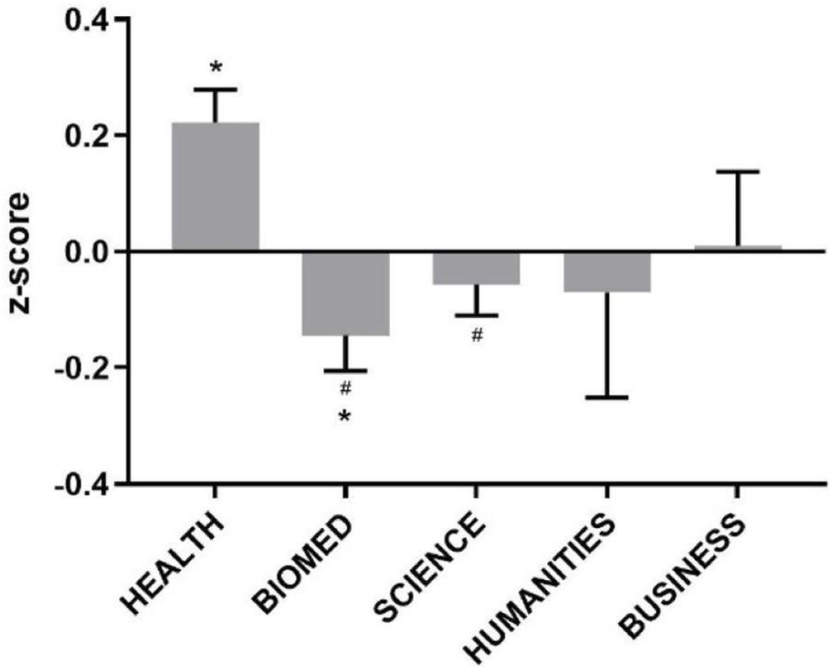
Aston-Mourney *et al. BMC Medical Education* (2022) 22:700
https://doi.org/10.1186/s12909-022-03768-y

BMC Medical Education

RESEARCH Open Access

Prior degree and academic performance in medical school: evidence for prioritising health students and moving away from a bio-medical science-focused entry stream

Kathryn Aston-Mourney[1,2*], Janet McLeod[1], Leni R. Rivera[1,2], Bryony A. McNeill[1,2] and Deborah L. Baldi[1]



…do we use continue to use “traditional criteria” for future healthcare professionals, focusing on **biomedical science/science** fields

#1. Is our current Admission & Selection **criteria** “appropriate”?

Commentary

Medical School Admissions: Focusing on Producing a Physician Workforce That Addresses the Needs of the United States

Charles G. Prober, MD, and Sanjay V. Desai, MD

Abstract

The aging population, burnout, and earlier retirement of physicians along with the static number of training positions are likely to worsen the current physician shortage. There is an urgent need to transform the process for selecting medical students. In this Invited Commentary, the authors suggest that to build the physician workforce that the United States needs for the future, academic medicine should focus on building capacity in 3 overarching areas. First, medical schools need to develop a more diverse pool of capable applicants that better matches the demographic characteristics of health care trainee and they r

diverse career aspirations. Second, medical schools should recalibrate their student selection process, aligning criteria for admission with competencies expected of medical school graduates, whether they choose to become practicing clinicians, physician–scientists, members of the public health workforce, or policy makers. Selection criteria that overweight the results of standardized test scores should be replaced by assessments that value and predict academic capacity, adaptive learning skills, curiosity, compassion, empathy, emotional maturity, and superior communication skills. Finally,

schools should leverage innovations in data science and generative artificial intelligence platforms. The ability of ChatGPT to pass the United States Medical Licensing Examination (USMLE) demonstrates the decreasing importance of memorization in medicine in favor of critical thinking and problem-solving skills. The 2022 change in the USMLE Step 1 to pass/fail plus the exodus of several prominent medical schools from the *U.S. News and World Report* rankings have exposed limitations of the current selection processes. Newer approaches that use precision education systems to leverage

Continuing Medical Education

Measurement and Correlates of Physicians' Lifelong Learning

Mohammadreza Hojat, PhD, J. Jon Veloski, MS, and Joseph S. Gonnella, MD

Abstract

Purpose
To examine the psychometric properties and correlates of an instrument to measure physicians' orientation toward lifelong learning with attention to differences between full-time and academic clinicians.

Method
The authors mailed a survey in 2006 to a national sample of 5,349 alumni of Jefferson Medical College who graduated between 1975 and 2000; 3,195 (60%) responded. The respondents were classified as full-time

Learning (JeffSPLL) was included in the survey. Factor analysis, regression analysis, and analysis of variance were used to examine the construct- and criterion-related validities of the scale.

Results
Factor analysis of the JeffSPLL items resulted in three factors designated as "learning beliefs and motivation," "attention to learning opportunities," and "skills in seeking information," which supported its construct validity. Alpha reliability coefficients were 0.85 and 0.86, and test-retest reliability

correlated with measures of learning motivation, professional accomplishments, career satisfaction, and commitment to lifelong learning, which supported the criterion-related validity of the scale.

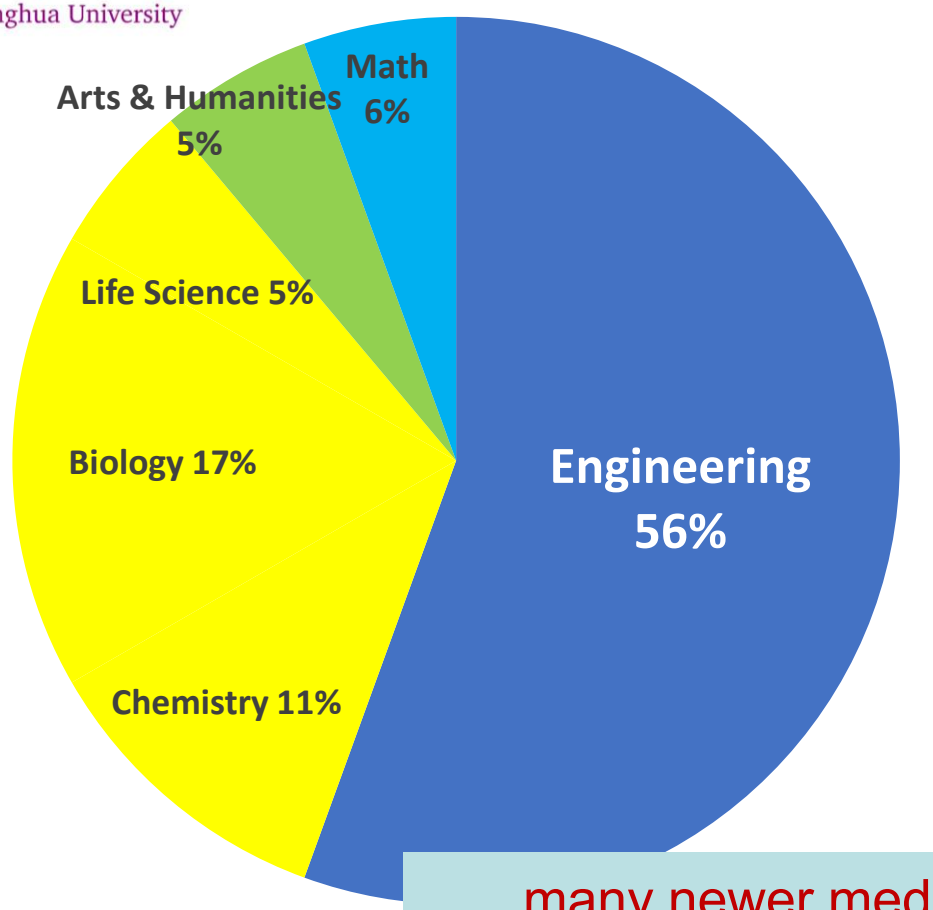
Conclusions
The findings indicate that the JeffSPLL is a psychometrically sound instrument that measures physicians' orientation toward lifelong learning among full-time clinicians and academic clinicians. The instrument can be used to monitor

ucational

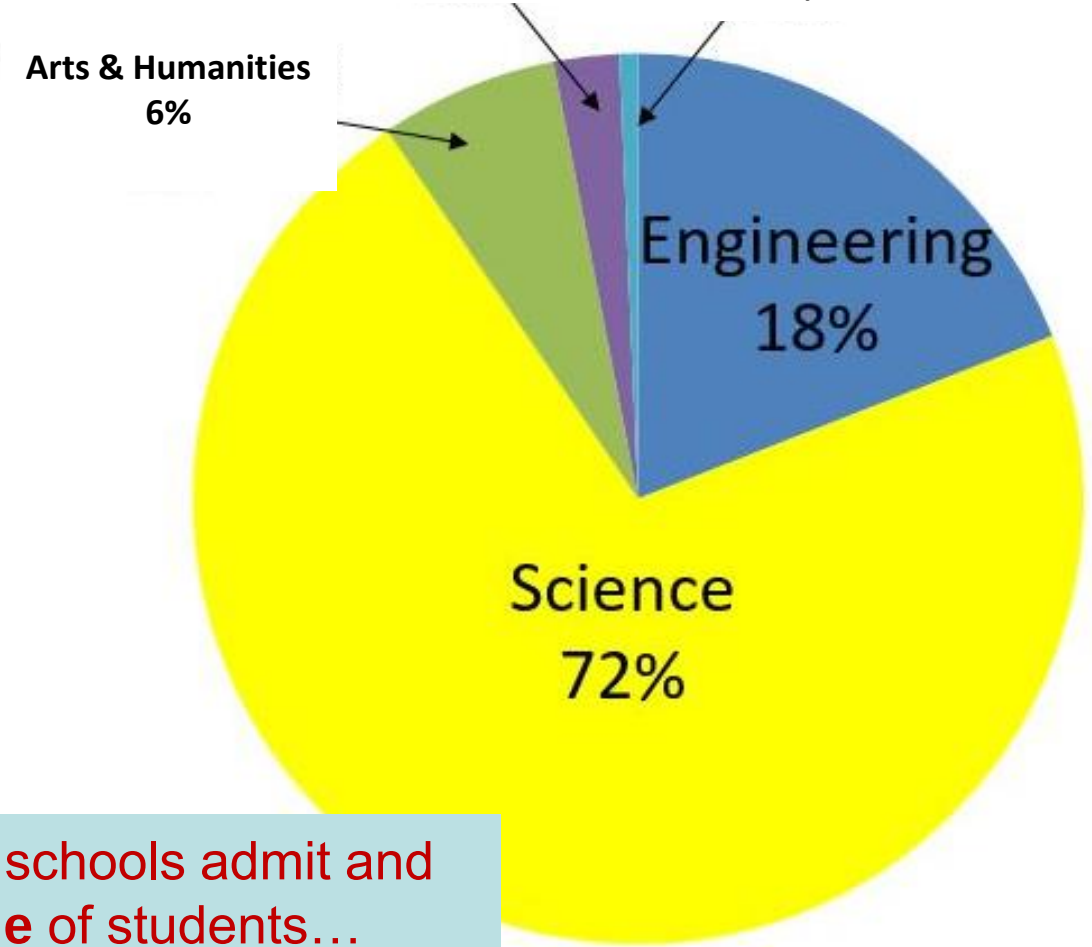
- …medical schools should **recalibrate their student selection process**, aligning criteria for admission with **competencies expected of medical school graduates**, whether they choose to become ***practicing clinicians, physician–scientists, members of the public health workforce, or policy makers***.
- …selection criteria that overweight…standardized test scores should be replaced by assessments that **value and predict** academic capacity, ***adaptive learning skills***, curiosity, compassion, empathy, ***emotional maturity***…communication skills.

#1. Is our current Admission & Selection **criteria** “appropriate”?

清華大學 Tsinghua University



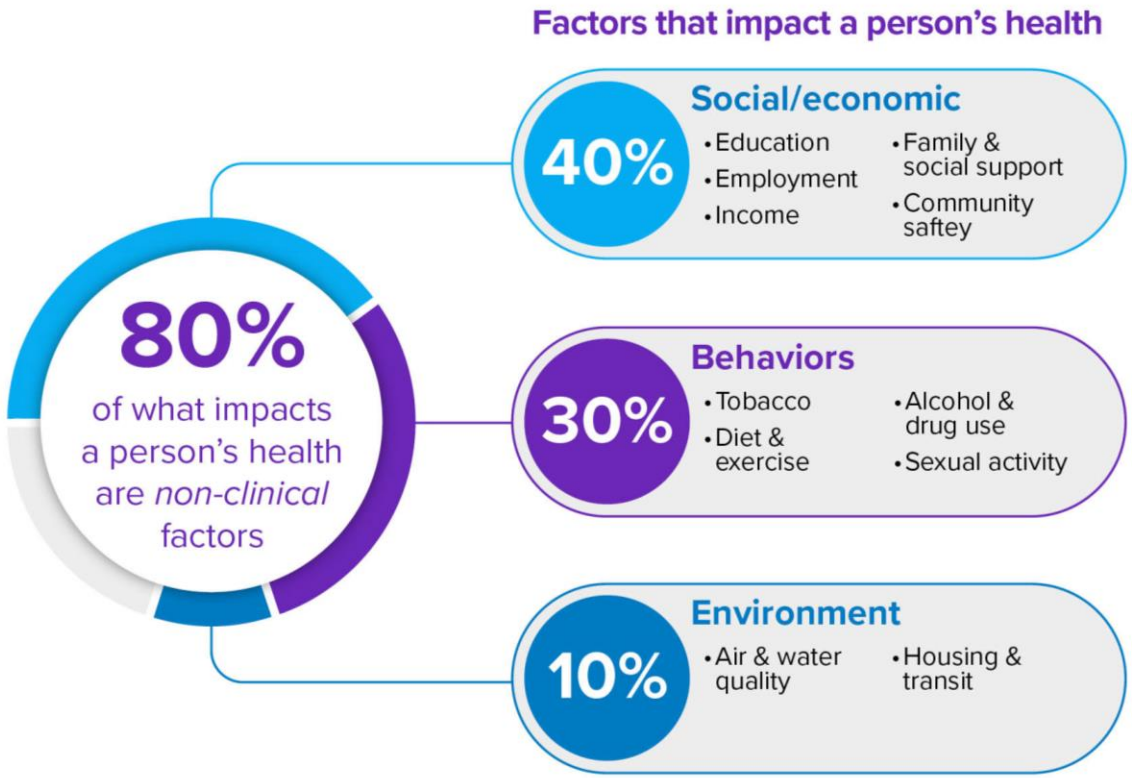
DukeNUS Medical School



…many newer medical schools admit and select **broader range** of students…

#2. How do we **prepare** our Future Healthcare Professionals?

Determinants of health…complex, inter-related, socio-economic, behavioral, environmental factors



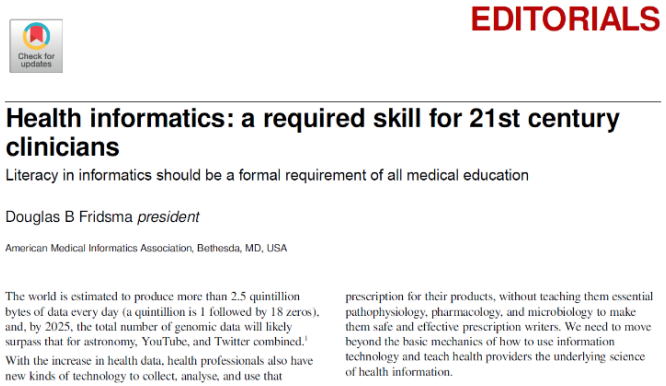
…future-ready healthcare professionals need an appreciation of **social-behavioral-economic and public health issues**

Social Determinants of Health 101 for Health Care: Five Plus Five - National Academy of Medicine (nam.edu)

#2. How do we **prepare** our Future Healthcare Professionals?

Expectations about healthcare in 2-3 years time

#2. How do we **prepare** our Future Healthcare Professionals?



EDITORIALS

Health informatics: a required skill for 21st century clinicians

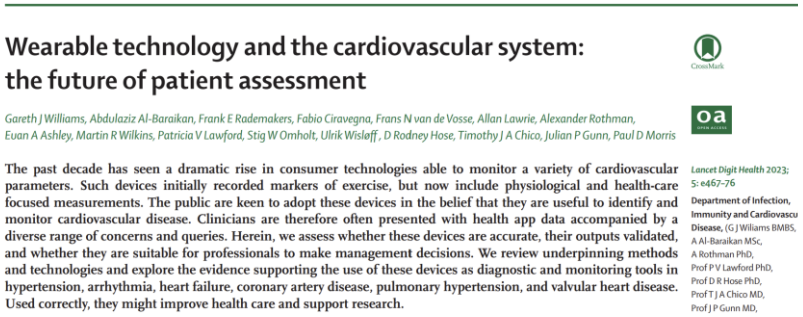
Literacy in informatics should be a formal requirement of all medical education

Douglas B Fridsma *president*

American Medical Informatics Association, Bethesda, MD, USA

The world is estimated to produce more than 2.5 quintillion bytes of data every day (a quintillion is 1 followed by 18 zeros), and, by 2025, the total number of genomic data will likely surpass that for astronomy, YouTube, and Twitter combined.[1] With the increase in health data, health professionals also have new kinds of technology to collect, analyse, and use that prescription for their products, without teaching them essential pathophysiology, pharmacology, and microbiology to make them safe and effective prescription writers. We need to move beyond the basic mechanics of how to use information technology and teach health providers the underlying science of health information.

…**health informatics & data science**



Wearable technology and the cardiovascular system: the future of patient assessment

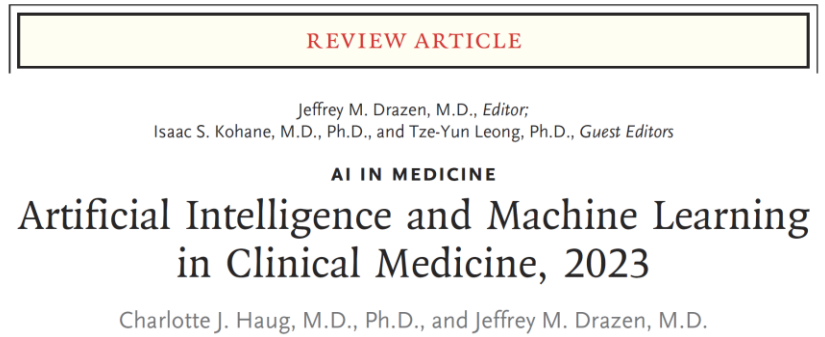
Gareth J Williams, Abdulaziz Al-Baraikan, Frank E Rademakers, Fabio Ciravegna, Frans N van de Vosse, Allan Lawrie, Alexander Rothman, Euan A Ashley, Martin R Wilkins, Patricia V Lawford, Stig W Omholt, Ulrik Wisløff, D Rodney Hose, Timothy J A Chico, Julian P Gunn, Paul D Morris

The past decade has seen a dramatic rise in consumer technologies able to monitor a variety of cardiovascular parameters. Such devices initially recorded markers of exercise, but now include physiological and health-care focused measurements. The public are keen to adopt these devices in the belief that they are useful to identify and monitor cardiovascular disease. Clinicians are therefore often presented with health app data accompanied by a diverse range of concerns and queries. Herein, we assess whether these devices are accurate, their outputs validated, and whether they are suitable for professionals to make management decisions. We review underpinning methods and technologies and explore the evidence supporting the use of these devices as diagnostic and monitoring tools in hypertension, arrhythmia, heart failure, coronary artery disease, pulmonary hypertension, and valvular heart disease. Used correctly, they might improve health care and support research.

Lancet Digit Health 2023; 5: e467–76

Department of Infection, Immunity and Cardiovascu Disease, (G J Williams BMBS, A Al-Baraikan MSc, A Rothman PhD, Prof P V Lawford PhD, Prof D R Hose PhD, Prof T J A Chico MD, Prof J P Gunn MD,

…**biomedical engineering**



The NEW ENGLAND JOURNAL of MEDICINE

REVIEW ARTICLE

Jeffrey M. Drazen, M.D., *Editor;*
Isaac S. Kohane, M.D., Ph.D., and Tze-Yun Leong, Ph.D., *Guest Editors*

AI IN MEDICINE

Artificial Intelligence and Machine Learning in Clinical Medicine, 2023

Charlotte J. Haug, M.D., Ph.D., and Jeffrey M. Drazen, M.D.

…**AI in medicine**

…future-ready healthcare professionals need **inter-disciplinary training**
…particularly in **health informatics, data science, biomedical engineering and AI**

#2. How do we **prepare** our Future Healthcare Professionals?

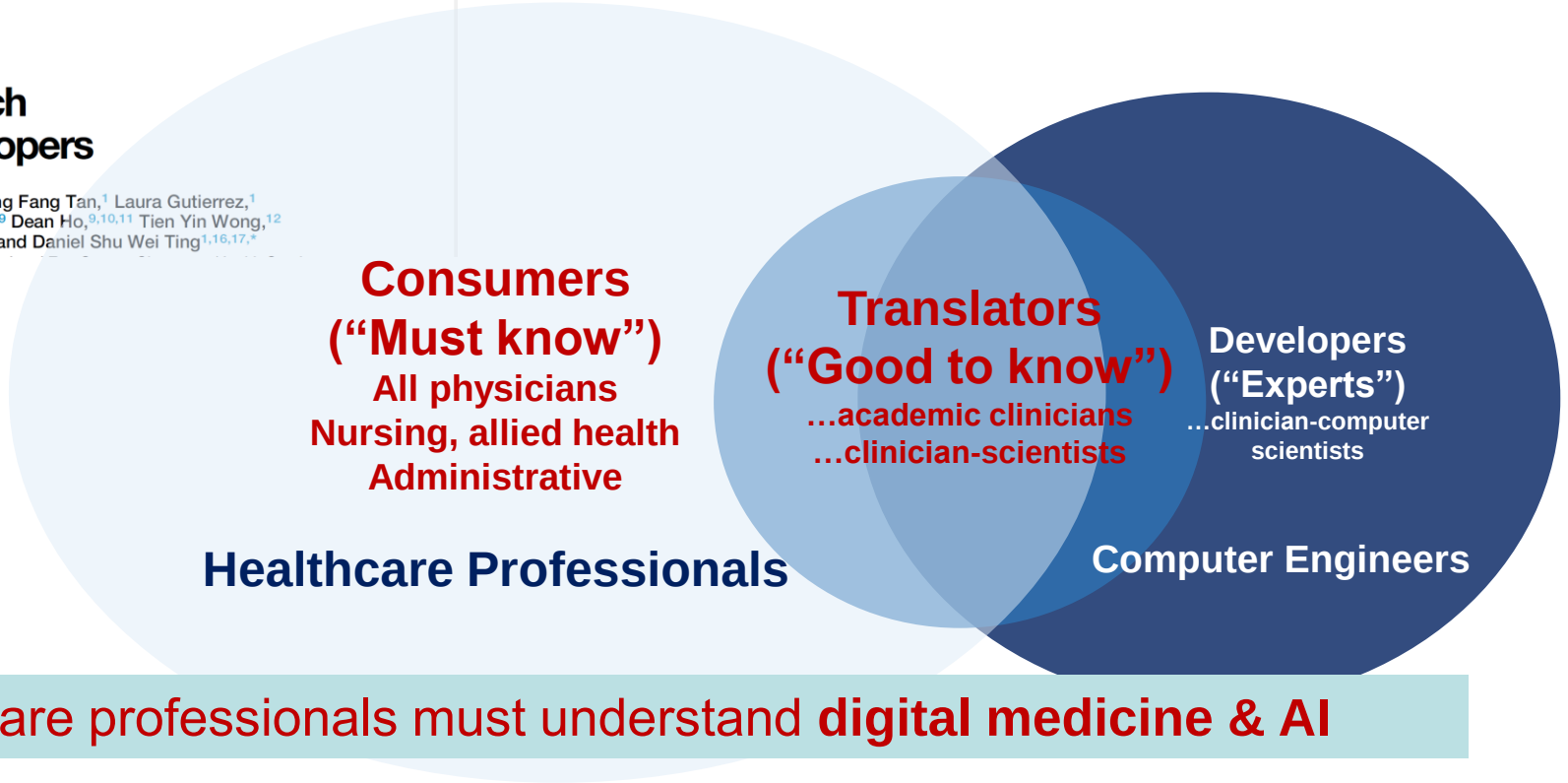
Cell Reports Medicine

CellPress
OPEN ACCESS

Perspective

Artificial intelligence education: An evidence-based medicine approach for consumers, translators, and developers

Faye Yu Ci Ng,[1,2,18] Arun James Thirunavukarasu,[1,3,4,18] Haoran Cheng,[1,5,16] Ting Fang Tan,[1] Laura Gutierrez,[1] Yanyan Lan,[6] Jasmine Chiat Ling Ong,[7] Yap Seng Chong,[2,8] Kee Yuan Ngiam,[2,9] Dean Ho,[9,10,11] Tien Yin Wong,[12] Kenneth Kwek,[13] Finale Doshi-Velez,[14] Catherine Lucey,[15] Thomas Coffman,[16] and Daniel Shu Wei Ting[1,16,17,*]



…future healthcare professionals must understand **digital medicine & AI**

#2. How do we **prepare** our Future Healthcare Professionals?

Inter-disciplinary knowledge, skills & teams

NUS enhances undergraduate healthcare education to future-proof Singapore's healthcare system

The new "**Common Curriculum for Healthcare Professional Education"** will see undergraduates in Dentistry, Medicine, Nursing and Pharmacy learn and collaborate together

"…imbue in students a greater awareness of **social issues** and their impact on health, as well as cultivate **teamwork**, **communication skills** and **digital literacy**….working and communicating in **multidisciplinary** teams…**legal** and **ethical principles** underpinning health services...

…the curriculum combines **healthcare**, **data science**, **AI** and **IT**…"

#3. **Where** should Education and Training be?

What is role of the "academic health system" in Education and Training

The role of academic health science systems in the transformation of medicine

Victor J Dzau, D Clay Ackerly, Pamela Sutton-Wallace, Michael H Merson, R Sanders Williams, K Ranga Krishnan, Robert C Taber, Robert M Califf

The challenges facing the health of communities around the world are unprecedented, and the data are all too familiar. For 5 billion people living in developing countries, environmental factors and inadequacies in hygiene, economic development, and health-care access are the main causes of shortened life expectancies. Improvements in health status, including reductions in infant mortality and declining incidence of infectious diseases, are being met by the new epidemics of obesity, diabetes mellitus, and cardiovascular disease.[1]

Developed countries are beset by disparities in access to care and health outcomes,[2,3] unreliable quality, and high costs.[4] Increased demand for services, ageing

In order to achieve transformation, two distinct translational blocks or gaps in the discovery-care continuum must be overcome.[11,12] The first is the gap between a scientific discovery and its clinical translation (ie, from bench to bedside); the second is the gap between expert acceptance of the application and its broad adoption in practice by local and global communities (ie, from bedside to population). AHSCs traditionally give their discoveries to industry at the first gap and to practising physicians at the second gap, thereby creating barriers and inefficiencies. We believe that AHSCs are ideally poised to become system integrators that are capable of bridging these translational gaps, thereby

Published Online October 1, 2009 DOI:10.1016/S0140-6736(09)61082-5

See Online/Comment DOI:10.1016/S0140-6736(09)61594-4

Duke Medicine, Durham, NC, USA (Prof V J Dzau MD, D C Ackerly MD, P Sutton-Wallace MPH, Prof M H Merson MD, Prof R S Williams MD, Prof K R Krishnan MB BS, R C Taber PhD, Prof R M Califf MD); and

Dzau et al. Lancet 2009

Revisiting academic health sciences systems a decade later: discovery to health to population to society

Victor J Dzau, Celynne A Balatbat, William F Ellaissi

Until recently, the mission of academic medicine has focused on providing care for complex medical problems, conducting research from discovery to translation, and educating the next generation of scientists and clinicians.

This mission has traditionally been undertaken in teaching hospitals and medical schools separately, or organised under institutions of academic medicine. Over the past decade, these institutions have evolved into academic health science centres or systems by "bringing together [and aligning or integrating] health and academic partners to focus on world-class research, teaching and patient care", to take new discoveries and promote their application, and whenever possible under one organisational structure to fulfill this mission.[1] In

advances in science and medicine. Most recently, effective SARS-CoV2 vaccines were developed and administered with unprecedented speed. In a century, life expectancy nearly doubled due in part to impressive advances in science and technology. Cardiovascular deaths have been reduced by half over the past 50 years, and many conditions such as cancer and some infectious diseases that were once death sentences have become manageable or curable. Developments in genomics are leading to new diagnostics and therapies that we could barely imagine a generation ago. Big data and artificial intelligence are rapidly reshaping the promise of how care will be delivered and diseases diagnosed. Unprecedented amounts of information are yielding

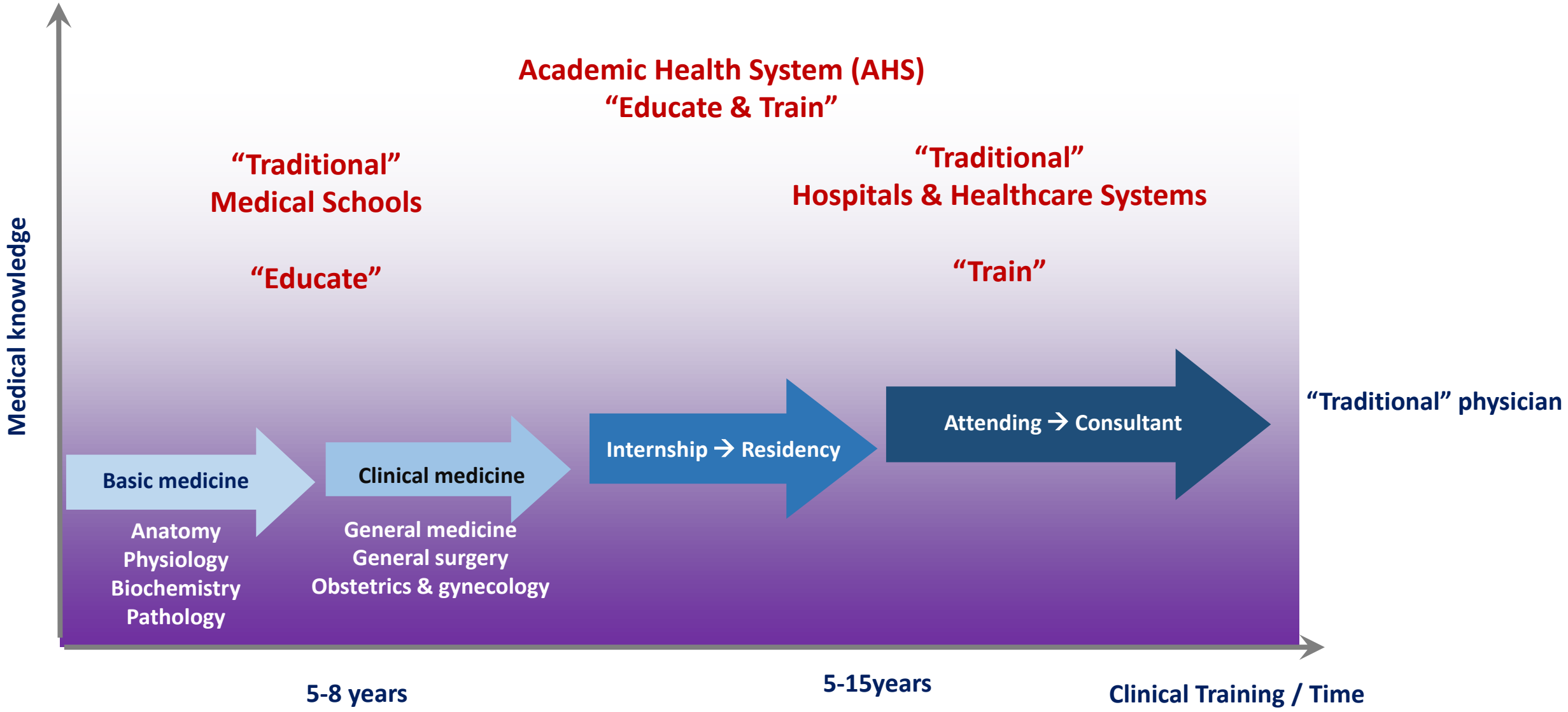
National Academy of Medicine, Washington, DC, USA (Prof V J Dzau MD, C A Balatbat BA); Emory Healthcare, Atlanta, GA, USA (W F Ellaissi MBA)

Correspondence to: Prof Victor J Dzau, National Academy of Medicine, Washington, DC 20001, USA vdzau@nas.edu

Dzau et al. Lancet 2021

	Stage 1: Medical school	Stage 2: Graduate medical education		Stage 3: Continuing education
USA	MD programme (entry after bachelors)	Residency training	Fellowship training	Career-long*
UK	MBBS programme*	Foundation programme	Specialty (including general practice) training	Career-long*
China 5+3+X	Bachelor programme (5 years)	Standardised residency training (3 years)	Standardised subspecialty training (X years)	Career-long*

#3. **Where** should Education and Training be?



How should we educate and train our healthcare professionals?

1. How do we **select and admit** appropriate students for medicine and healthcare?
   → Modify our selection and admission process to target students **adaptive to a future of life-long learning** (“work-learning”) over 20+ years

2. How do we **prepare** these future healthcare professionals?
   → Modify our selection and admission process to select students who keen on **broad education experience**, including “**hard**” technology skills and “**soft**” social-public-communication skills

3. How and importantly, **where** do we **educate and train** them?
   → Progressively, develop academic health system (“School-Hospital”) to provide **continuous**, **seamless**, **“education-training”** continuum

“What are the characteristics and predictive factors we can use to select students who will be life-long learners in the healthcare profession? “


Thank you
谢谢

UCDAVIS HEALTH

Cultivating the Health Workforce the US Needs

Mark Henderson, MD, Associate Dean for Admissions
National Academies, March 28, 2024

SCHOOL OF MEDICINE

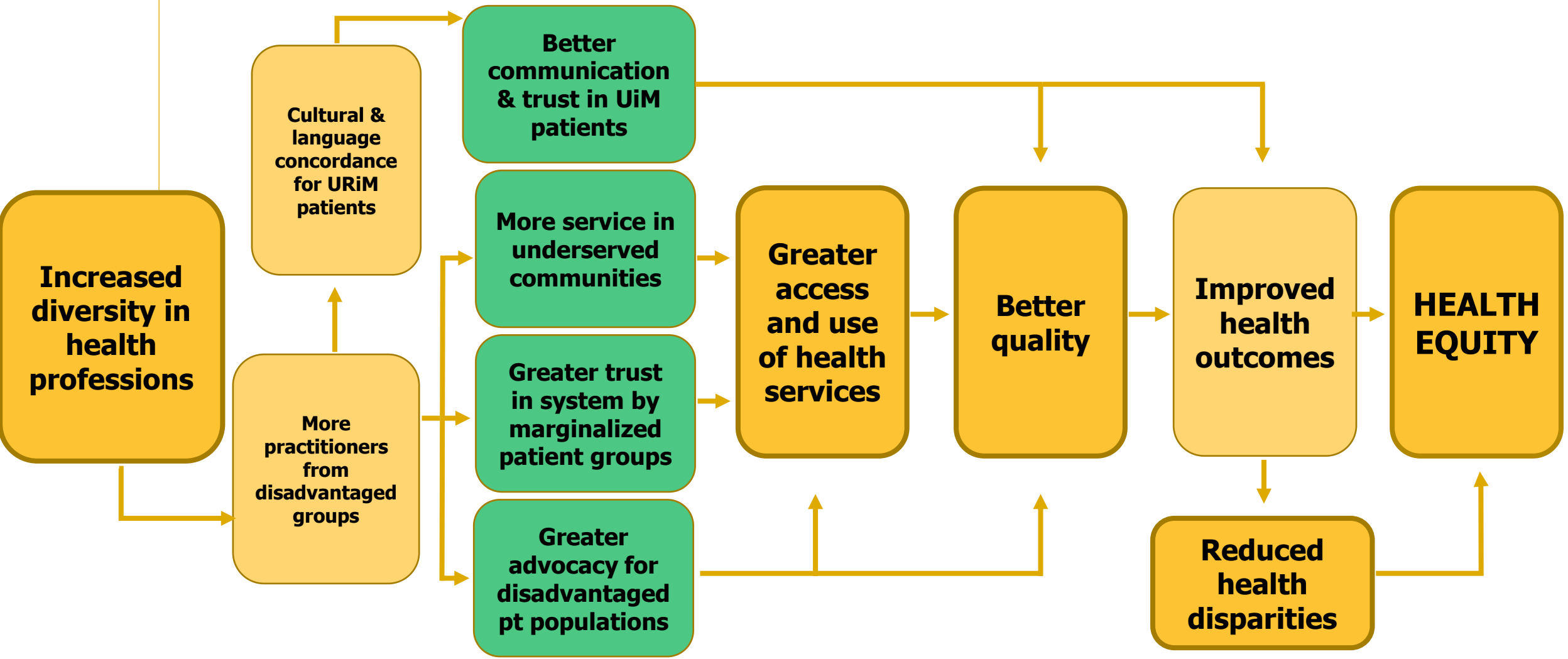
UCDAVIS HEALTH | SCHOOL OF MEDICINE

Center for a Diverse Healthcare Workforce

Learning objectives

- Explore the paradigm of *social accountability* in medical education, including relationship of representation (diversity) to *health equity*
- Review trends in composition of the physician workforce
- Discuss UC Davis holistic admissions ‘method’ in aftermath of 1997 ban on affirmative action (California Proposition 209)

How does diversity improve Health Equity?



*Adapted From: US Department of Health and Human Services, (HRSA), Rationale for diversity in the health professions: a review of the evidence (2006).

Source: Williams, 2014, *Public Health Reports*

As med schools expanded, they became *less* diverse

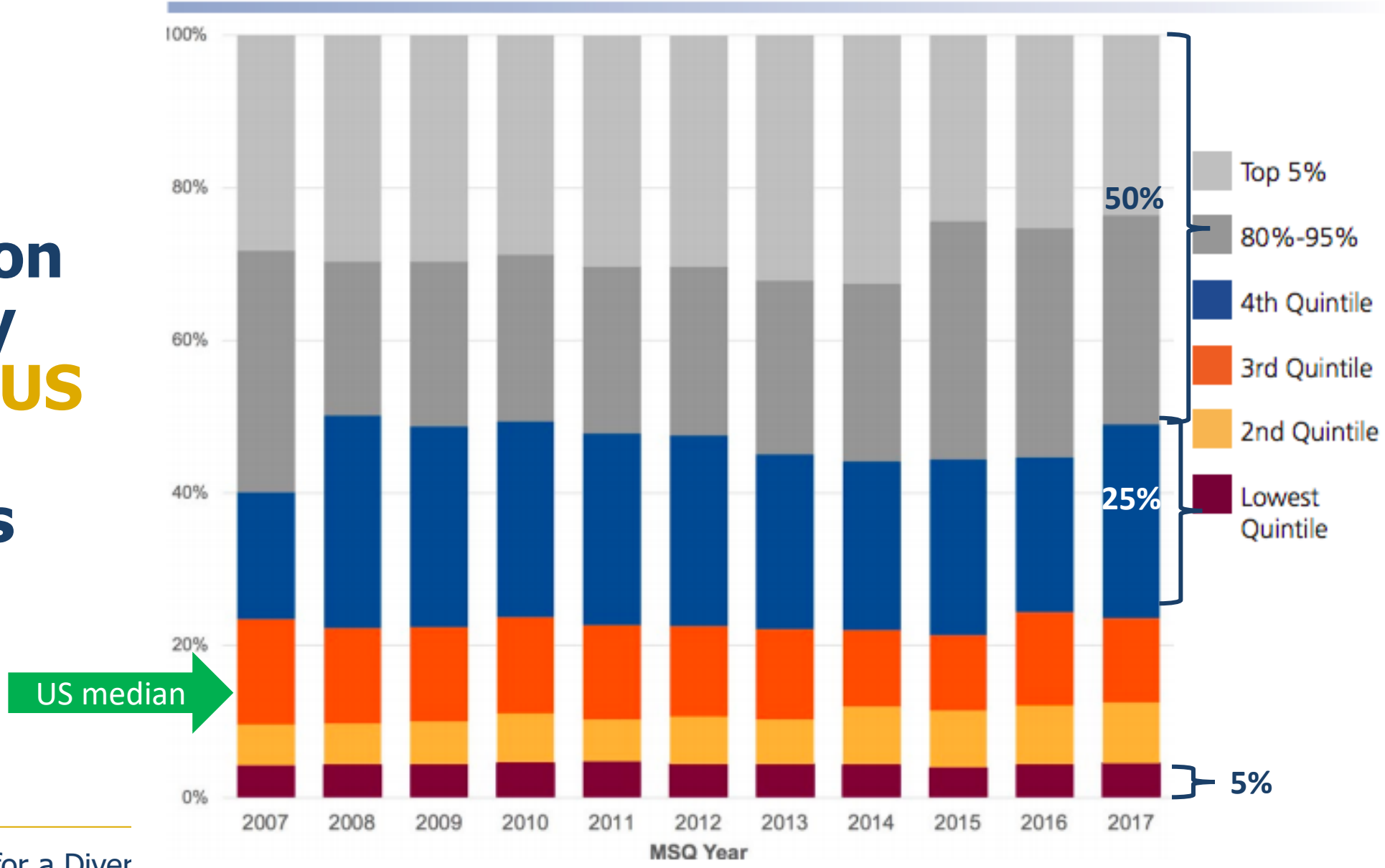
Underrepresented Groups in Medical School, 1997 and 2017.*			
Variable	**1997**	**2017**	**Percent Change**
No. of first-year medical school slots	18,857	29,118	54
No. of matriculants from underrepresented groups	2850	3713	30
Percent of matriculants from underrepresented groups	15	13	–16
No. of people from underrepresented groups in U.S. population	65,497,000	106,835,890	63
No. of matriculants from underrepresented groups per 100,000 population	4.3	3.5	–20

* Underrepresented groups are defined as American Indians or Alaska Natives, blacks, and Hispanics or Latinos. Data are from the Association of American Medical Colleges, the American Association of Colleges of Osteopathic Medicine, and the U.S. Census Bureau.

Talamantes E, Henderson MC, Fancher TL, Mullan F. Closing the Gap: Making Medical School Admissions More Equitable. N Engl J Med 2019; 380:803-805

Most medical students come from wealthy families

Distribution of family income of US medical students

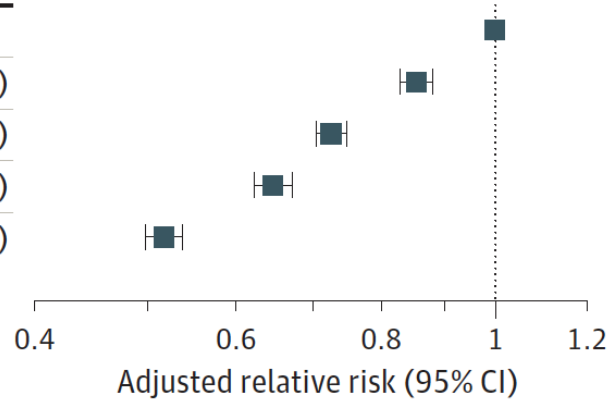


Jay Youngclaus and Lindsay Roskovensky . Analysis in Brief. Vol. 18, No 5 AAMC. October 2018

Low-income kids shut out – meritocracy or money-tocracy?

Figure 2. Relative Risk of Acceptance to Medical School by Household Income

Household income, $	Adjusted relative risk (95% CI)
≥200 000	1 [Reference]
125 000-199 999	0.85 (0.82-0.88)
75 000-124 999	0.72 (0.70-0.74)
50 000-74 999	0.64 (0.61-0.67)
<50 000	0.52 (0.50-0.54)



Adjusted relative risk of acceptance into at least 1 MD program for applicants from years 2014 to 2019, adjusting for self-reported race, ethnicity, sex, undergraduate grade point average, and the number of MD programs to which individuals applied.

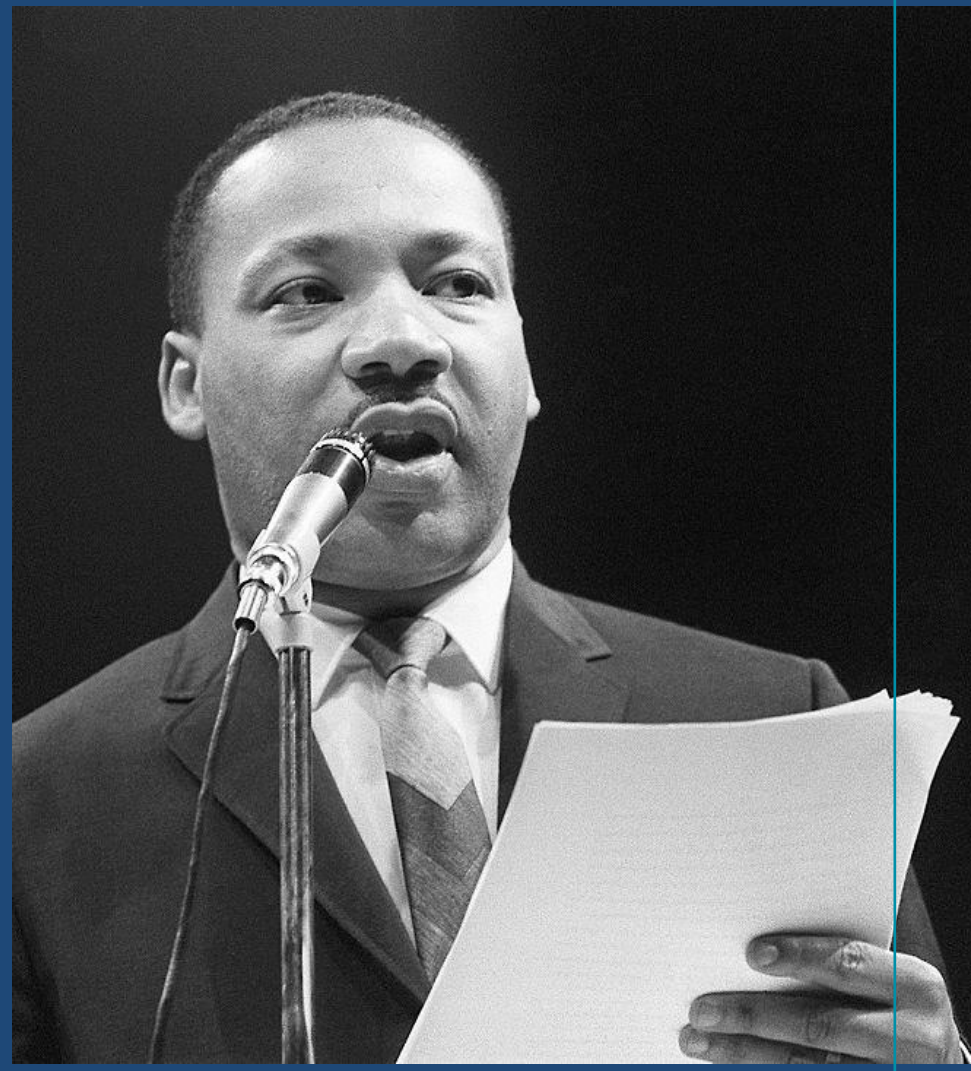
Nguyen M, et al. JAMA Network Open Research Letter 2023.

- High income (HI) students much more likely to be admitted; HI student representation *increasing* over time
- Across all R-E groups (including UiM), HI students over-represented; trend greatest in Whites & Asians
- Asian subgr: Indian (**33**), Chinese (**23**); Korean (9), Viet (7), Pakistani (5)
- 2/3 of Indian & Chinese students from *highest* income quintile

Shahriar AA, et al. JAMA Network Open 2022
https://pubmed.ncbi.nlm.nih.gov/35289863/

The 3 Evils (1967)

"We have deluded ourselves into believing the myth that capitalism grew out of the Protestant ethic of hard work and sacrifices. Capitalism was built on the exploitation of black slaves and continues to thrive on the exploitation of the poor, both black and white….."



What are we going to do about all this?

Create a sense of urgency (Kotter) – Burning platform

Sunday, July 2, 2023
Today's Paper

The New York Times

How Colleges Admissions Might Diversify Without Affirmative Action

To build a diverse class of students, the medical school at U.C. Davis ranks applicants by the disadvantages they have faced. Could it work across America?

5 MIN READ

One Black Family, One Affirmative-Action Ruling and Lots of Thoughts

The Supreme Court ruling is just the latest version of an issue that the U.S. has been grappling with for years: how to deal with the legacy of slavery.

5 MIN READ

The medical school at the University of California, Davis, is one of the most diverse in the country. Jim Wilson/The New York Times

UC Davis…a national model??

UC Davis SOM tripled UiM enrollment despite affirmative action ban

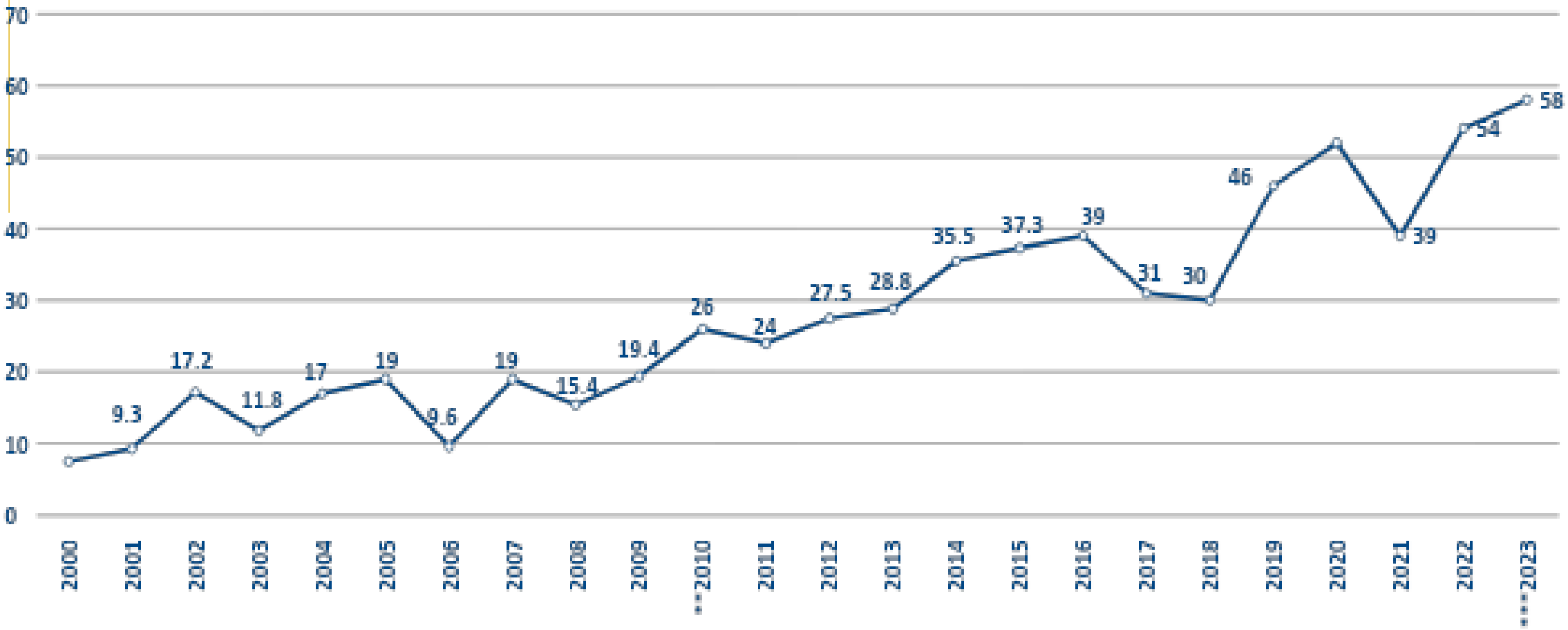


*Chart includes data reported to the University of California Office of the President (UCOP) based on their URiM categories, which includes students who identify as American Indian/Alaskan Native, Black/African American, Hispanic/Latinx, Native Hawaiian/Pacific Islander, or two or more UiM races.

**In 2010, UCOP begins including Filipino UiM race category. ***In 2023, UCOP begins categorizing Cambodian, Filipino, Hmong, Indonesian, Laotian, and Vietnamese as UiM

Importance of (social) MISSION

- University of California founders: “A public university that would educate the *wealthy and low-income alike*, so all could benefit….”
- Great Society – “Poverty must not be a bar to learning, and learning must offer an escape from poverty” (LBJ 1964)
- Medical education – train physicians to meet health needs of society

Socially accountable admissions

- **Admissions mission:** Matriculate future MDs who will address the diverse healthcare workforce needs of region
- Committed, longitudinal leadership
- Diverse input (students, trainees)
- MMI (blinded to metrics, school)
- Holistic - mission fit not just grades
- Lived experiences of healthcare
- Need (v. 'merit') scholarships and FA
- Partnerships (local HS, CCs)

UC Davis Medical Students

- **45%** first-gen college grads (vs. 14% nationally)
- Family income $68K (10th %tile)
- **75%** receive FA (> 90th %tile)

Henderson, Green, Chen. What Does it Mean for Medical Schools to be Socially Accountable? https://pubmed.ncbi.nlm.nih.gov/35072613/

Moneyball = a different lens

- Goal = to win games not just hit HRs (OBP/OPS better than BA)
- SOMs (like teams) look at wrong metrics (GPA, MCAT) if success = meeting society's needs
- Holistic tools e.g. Davis Scale

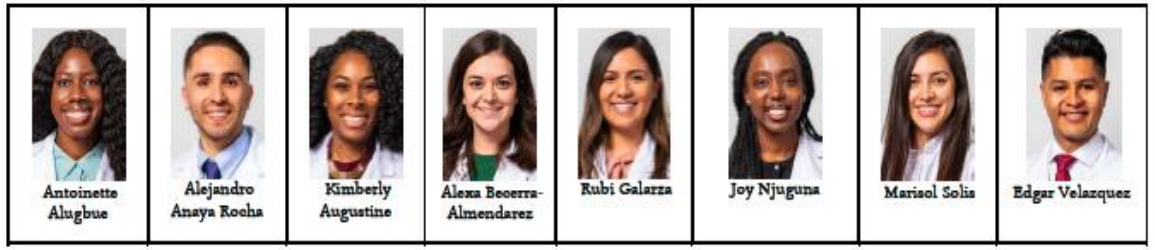
UC Davis Scale (‘score’ [0-99]) = our Sabermetric

- 8 application variables: family income, parental education, family assistance, work, need-based FA, underserved area
- Because traditional metrics (GPA, MCAT) are confounded by educational opportunity, this numeric scale is used to provide context to other measures (faculty ‘need’ a number…)
- Nudges admissions committee members to be more ‘holistic’ and to look deeper into each applicant’s distance traveled
- Marker for grit, resilience, and ability to overcome obstacles

Inclusive pathways to meet community health needs

- Community Health Scholars - **30%** of UCD students (80% UiM, FG, low-income)
- **Rural**: Rural **PRIME** (2007) – address *maldistribution* of MDs in CA (state funded)
- **Urban underserved**: TEACH-MS (Transforming Education and Community Health)
- **Central Valley**: REACH (formerly San Joaquin Valley PRIME now a UCSF track)
- **3-yr PC MD**: ACE-PC (Accelerated Competency-Based Education) – (AMA, Kaiser)
- **NA/AI Communities**: *Tribal Health* **PRIME** – est. 2022 (State of CA funding)

PC

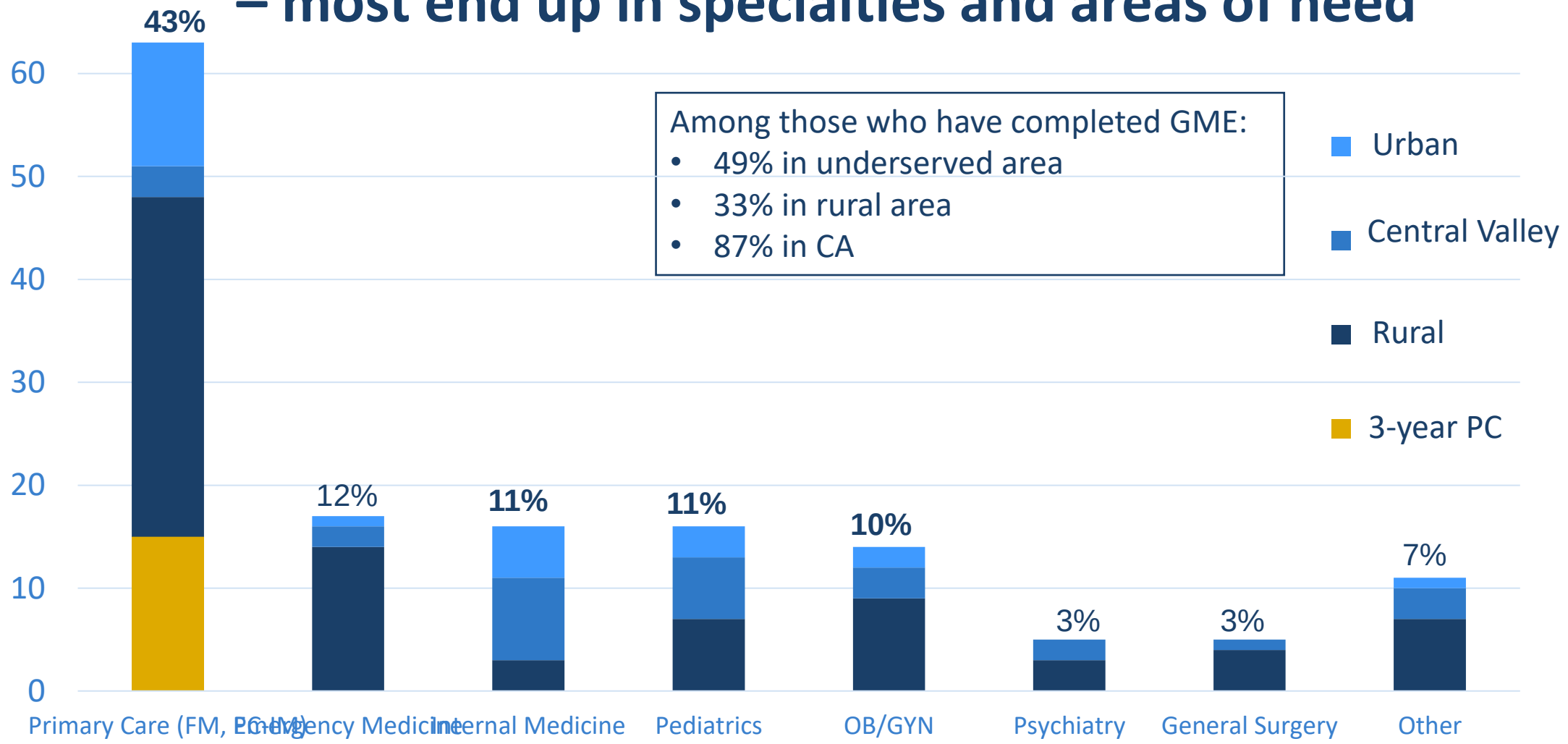


Central Valley

Rural

Urban

CHS residency outcomes [n = 147 students; 80% UiM] – most end up in specialties and areas of need

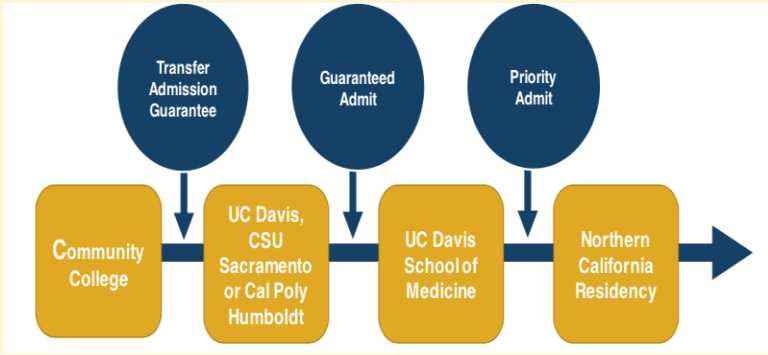


Exemplars

3-Year MD (ACE-PC) track

- Direct progression from med school to PC residency (FM, PC-IM); 85% success
- 85% FG, 70% UiM; start with lower academic metrics
- Older (28) with PC experience
- Full scholarships (KP, AMA)

Community College to Med Sch



- CC grads more likely to do FM
- Of FM residents, 51% of Latino and 33% of Black/Asian/Whites went to CC (= key PC source)
- Only 23% transfer w/in 4 y, we need *transfer bridges*

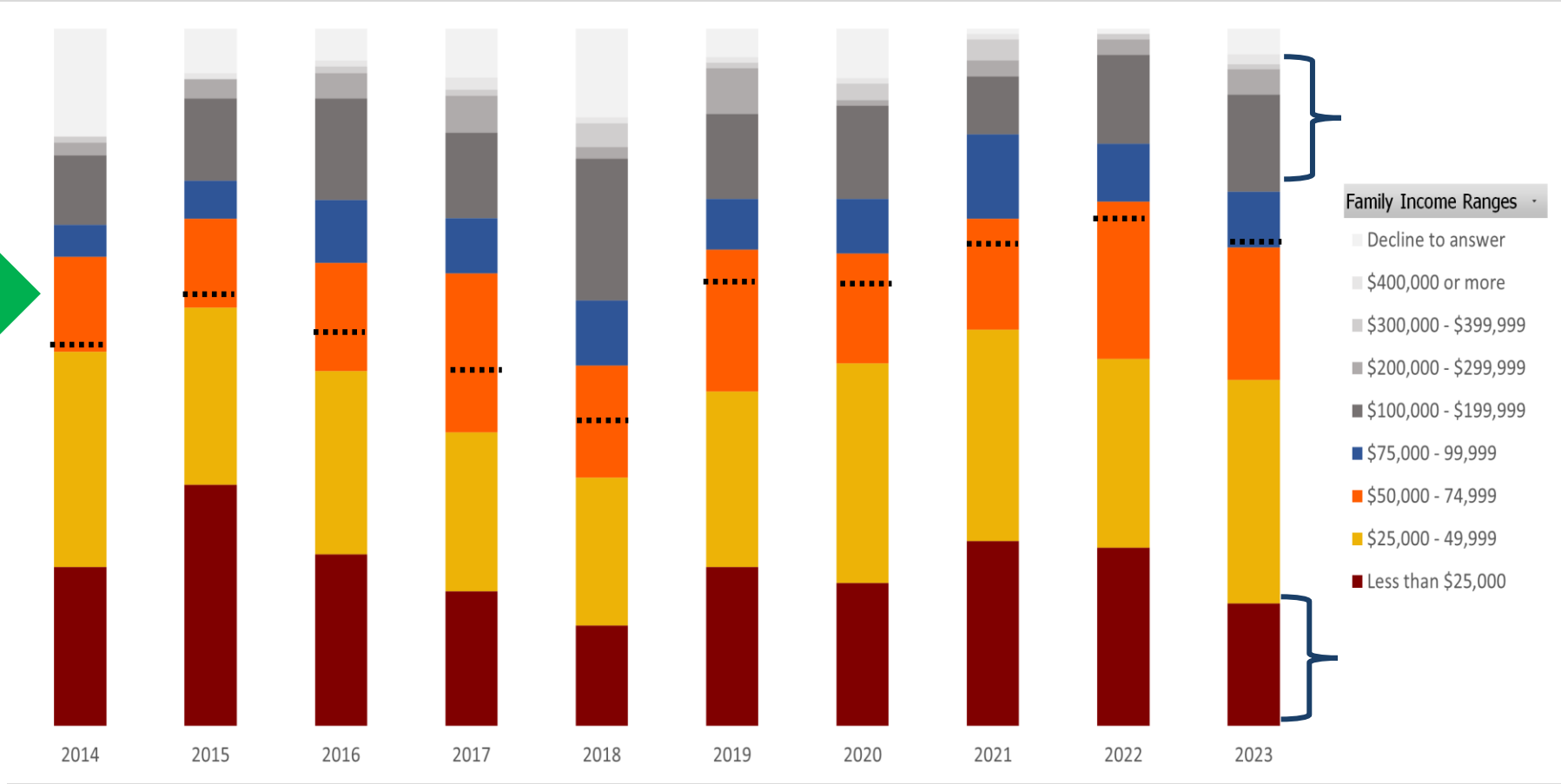
Tribal Health across CA and OR

- Wy'east Post-Bac
- Conditional acceptance to Davis, OHSU, WSU SOMs
- Tuition waiver (UC NAOP)
- Tribal nations & non-profits
- Feeds Tribal PRIME track

Greater representation of “average” American families

US average

Distribution of family income of UC DAVIS students



US Median Family Income									
2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
$53,657	$56,516	$59,039	$61,136	$63,179	$68,703	$68,010	$70,784	$73,666	$76,665
www.census.gov, 2022 and 2023 are the average percentage increase from 2014-2021 which is 4.07%									

Marathon not a sprint

Shawshank Redemption

Questions

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NCSBN
Leading Regulatory Excellence

Unique Nurse Identifier (NCSBN ID). Making a case for it in Undergraduate Nursing Education

Nur Rajwany, CIO, NCSBN
Dr. Nancy Spector, Director of Nursing Education, NCSBN

March 2024

Topics Discussed

1. What is a unique nurse identifier (UNI)?
2. What can it be used for in Nursing Practice?
3. How can it be used in Nursing Research?
4. Utilization of UNI in Graduate Nursing Programs.
5. Making the case for a Unique ID in Undergraduate Nursing Programs.

Unique Identifier

What is a Unique Nurse identifier (UNI)?

a. Identifies a nurse accurately with only an ID without the need to use the nurse's personally identifiable information within a nurse data set.

b. For the last 15 years NCSBN, working with the US nursing regulatory bodies, has assigned a unique nurse identifier (NCSBN ID) to every single 5+ million nurses in the US. New nurse applicants are automatically assigned an NCSBN ID through a robust and secure nursing exam application process.

c. A free of charge process through Nursys e-Notify system allows organizations, including graduate nursing programs, to retrieve the NCSBN ID UNI of nurses in their employ, registry, roster, data set etc.

UNI – Nursing Practice & Research

1. Nursing's contribution to the health of individuals and communities is difficult to measure. An identifier is essential to the aggregation, synthesis, and publication of data and research that better capture nursing processes to enable the scientific inquiry for researchers to measure and quantify nursing care impacts on health outcomes.
2. Makes it easier to identify and associate a nurse in the Electronic Health Record and Enterprise Resource Planning and other health IT systems. Through big data analytics it can then be possible to demonstrate nursing's contribution in a value-based care model.

3. Facilitates reconciliation of disparate nurse datasets for research and academic inquiries without the need of any protected nurse's personally identifiable information (PII).

UNI – Nursing Practice & Research

1. Allows for easy searching of a nurse in ANY nurse data set that has assigned the UNI to their nurse records. For example – NCSBN's Nursys system, Nursing Regulatory Body nurse license verification public portal. Federal, state and local systems can also benefit from accurate and easy search of a nurse without using nurse's PII, as soon as they complete the implementation of associating the unique nurse identifier to the nurse records in their data sets.

2. Following is one working example of searching for the same nurse using the nurse's UNI in three separate nurse datasets made available to the public by three different institutions/systems - Texas Board of Nursing, New Mexico Board of Nursing and NCSBN's Nursys system.

Texas Board of Nursing
Primary Source License Verification

Board of Nursing License Verification Portal

This site will be down for scheduled maintenance and you will not be able to access the website during this time.
We apologize for the inconvenience and thank you for the patience.

Friday March 1, 2024 from 6pm central through Sunday March 3, 2024 4:00pm central

Search *by* Name | Search *by* License Number | **Search *by* NCSBN ID**

NCSBN ID is the public, globally unique identifier for all nurses from participating Boards of nursing. For a broader search, select "Search by Name" above.

NCSBN ID *(Required)*

41383031

Security verification: please check the box below. You may be asked to complete a second verification step.

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Search | Reset

Verification Search Results

Showing **1** individuals

Back to top

JANE LEE SMITH [NCSBN ID: 41383031]

View Report >

Board of Nursing - Temporary and Permanent (Post Exam) Licenses

FIRST NAME	MIDDLE INITIAL	LAST NAME	BOARD OF NURSING - LICENSE TYPE	LICENSE NUMBER
JANE	LEE	SMITH	RN	562137

New Mexico Board of Nursing
Primary Source License Verification

License / Certification Verification Portal

Search *by* Name | Search *by* License Number | **Search *by* NCSBN ID**

For a broader search, select "Search by Name" above. For an exact match, select "Search by NCSBN ID" above.

You are prohibited from any downloading or copying of any data for any third party's use or from accessing the New Mexico License / Certification Verification Portal **with any data mining or automated data gathering or extraction tools.**

NCSBN ID *(Required)*

41383031

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JANE L. SMITH [NCSBN ID: 41383031]

View Report >

Temporary and Permanent (Post Exam) License / Certificate

FIRST NAME	MIDDLE INITIAL	LAST NAME	LICENSE / CERTIFICATE TYPE	LICENSE / CERTIFICATE NUMBER
JANE	L.	SMITH	RN	R51269

NCSBN NCSBN.org Nurse Licensure Compact Nursys.com

nursys HOME ABOUT CONTACT HELP

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QuickConfirm License Verification

RN and LPN/VN licenses from participating boards of nursing are available for this service. Some participating boards also provide verification of advance practice licenses.

Search *by* Name | Search *by* License Number | **Search *by* NCSBN ID**

NCSBN ID is the public, globally unique identifier for all nurses from participating boards of nursing. For a broader search, select "Search by Name" above.

NCSBN ID

41383031

Security verification: please check the box below. You may be asked to complete a second verification step.

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Search Reset

QuickConfirm License Verification Search Results

Why is a license missing from the search results?

Showing **1** individuals

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JANE L. SMITH [NCSBN ID: 41383031]

View Report >

LAST NAME	FIRST NAME	LICENSE TYPE	STATE	LICENSE NUMBER
SMITH	JANE L.	RN	NEW MEXICO	R51269
SMITH	JANE LEE	RN	TEXAS	562137

Unique Nurse Identifier (UNI - NCSBN ID) Data Flow

Board of Nursing Licensing Systems

License records are de-duplicated, NCSBN ID's reconciled, assigned and stored

Secure File Transfer License Records

NURSYS Database Primary Source Equivalent

Nursys eNotify API nurse license status and NCSBN ID

Electronic Health Record

Enterprise Resource Planning

Other Technologies

Technology Systems ingest nurse license status and assign NCSBN ID to internal nurse records

User Interface of Various Enterprise Systems

EHR documentation of assessments, interventions, and evaluations

Changes in licenses, credentials and jobs

Systems keeping track of nurse identification in various applications using nurse's NCSBN ID

Nursing Knowledge

Patient Outcomes

Nurse Outcomes

Aggregate Population Outcomes

Aggregate Resource Utilization Outcomes

NCSBN ID-Driven Actionable Insights

Nursys.com online system – NCSBN ID and license status consumed by the public and nurses

UNI – Graduate Nursing Programs

1. Since applicants to graduate level nursing programs are already licensed nurses, these students have already been assigned the NCSBN ID unique nurse identifier.

2. The NCSBN ID can facilitate more accurate and updated nurse licensure information including Advanced Practice certification and licensing; thereby colleges of nursing can improve internal review processes involving post-licensure advanced degree students, faculty, preceptors or nurse employee compliance with requirements for nursing program accreditation.

Making the Case for a Unique ID in Nursing Undergraduate Programs

1. Information on pre-admissions, admissions and post-admissions.
2. Track the effectiveness with what we do in admissions.
3. Accurate data on how many qualified applicants do not get seats.
4. Data on whether we are attracting the right students in the right health care professions pathway.

Making the Case for a Unique ID in Nursing Undergraduate Programs

1. If the NCSBN ID is extended to all prelicensure nursing students in the U.S., every student would have an NCSBN ID regardless of which nursing program the student attends, even if the student switches programs during their course of study or takes a pause in their educational journey.

2. Most important to remember is that the ID needs to remain the same as the nursing student becomes a nursing license applicant and then a licensed nurse.

3. NCSBN is in a unique position to help with the creation of a unique identifier for undergraduate nursing applicants (students) and ensure that the NCSBN ID remains the same when the nursing student transitions over to licensed nurse.

Discussion