OPTUMHealth™
Education

Global is Local! How Does Global Health Impact Us?

June 12, 2019

Learning Objectives

At the end of this educational activity, participants should be able to:

- Describe how the global burden of disease and human mobility are affecting U.S. HCPs and institutions.
- Discuss the progression from international health to global health and the current shift to “Global Is Local.”
- Explain why U.S. HCPs must be able to alter their approach to providing health care based on an individual’s country of birth or recent travel.
- State how improving global health can improve health in the U.S.

Panelists

Moderator

Margaret-Mary Wilson, MD, MRCP, FNMCP, MBA

Chief Medical Officer, UnitedHealthcare Global
Senior Vice President, UnitedHealthcare Global

Panelist

William Stauffer, MD, MSPH, FASTMH

Professor of Medicine and Pediatrics
Division of Infectious Diseases and International Medicine
Director, Human Migration and Health
Center for Global Health and Social Responsibility
University of Minnesota, Minneapolis, MN

Panelist

Claudio Lottenberg, MD

President
UnitedHealth Group
Brasil

•Disclosure: UpToDate

•Perspectives provided are my opinion only and are not given on behalf of the CDC

Goals

- Understand how human mobility is changing human medicine
- A new paradigm?
  - What is global health?
    - International work? travelers health? migrant health? cross cultural health? Indigenous health?
  - Is “Global Health” really just discussing health disparities?
- Medical education and health systems are slow to recognize and adapt
- Cases to highlight ”Global Health” and how the ”Global is Local”
  - Ask every patient
    - Where were you born?
    - Where have you traveled?

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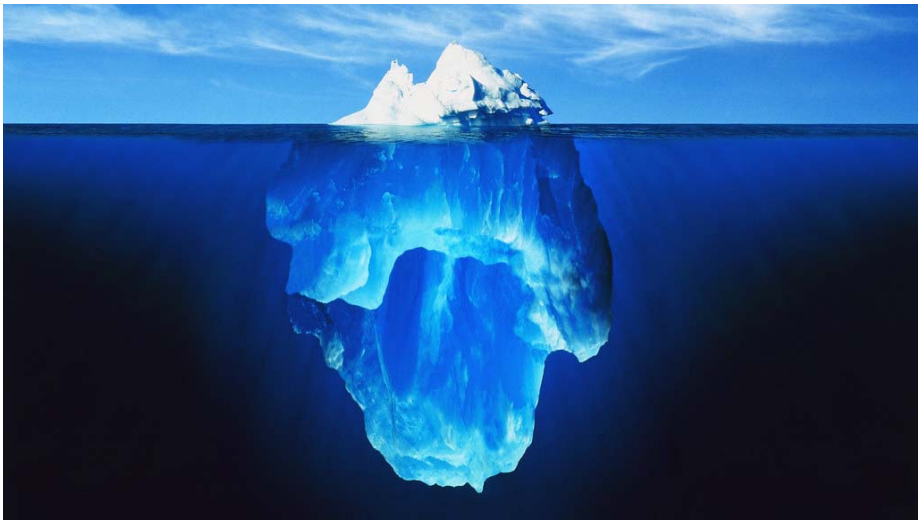

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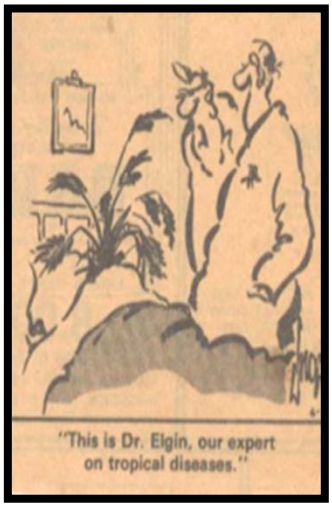
Global Health
"I have a feeling we are not in Kansas anymore"



- West Nile Virus
- Ebola
- Zika
- Chikungunya
- Measles
- Etc..

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Why Should US Clinicians and Health Systems Care?

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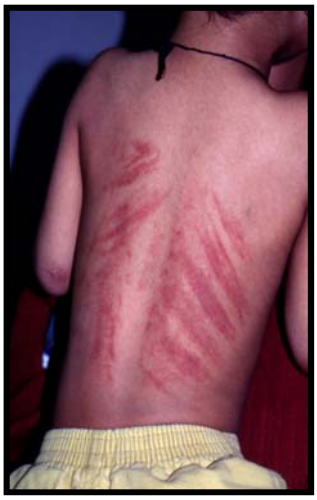
Case #1

- 4 yo Hmong child presents with fever, ear pain and this cutaneous findings.
- What is this? Should you notify officials?



Case #2

- 23 yo Somali female involved in a car accident in critical condition.
  - stabilization room, to have a urinary catheter placed, her female cutting/circumcision (FGM) is taken down.
- On recovery, she is insistent that surgery be done to to repair her FGM (she believes she will not be able to marry). This is an illegal procedure in your state.
- What do you do? Honor her wishes? Refuse surgery and advise why it is illegal and not medically indicated?

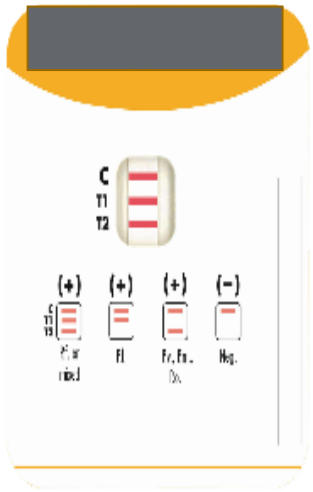
Case #3

- Middle aged Vietnamese women seen by her primary for new headaches. After the third visit, and no response to previous headache management, she was sent for an MRI.
- Radiologist calls the primary asking if he was sure he wanted a head MRI.
- The primary explains the new but chronic, recalcitrant headaches…
- The radiologist says, “she tells me she is having vaginal discharge”.

What Happened?

Case #4

- 37 yo female returned from mission trip to Togo 3 days ago.
- Presents with fever, headache, body aches and severe fatigue. She was taking “artesunate tea” to prevent malaria during her travel.
- Basic labs that are remarkable for a high CRP, elevated lactate, low WBC and platelets 75.
- You order a malaria rapid test and blood films and appropriately admit to the hospital.



- Lab calls and says she has 7% *P. falciparum malaria*.
  - Your first call (if not ID specialist) should be?

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FYI: Quinidine off the market April 1st

To obtain IV Artesunate:
CDC Malaria Hotline (770-488-7788)

Access to NTD drugs and vaccines is an increasing issue for Americans

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Case #5

- Middle age Nigerian female with h/o of obesity; feeling ill with fevers and cough at home for 4 days (occurred in May 2015)
  - Presented to a local ED with confusion and fever (104)
  - Denied international travel
  - Decreasing LOC becoming obtunded → respiratory arrest
  - Intubation failed, emergent cricothyrotomy failed…
  - Pronounced dead in the ED 2 hours afterpresentation
- This was found on her post—

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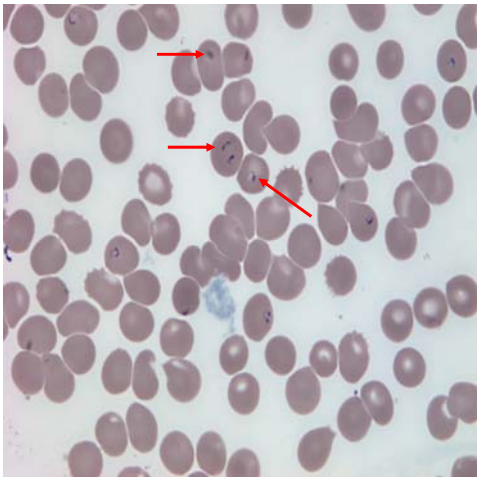

Diagnosis?

Why did she, and her family, deny travel (remember May 2015)?

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Impacting patient care and clinical outcomes

- Stigma
- Implicit Bias
- Unwelcoming environment
- Language barriers
- Cultural barriers
- Social determinants

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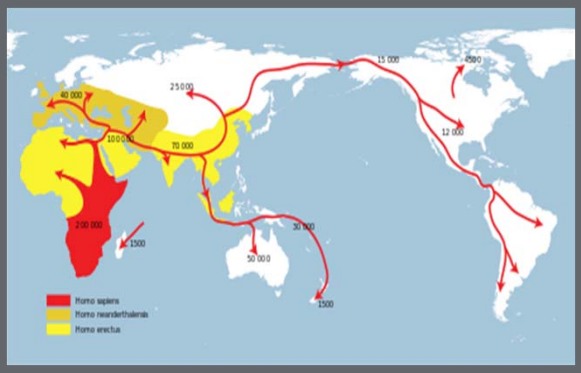
Humans move, that is what we do--not new.

Human migration has occurred as long as humans have been on the planet – first left Africa > 60 million years ago…my Aunt Ellen…



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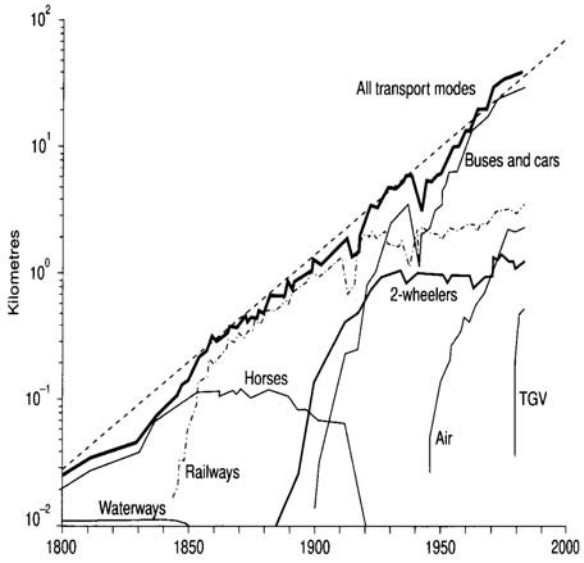
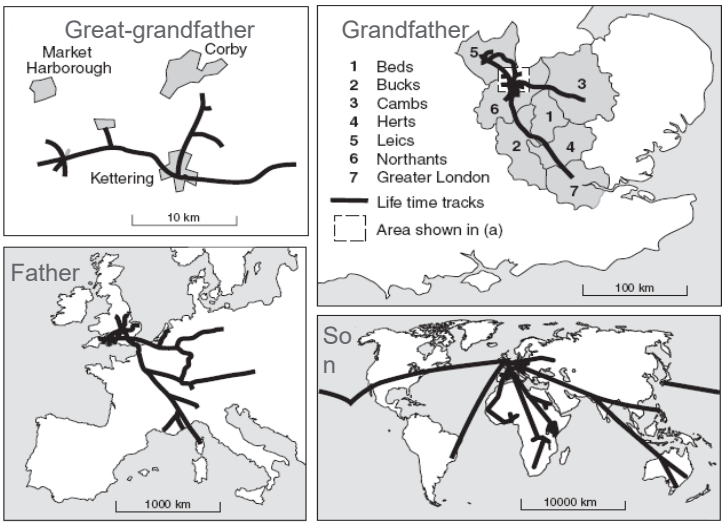
Spatial Mobility of French Population, 1800-2000

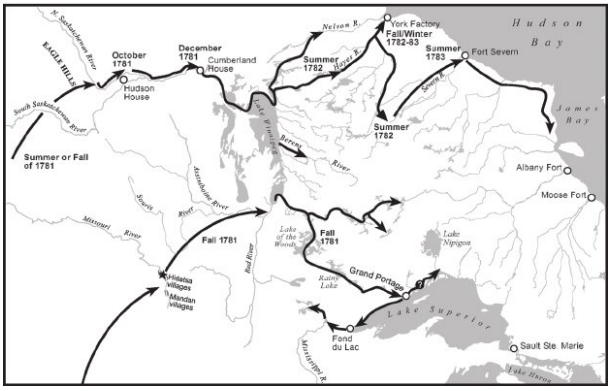


Based on data from Grubler and Nakicenovic, 1991; Fig 7.18 in Cliff et al, 1998

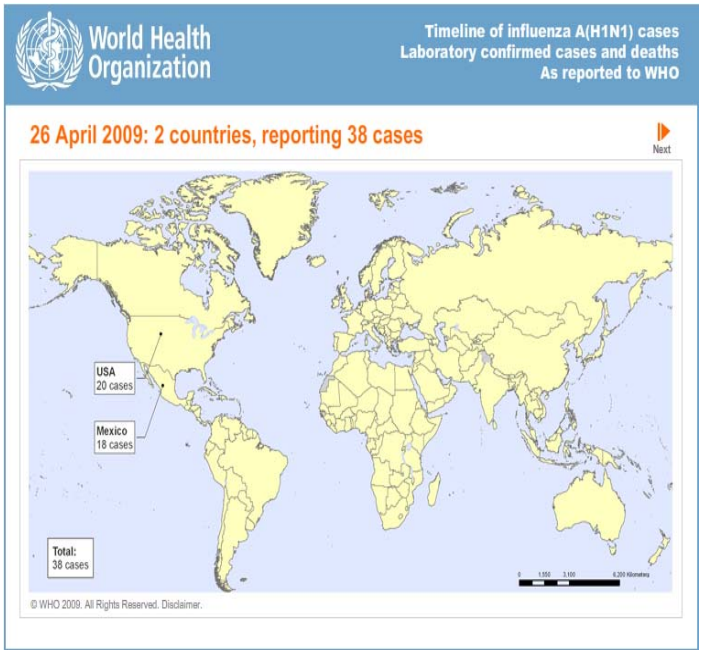


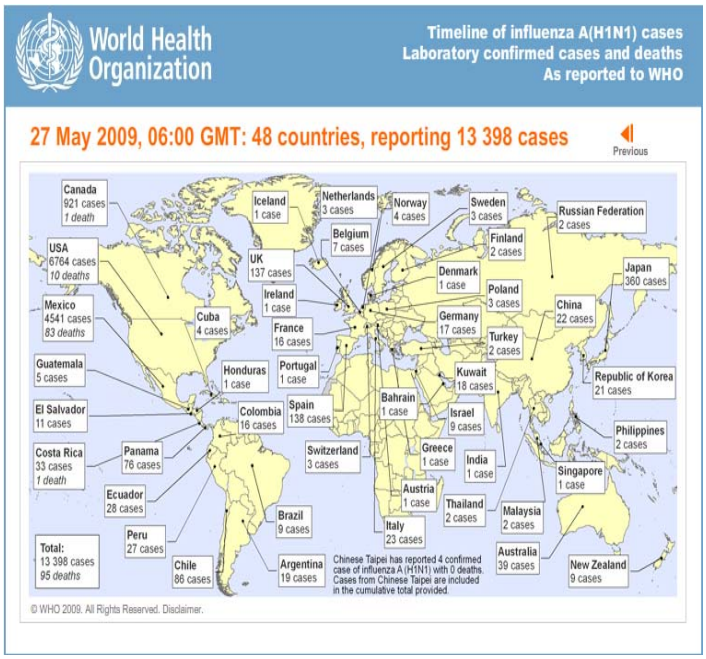
Based on data from Grubler and Nakicenovic, 1991; Fig 7.18 in Cliff et al, 1998

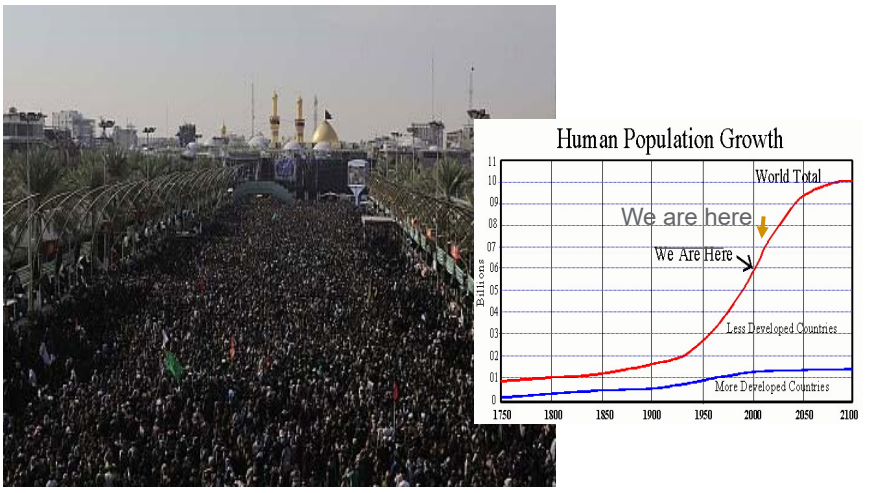
Epidemics have always happened



The 1779–83 smallpox epidemic on the northwestern plains. Source: F. J. Paul Hackett, "A Very Remarkable Sickness": Epidemic Disease in the Petit Nord, 1670– 1846, Manitoba Studies in Native History, vol. 14 (Winnipeg: University of Manitoba Press, 2002), pp. 93–118.




World Health Organization
Timeline of influenza A(H1N1) cases
Laboratory confirmed cases and deaths
As reported to WHO
27 May 2009, 06:00 GMT: 48 countries, reporting 13 398 cases
Previous
Canada 921 cases 1 death
USA 6764 cases 10 deaths
Mexico 4541 cases 83 deaths
Cuba 4 cases
Guatemala 5 cases
Honduras 1 case
El Salvador 11 cases
Costa Rica 33 cases 1 death
Panama 76 cases
Ecuador 28 cases
Peru 27 cases
Chile 86 cases
Total: 13 398 cases 95 deaths
Brazil 9 cases
Argentina 19 cases
Colombia 16 cases
Iceland 1 case
UK 137 cases
Ireland 1 case
France 16 cases
Portugal 1 case
Spain 138 cases
Netherlands 3 cases
Belgium 7 cases
Switzerland 3 cases
Italy 23 cases
Austria 1 case
Greece 1 case
Norway 4 cases
Sweden 3 cases
Finland 2 cases
Denmark 1 case
Poland 3 cases
Germany 17 cases
Turkey 2 cases
Russian Federation 2 cases
Japan 360 cases
China 22 cases
Republic of Korea 21 cases
Kuwait 18 cases
Bahrain 1 case
Israel 9 cases
India 1 case
Thailand 2 cases
Malaysia 2 cases
Philippines 2 cases
Singapore 1 case
Australia 39 cases
New Zealand 9 cases
Chinese Taipei has reported 4 confirmed case of influenza A (H1N1) with 0 deaths. Cases from Chinese Taipei are included in the cumulative total provided.
© WHO 2009. All Rights Reserved. Disclaimer.


What has changed?
Human Population Growth
World Total
We are here
We Are Here
Less Developed Countries
More Developed Countries
Billions
1750
1800
1850
1900
1950
2000
2050
2100
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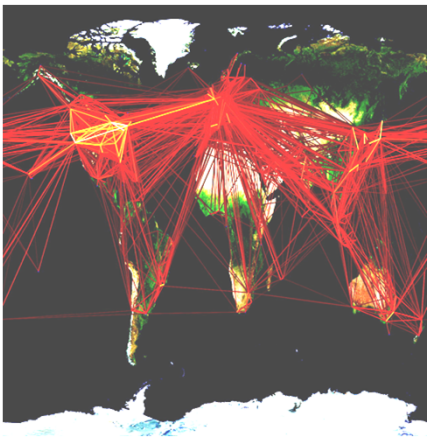
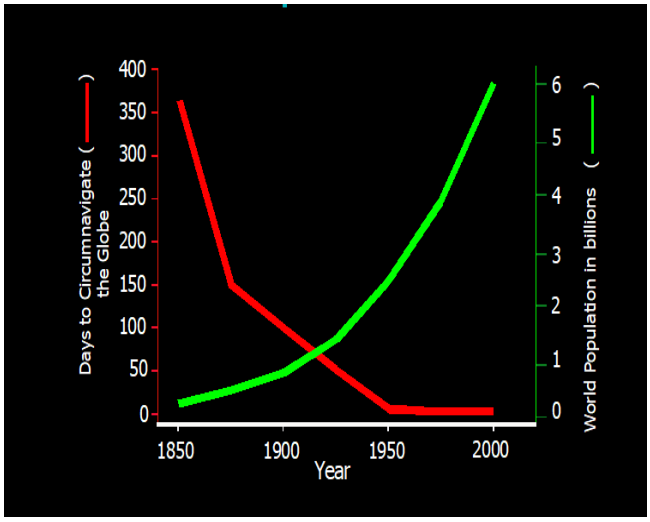
What has changed?

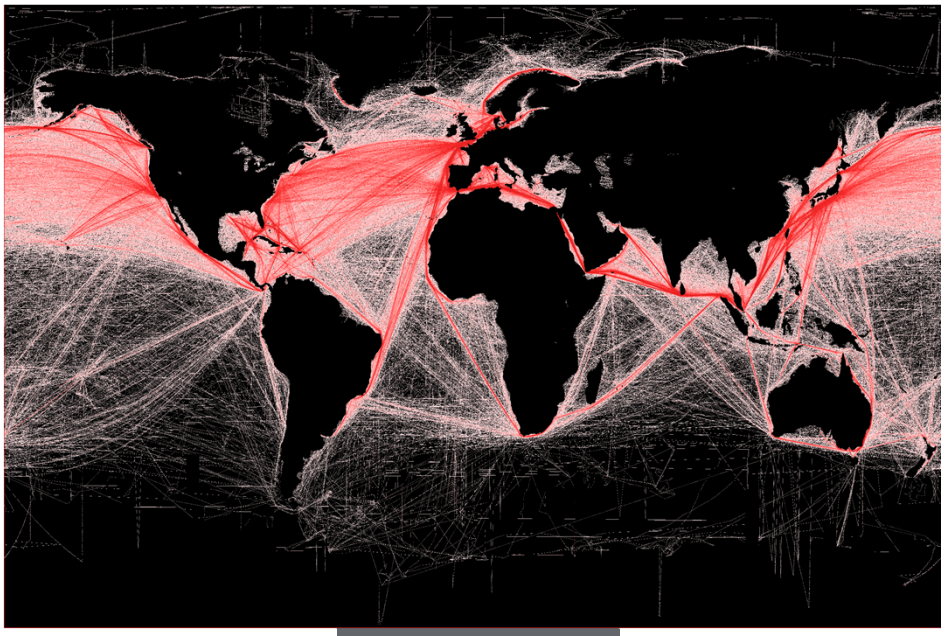
What has changed?



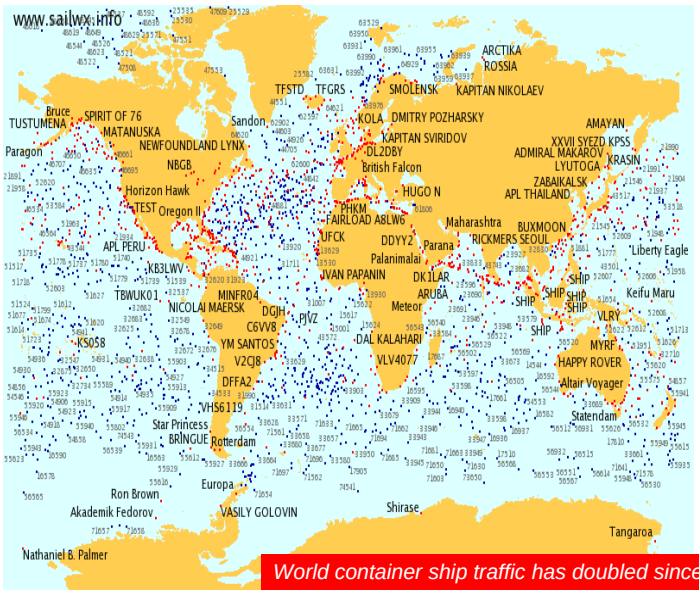
Speed of Global Travel in Relation to World Population Growth



From: Murphy and Nathanson Sems. Virol. 5, 87, 1994



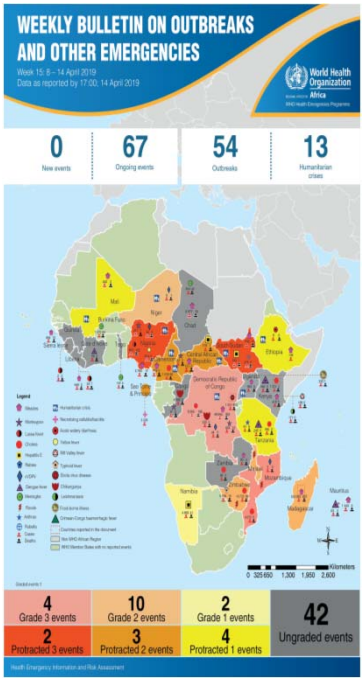
World Waterways Network: 2008



World container ship traffic has doubled since 1997

Weather-Watch Ships at Sea: Tuesday, **February 12, 2008, 1:00 PM**

(ships participating in a voluntary global weather watch system, *of 40,000 ships at sea today*)



Travelers represent the biggest threat and highest probability of health care encounters

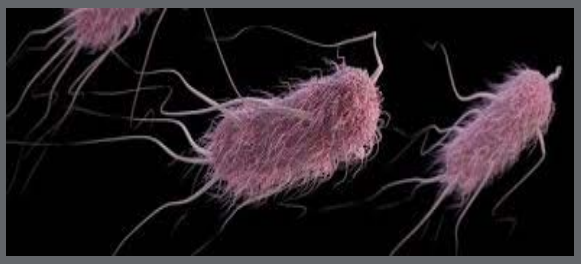
- 2016: 35,000,000 outbound US international travel trips (compare to ~20,000 refugees)*

- Any condition can walk through your door at any moment
  - Routinely ask about travel—clinician and/or system
- Know when to ask for help
- Many other public health impacts
  - 2 examples

*ITA report: https://travel.trade.gov/outreachpages/outbound.general_information.outbound_overview.asp

The implications are extensive…example 1

- Drug resistance:
  - ESBL, KPC's in travelers--e.g. Calgary study, 64% (70/109) of travelers to Asia acquired ESBL-producing *E. coli.*



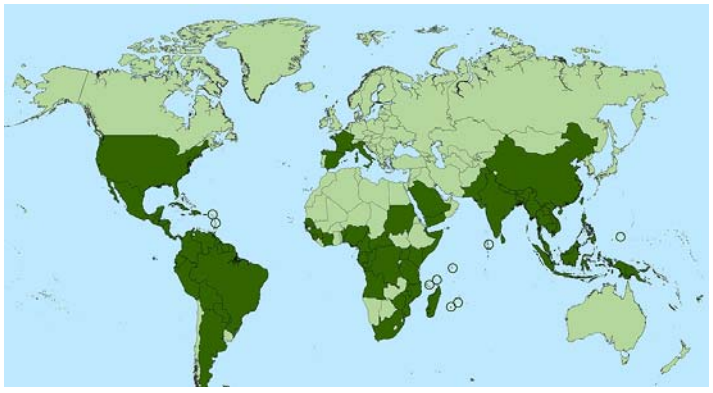
Periano G, et al. CMAJ Open 2017;5(4):E850-855

The implications are extensive…example 2

- What vector borne infection is this? 2008

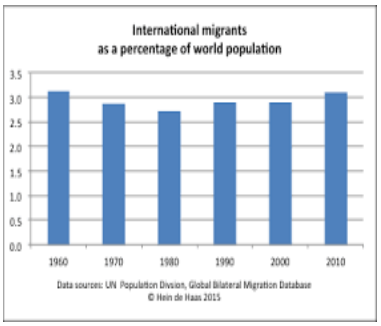
The implications are extensive…

- In 2018
  - What vector borne disease is this?



Humans and mobility

- Human migration
  - Approximately 1 billion persons live outside their country or region with more than 200 million people considered "international migrants" by the UN.
    - 3% of the world's population IM
    - 5th most populated country in the world



- Driven by climate change, political instability and poverty

UN: http://www.un.org/millenniumgoals/pdf/Think%20Pieces/13_migration.pdf

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Human displacement

More than 60 million people forcible displaced

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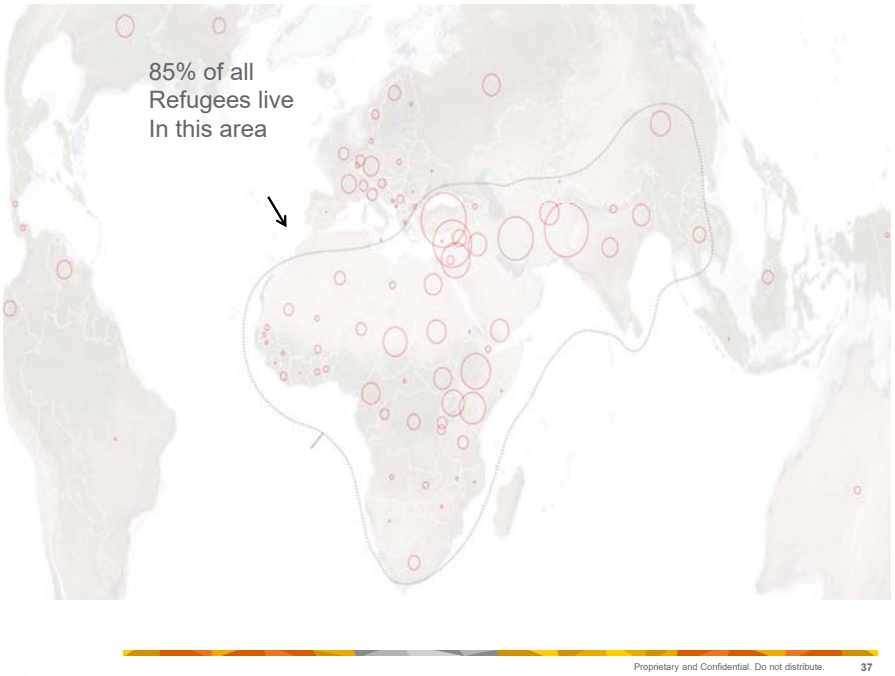
85% of all
Refugees live
In this area
Proprietary and Confidential. Do not distribute.
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Centers for Disease Control and Prevention Immigrant, Refugee, Migrant Health Branch

- Regulatory Mission
  - **Prevent the introduction, transmission, & interstate spread of communicable diseases in/into the United States & its Territories by immigrants, refugees & migrants**
- Public Health Mission
  - **Reduce morbidity & mortality among immigrants, refugees, and migrants**
  - **Prevent the introduction, transmission, & spread of communicable diseases through regulation, science, research, preparedness, and response**

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Roles are Expansive

- Provide **guidelines** for disease screening, prevention & treatment in the U.S. and overseas
- Track and **repor**t disease
- **Implement** vaccination and presumptive treatment for parasites in refugees overseas
- **Respond** to disease outbreaks in the U.S. & overseas
- **Advise** U.S. partners about health care for refugee groups
- **Educate** & **communicate** with stakeholder groups

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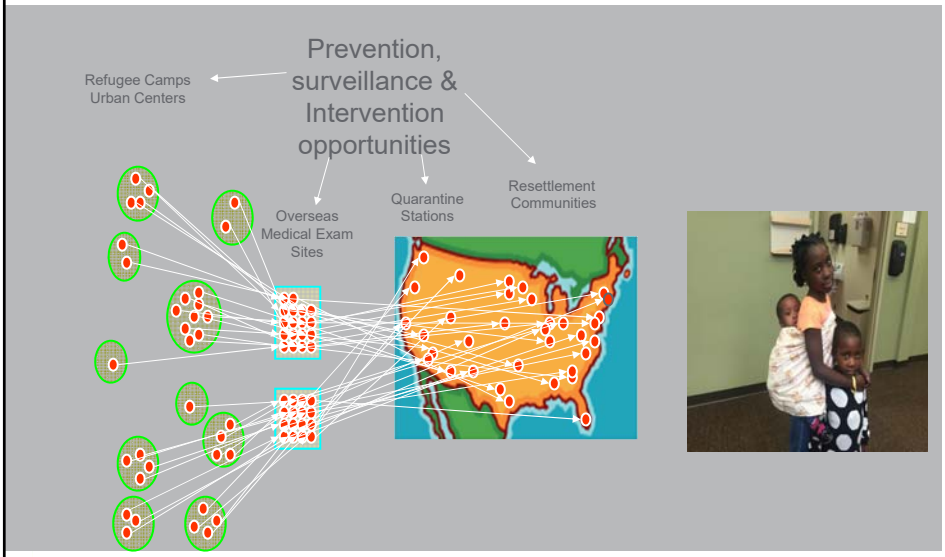
One Aspect for this Audience

Mobility: time for health interventions



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Pertinent Point

- All US immigrants in the official system undergo “overseas”, pre-departure health assessment, preventive medicine (e.g. vaccines) and, when pertinent, diagnosis and treatment (when pertinent).
  - Limitations: focused on diseases of public health significance

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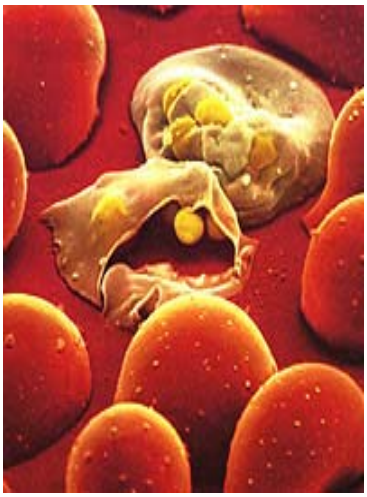
Pertinent Point

- Certain groups (e.g. refugees) receive more intensive medical care and interventions.
  - Screening beyond significant conditions (e.g. Hep B)
  - Expanded Vaccines
  - Presumptive treatment for certain infection

Example of Infections targeted—direct and indirectly from pre-departure presumptive treatment

- Ascariasis
- Hookworm
- Trichuriasis
- Strongyloidiasis
- Schistosomiasis (Artesunate?)
- Malaria

- Tapeworm (PZQ)
- Scabies (IVR)
- Lymphatic filariasis
- Onchocerciasis
- Giardia (minimal)



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Pertinent Point

To provide appropriate care, it is important for clinicians and systems caring for newly arrived immigrants and refugees to be aware of their previous care

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A few clinical resources you may not be familiar with…
Refugee Health Domestic Guidelines

- General
- History and physical
- Hepatitis
- HIV
- Immunizations
- Intestinal parasites
- Lead screening
- Mental health
- Malaria
- Nutrition and growth
- Sexually transmitted infections
- TB
- Cancer (in dev)
- Female genital mutilation/cutting (in dev)
- Preventive medicine (in dev)
- Women's health (in dev)

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Population Specific Health Information

- Bhutanese refugees
- Burmese refugees
- Central American Minor Refugees (Guatemala, Honduran, Salvadoran)
- Congolese refugees
- Iraqi refugees
- Somali refugees
- Syrian refugees

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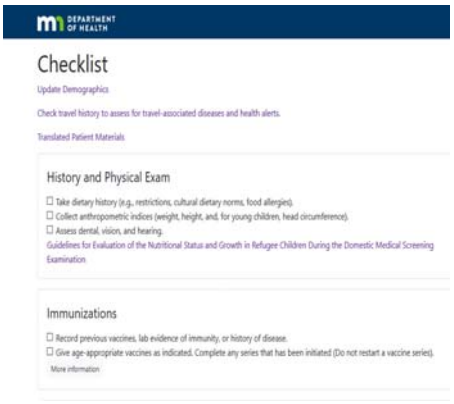
Interactive Tool (hot off the presses)

CDC Refugee Centers of Excellence



https://careref.web.health.state.mn.us/

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Case #6

- 38 yo female nurse with abdominal discomfort
  - Began having weight loss (20 lbs over 6 months), night sweats and RUQ discomfort
  - Adopted as a child from Korea
  - Health care and immunizations up to date

– Exam (pertinent)
  - Cachectic. Abdomen with RUQ tenderness, slightly enlarged spleen

– AFP 936

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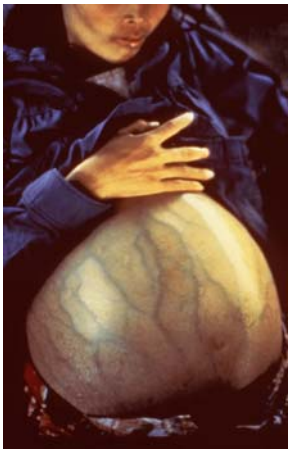
Case #6

- Diagnosis?
- Most likely cause?
  - A. Alcoholism
  - B. Hepatitis B
  - C. Toxin (e.g. acetaminophen)
  - D. Hemachromotosis
- Could this have been prevented?



CDC Image Library

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Case #6

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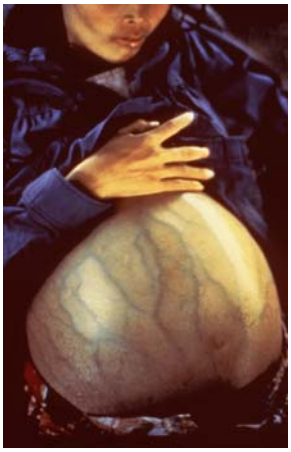

CDC Image Library

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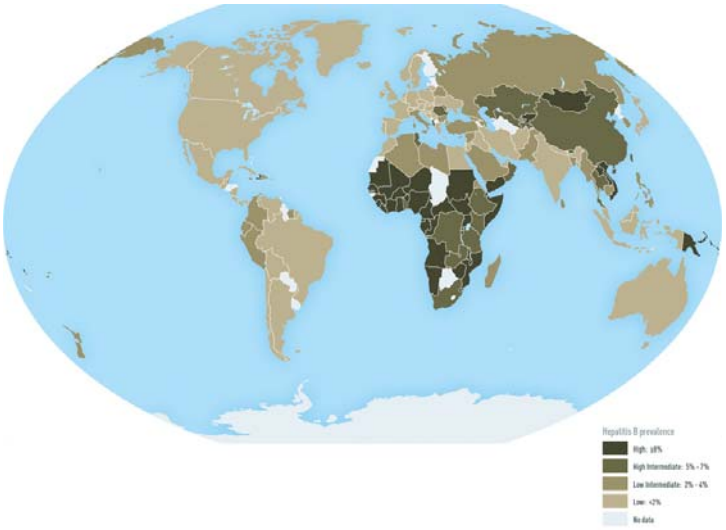
Case #6



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Case #7

- 55 yo Laotian male, presenting with confusion, rash, fever and abdominal pain and admitted to ICU.
  - Moved to Minnesota 25 years ago, last travel outside the state 15 years ago.
  - Healthy except history of COPD
    - One week ago was started on azithromycin and prednisone
- 24 hours after admission
  - Septic shock, succumbs
  - Blood culture positive for *E. coli*

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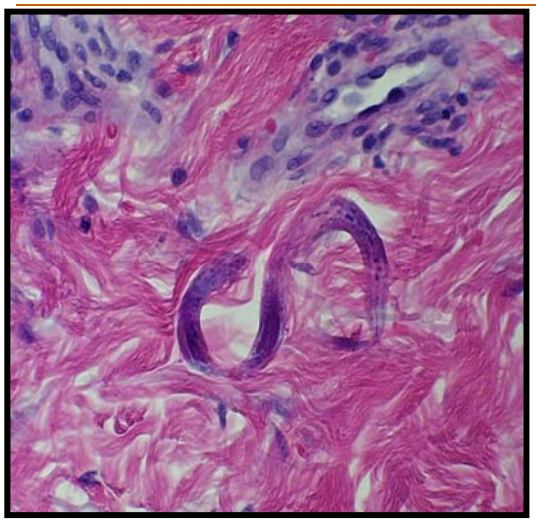

Diagnosis?
A. Urosepsis
B. *Strongyloides* hyperinfection
C. Ruptured Viscus
D. Foreign body

What should have been done to prevent this?

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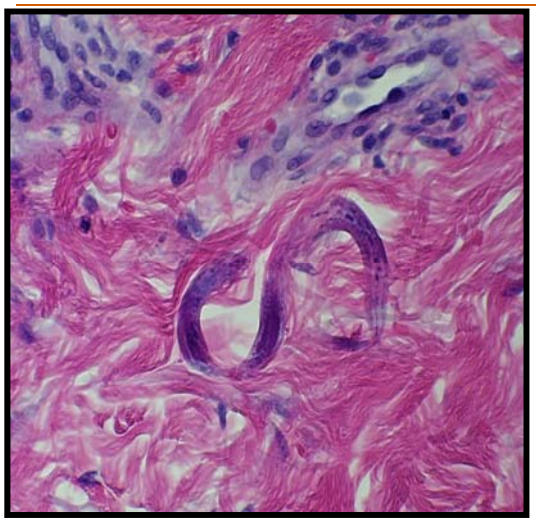

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Pt.	Age	Ethnicity	Time in US	Outcome
1	42	Cambodia	6 mo	Recovery
2	24	Hmong	3 yrs	Recovery
3	34	Hmong	>5 yr	Recovery
4	52	Vietnamese	>5yr	Recovery
5	46	Hmong	8 yrs	Death
6	69	Hmong	4 yrs	Death
7	72	Laotian	7 yrs	Death
8	49	Vietnamese	> 5yrs	Recovery
9	34	Hmong	4 yrs	Death

Newberry AM, CHEST 2005;128(5):3681-4.

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Take home Infectious Disease Points in Migrants and Travelers

- Migrants: Consider if your patient is at risk of long-latency infectious diseases and address at any opportunity:
  - TB (IGRA or TST)
  - Hepatitis B (screen and vaccinate)
  - Hepatitis C (screen if appropriate)
  - *Strongyloides* (if starting immunosuppression, especially corticosteroids, screen or treat)
- Travelers: A fever in anyone who has visited a malaria endemic area is a medical urgent case.
- Always ask:
  - Were were you born?
  - Where have your traveled?

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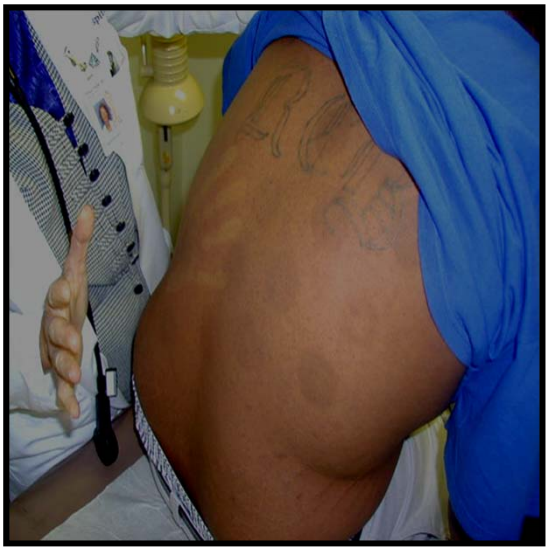
Like it or hate it
The world is mobile and we are not going back…

"Global Health" is fun and informative (learn from your patients and in diversity is beauty)
Some Other Cultural Practices



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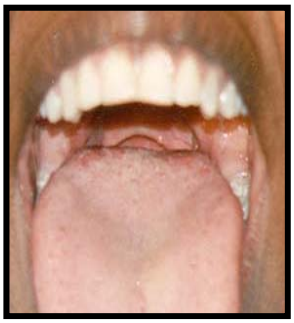

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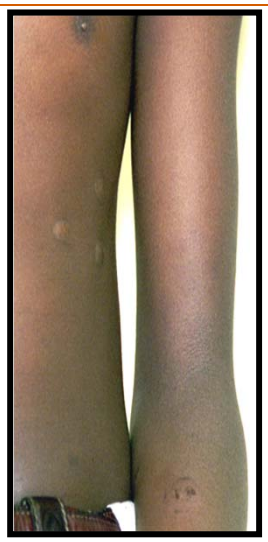

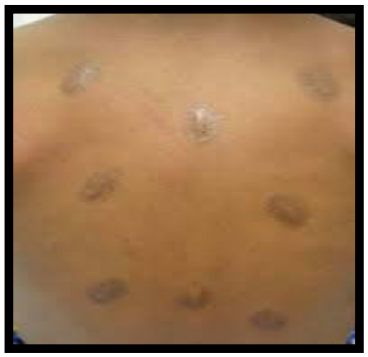

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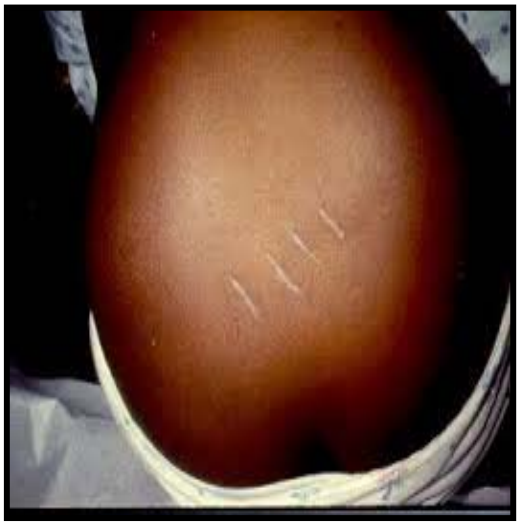

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So, where do the real public health threats come from?

Awaiting the Cholera 89

Cholera in New York City, 1892

Figure 4.1. "They Come Arm in Arm." *Judge* 23 (1892).

Source "Quarantine" by Howard Markal

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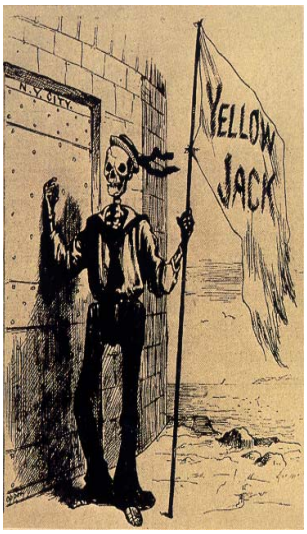
Death in a sailor's uniform holding the yellow quarantine flag knocking on the door of NYC during the 1898 yellow fever epidemic



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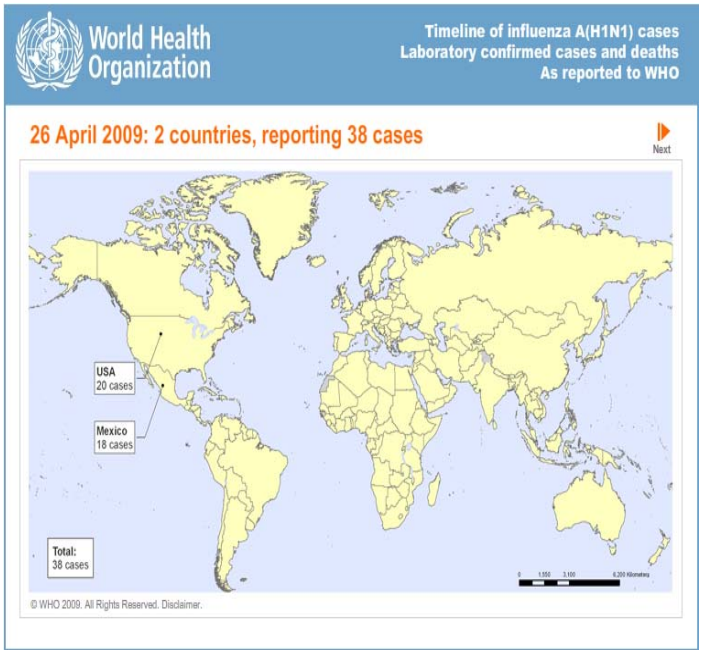

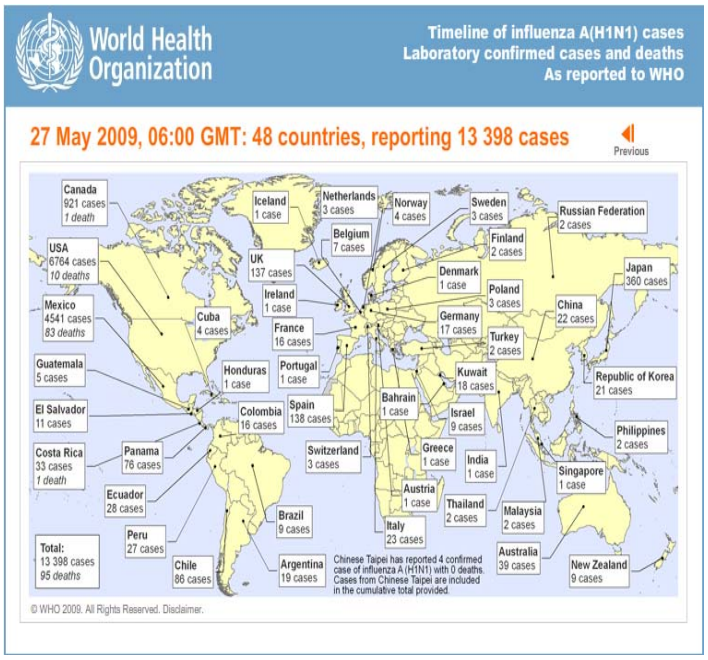
World Health Organization
Timeline of influenza A(H1N1) cases
Laboratory confirmed cases and deaths
As reported to WHO
27 May 2009, 06:00 GMT: 48 countries, reporting 13 398 cases
Previous
Canada 921 cases 1 death
USA 6764 cases 10 deaths
Mexico 4541 cases 83 deaths
Cuba 4 cases
Guatemala 5 cases
Honduras 1 case
El Salvador 11 cases
Costa Rica 33 cases 1 death
Panama 76 cases
Ecuador 28 cases
Peru 27 cases
Chile 86 cases
Total: 13 398 cases 95 deaths
Brazil 9 cases
Argentina 19 cases
Colombia 16 cases
Iceland 1 case
Netherlands 3 cases
Norway 4 cases
Sweden 3 cases
Russian Federation 2 cases
Belgium 7 cases
Finland 2 cases
UK 137 cases
Denmark 1 case
Japan 360 cases
Ireland 1 case
Poland 3 cases
China 22 cases
France 16 cases
Germany 17 cases
Turkey 2 cases
Portugal 1 case
Kuwait 18 cases
Republic of Korea 21 cases
Bahrain 1 case
Spain 138 cases
Israel 9 cases
Philippines 2 cases
Switzerland 3 cases
Greece 1 case
India 1 case
Singapore 1 case
Austria 1 case
Thailand 2 cases
Malaysia 2 cases
Italy 23 cases
Australia 39 cases
New Zealand 9 cases
Chinese Taipei has reported 4 confirmed case of influenza A (H1N1) with 0 deaths. Cases from Chinese Taipei are included in the cumulative total provided.
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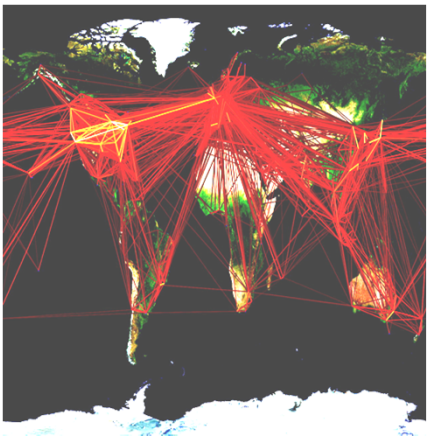
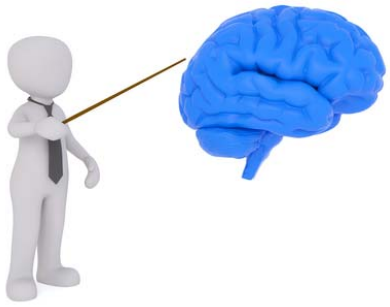


Conclusions

- The paradigm is shifting, I believe "global health" is becoming less geographic and more based on disparities
- The Global Is Local
- It is challenging but is fun and stimulating to learn from your patients, their experiences and about the broader world and medicine.



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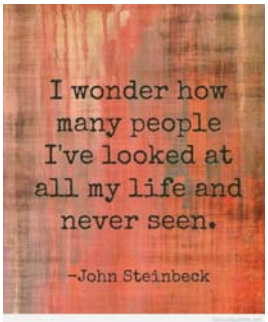
Conclusions

- The competent provider and Health System of the 21st Century
  - Has cultural humility ("competence")
  - Knowledgeable/educated and has resources to reflect
    - *Ethnic differences in disease patterns of their populations*
  - Knows to ask two key questions of every patient
    - *Where were you born?*
    - *Where have you traveled?*
  - Possesses basic attitudes, skills, and abilities to care for diverse populations
  - Develops systems to reduce barriers (e.g. professionally trained interpreters)



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It is time for parents
to teach young
people
early on that in
diversity
there is beauty and
there is strength

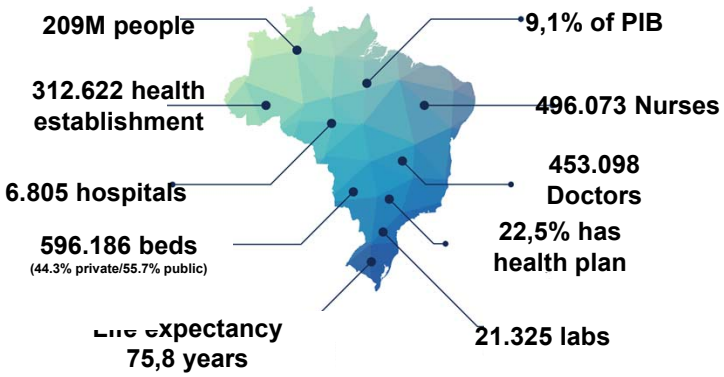
Maya Angelou

UNITEDHEALTH GROUP

GLOBAL HEALTH

Healthcare transformation in Brazil

With a population of around 210,000 people taking **Healthcare to all** in a **universal form** has been **Brazil's biggest challenge** so far.



Demografia Médica no Brasil 2018-FMUSP

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Healthcare transformation in Brazil

Similar physically to the US Health Care System, but **different in its conception**, the **Brazilian System is UNIVERSAL attending to the needs of the population.**

Chart 1. The structure of the American and Brazilian health care systems

THE AMERICAN HEALTH CARE SYSTEM	THE BRAZILIAN HEALTH CARE SYSTEM
PUBLIC SYSTEM	
Medicare Government-funded healthcare for over-65s	**Unique Healthcare System (SUS)** Brazilian National Public Health System is characterized by some principles that aims to provide integral care (including preventive and therapeutic interventions) for all citizens, independently of age or social position. The main principles are universal access, equity, decentralization, democratic governance and comprehensive care.
Medicaid Government-funded healthcare for those on low incomes	
Military veterans Receive healthcare via government-run scheme	
State Children's Health Insurance Programme coverage for children whose parents do not qualify for Medicaid	
PRIVATE SYSTEM	
Employer-sponsored insurance (group market) Employers provide health insurance as part of the benefits package for employees.	**Private health insurance** The majority of private health insurances is delivered to employees of public and private companies.
Individual market Destined to self-employed or retired people.	**Individual healthcare plan** Citizens also can contract an individual or familiar medical insurance
Payment out of pocket Medical expenses are paid directly to the private health care	

US
~18% GDP
Spent on Health

BRAZIL
~10% GDP
Spent on Health

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Healthcare transformation in Brazil

Brazil has the world's largest Universal System - SUS. Originally created in 1988, SUS as part of the reform to increase access to Health, the SUS **principles** were and still are : **universality**, **equality**, **decentralization**, **integrality** and **community participation.**

The system's most innovative implementation - a real ***game changer*** - was the launch in 1994 by the Ministry of Health, of the Program known as **Programa de Saúde de Família (PSF) : "Family Health Strategy"**.

Defined as Strategy, and not merely as a program, the PSF's objective is to promote better life conditions and to **assist enrolled families** and **Individuals**.

A true **reorganization of primary attention** with no date to end.

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Healthcare transformation in Brazil

The **"Family Health Strategy"** has **reverted** the **order of the assistencial model**

PATIENT CARE

EMERGENCY IN BIG HOSPITALS →

The family is the object of attention in their own ambience thus allowing for a better understanding of health/sick process.

The program includes actions that promote **prevention**, **recuperation**, **rehabilitation** and other more frequent aggravations.

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Healthcare transformation in Brazil

The program has proven to be a **success**.

25 years of existence

64% of the population covered = 133,6 million people

95% of the country covered

Present in 5.481 (of 5.575) municipalities in Brazil

With **high impact** on the **population metrics** : **lower number of children born underweight** one year after the implementation of the program, and a **decline in children mortality rates** in two years.

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Healthcare transformation in Brazil

As a consequence of **deinstitutionalization** and **humanisation** process of SUS (Sistema Único de Saúde), the Family Health Strategy influences positively health outside of Hospitals.

Researches have shown that **good primary care can solve 80 to 85% of a population's health problems.**

In Brazil between 2001 and 2016 **hospitalisation rates have fallen 45%** - from 120 to 66 per 1,000 inhabitants. 24% in capitals and 48,6% in rural areas.

Of the most impacted conditions*, 3 stand out :
- Asthma 76,6%
- Gastroenteritis 66,5%
- Cardio and Brain Vasculitis 57%

**Research by Luiz Felipe Pinto (UFRJ) / ilia Giovanell*

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Healthcare transformation in Brazil

Challenges Brazil

The **success of primary attention** lays in the **coordination of care**, such as what we see in the delivering in **accountable care organizations**. It relies on the **integration** of **hospital** and **ambulatory** care.

Thus our **biggest challenge** resides in the hospitals, the **lack of investments** and **human capital** are two forces that pull our system down.

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OPTUMHealth™
Education

Thank You.