Presented to

Texas A&M International Advisory Board

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Geographical Distribution
The Most Geographically Diverse Academic HSC in Texas

DALLAS
- Dentistry
- Medicine

BRYAN-COLLEGE STATION
- Medicine
- Nursing
- Public Health
- Pharmacy

HOUSTON
- IBT
- Medicine
- Public Health

TEMPLE
- Medicine
- Public Health

ROUND ROCK
- Medicine
- Nursing
- Pharmacy

KINGSVILLE
- Pharmacy

CORPUS CHRISTI / MCALLEN
- Medicine
- Public Health
- Pharmacy
- Nursing
Expand the current “primary care mission” into a mission that is comprehensive, diverse, research-intensive, and innovation-driven.
Emerging TAMHSC Inter-Disciplinary Programs and Institutes

- Environmental Translational Health
- Distributed Health and Patient Empowerment
- Neuroscience and Brain Health
- Prevention of Communicable Diseases
- Regenerative Medicine
- Translational Cancer Research and Prevention

Strategy: Fully leverage leading Texas A&M University strengths, and new collaborative relationships throughout the region.
“And we are launching a new initiative that will give us the capacity to respond faster and more effectively to bioterrorism or an infectious disease - a plan that will counter threats at home and strengthen public health abroad.”

President Barack Obama  
*State of the Union  
January 2010*
"The future of the US government's biodefence strategy sits in a warehouse in rural Texas."
OBJECTIVES

- Provide 50 million vaccine doses to the US within 4 months of a pandemic influenza outbreak.  
  (GSK will manufacture seasonal influenza vaccine in Texas during normal flu seasons)

- Lead the development of new vaccines and therapies for the US strategic national stockpile  
  (Solves “valley of death” for biotech start-ups within Texas)

- Train the U.S. workforce in all aspects of biopharmaceutical development  
  (Fills major Texas gap for expanding the biotech industry)

Total contract value ~$3 billion over 25 years, with an estimated economic impact to Texas of >$41 billion and >6,000 jobs
Texas A&M Health Science Center
School of Public Health

International Activities
Public Health?

- 450 graduate students working with 50 faculty to improve the health of entire populations + new BSPH

- Populations = communities, workforces, groups with particular characteristics and even online communities

- Models focus on more than just the individual – include social, economic, cultural, environmental and biological factors impacting health

- That leads in many different directions . . .
Public Health?

• Water
  • Nitrites, Ferrite

• Hunger
  • Colonias/binational populations

• Health care organization innovation
  • Center for Health Care Organization Transformation
  • State Medicaid Wavier evaluation

• Public education about prevention and management of disease
  • asthma, diabetes, heart disease, cancer, infectious diseases (e.g. Ebola virus)
Public Health?

• Entrepreneurship and commercialization
  • Standing Desk
  • Ambicycle

... and much more.
Relationship with Nigeria

- **Kano State** – sponsoring 20 graduate students for full education (all expenses)
- **ReachCare Foundation** - MOU for development of Ambicycle
- **Taraba State** – meetings with leaders in November to develop relationship similar to Kano State
- **Nigerian CDC**
  - sponsored Director’s talk at SPH September 26th
  - Student practicum experiences
• Sponsored student/faculty study/research trip to Mumbai

• Sponsored students and faculty from TATA to extended site visit in McAllen and College Station
Other Educational Relationships

• Annual trips to China to study health care system

• Conducted join capstone course with Bush School for USAID in Liberia

• Public health student part of One Health team to Nicaragua last summer. SPH faculty participated in their training
• Background in Global Health Research

Study monitors receive ‘Aggie spirit bands’ and T-shirts

Formal meeting with community leaders
Environmental Health Research in China

- George H.W. Bush China-U.S. Relations Conference
- Mechanistic studies to support clinical trials
“Geographic Pathology”

Mortality from Liver Cancer by Township: Jiangsu Province

< 1 per $10^5$/yr

> 50 per $10^5$/yr

25-fold change in HCC rate in 200 km
• Ongoing Research

• **Texas A&M University - Natural National Science Foundation China**

• Pilot Grant with Dr. Wei Shi, Nanjing University
“Going from Global to Local”

- Traffic-Related Air Pollution near the Border
Global Research in the Department of Environmental & Occupational Health

- **Dr. Mark Benden**, Ambicycle™ in Nigeria, Auckland, New Zealand, Sydney, Edinburg
- **Dr. Genny Carrillo-Zuniga**, Asthma and Environmental Issues in Monterrey and Coahuila, Mexico
- **Dr. Virender Sharma**, Ferrate and Nanoparticle Research in
  - **Europe**: Paris, Glasgow, Helsinki, Mainz, Germany, Prague, Olomouc, Czech Republic, Bratislava, Budapest, Nieuwegein, The Netherlands, Zagreb, Croatia, Dnepropetrovsk, Ukraine
  - **South America**: La Paz, Mexico, UNAM, Mexico City; Medellin, Colombia
  - **Asia**: Seoul, Singapore, Guangzhou, Harbin, Shanghai, Jilin City, Dalian, Bangkok, Hsinchu, Taipei, Taichung, Tokyo, Fukuoka, Dammam, Saudi Arabia
1. Medevac departs from Trauma Center
2. Medevac arrives at LZ and dispatches Ambicycle™
3. Ambicycle™ returns to LZ and loads victim into medevac
4. Medevac returns to Trauma Center with victim and Ambicycle™
• 18-month project to promote public engagement on environmental health in Ghana, Kenya and Uganda
  --Began this year
  --Involves environmental health research in three universities in Sub-Saharan Africa engaging with networks of science journalists
• Memorandum of Understanding signed with Tanzania Association of Environmental Engineers (August 2014)
• Involved in AuthorAID, a project to help researchers in developing countries to publish and communicate their research
-- Moderate an online discussion group of about 1400 researchers from more than 100 countries
-- Facilitate research writing and grant writing workshops (face-to-face, online) for researchers in developing countries
Thanks and Gig’em!