

A young child's face is shown in profile, looking towards the camera. The child's face is covered with several white medical sensors and wires, suggesting a medical or research context. The background is a solid red color. The text is overlaid on the right side of the image.

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Seattle BioMed

Stepping Into 21st Century Global Health Careers



Seattle BioMed

- Founded in 1977 by Ken Stuart
- 350+ staff; 18 lead scientists
- 73 active research projects, focused upon diseases caused by microscopic pathogens
- 420 publications since 2000
- Serving >3K learners annually thru BioQuest
- On the cusp of a new scientific phase
 - with malaria vaccine going into trials and construction of the Malaria Clinical Trials Center





Today's Talk

What is Global Health (GH)?

The State of the GH Sector

Educational Resources





Defining Global Health

Public	International	Global
<p>“...the science and art of preventing disease, prolonging life and promoting physical health through organized community efforts...”</p> <p>(internal aid)</p> <p>-<i>Charles Winslow</i></p>	<p>“...a subspecialty that relates more to health practices, policies, and systems and stresses more the differences between groups than the commonalities.”</p> <p>(external aid)</p> <p>-<i>GHEC</i></p>	<p>Cooperative actions and solutions that influence worldwide health issues.</p> <p>(Both)</p>



Why GH? Why Now?

- Comprehensive: Local and international initiatives
- Infectious diseases such as malaria, tuberculosis, AIDS and influenza are on the rise (+14M deaths per year) due to lack of solutions
- Washington State receives approximately 900-1,100 reports of Campylobacteriosis and 600-800 cases of Salmonellosis annually
- Increased availability of funding for this area
- Increased public interest in GH –books, universities...
- Locally: Washington's global health industry is growing!
 - 3,000 direct jobs and 30,000 related positions, generating \$4.1 billion in revenue (2005)



Sample GH Employers

- University
 - UW, **WSU**
- Government
 - **WSDA**, FDA
- Non-Profit
 - Seattle BioMed, IDRI, PATH, FHCRC, **PNNL**
- Biotech/Pharmaceuticals
 - Amgen, Dendreon, Novo Nordisk
- **WORLDWIDE!**

Hiring info: Craigslist, idealist, WBBA



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- Biostatistics
 - Bioengineering
 - Immunology
 - Hazard Analysis Operations
 - Agronomy
 - Epidemiology
 - Clinical regulations
 - Marketing/Distribution
 - Transportation Inspection

What are the jobs?

- Biology, Chemistry, Molecular Biology, Microbiology
- NURSING & MD



We Need Versatile Employees



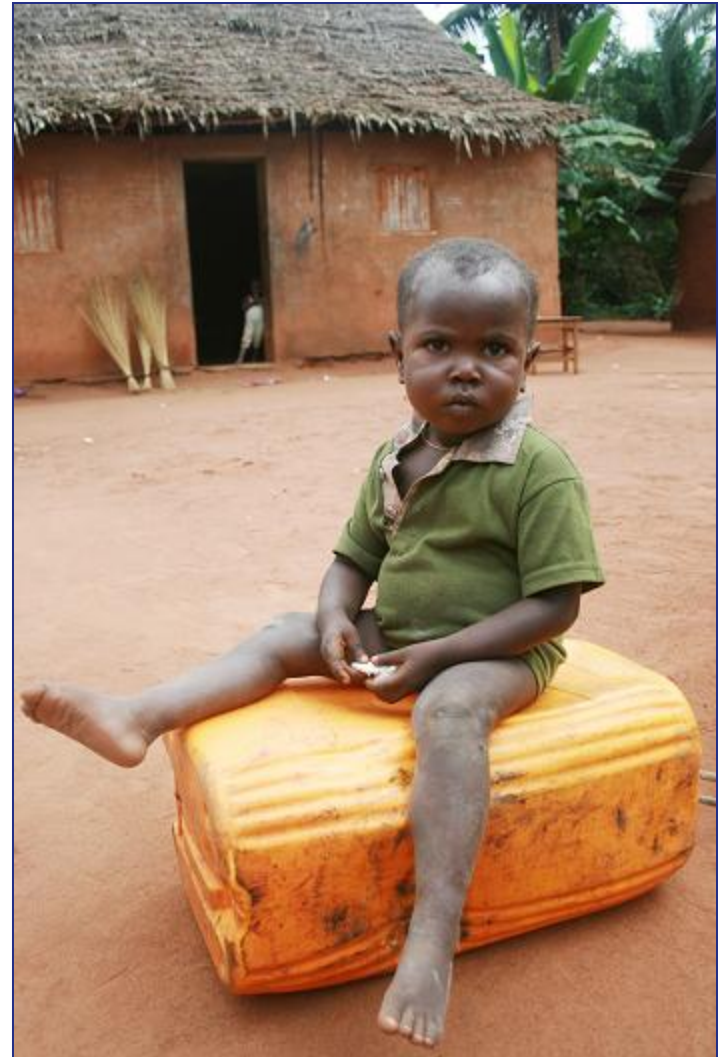
Skills

Knowledge

- “an employee that has multi-talents, that is not coming from a biomedical background or a public health background or an ‘X’ background.
- We need professionals with a complex set of abilities who understand economics and the political scene and the culture and the social, as well as the scientific.”

There is a Global GAP in Preparation

- Students are taught in silos to prepare for careers that require cross training
- Students want to make a global difference, but lack the means to do so.
- Students want to apply their knowledge
- Teachers crave awareness of new careers to influence their students



Explore 21st C Careers with WGHAA





Gapminder

11th grade interdisciplinary global health curriculum

Gapminder teaches statistics, trends and the Millennium Development Goals.

www.gapminder.org



Washington



Global Health
ALLIANCE

WGHA Members

Engaging and advocating for Washington state as a nexus for global health

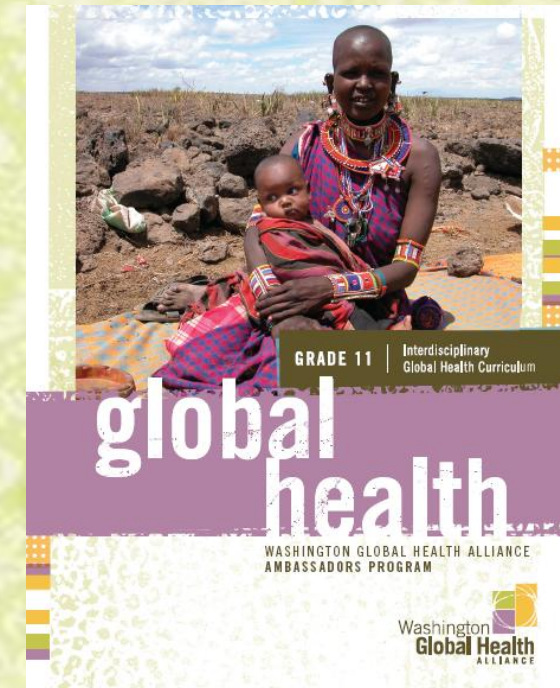
- The Fred Hutchinson Cancer Research Center
- Global Alliance for the Prevention of Prematurity and Stillbirth-an initiative of the World Health Organization
- Infectious Disease Research Institute
- Institute for Systems Biology
- Battelle/Pacific Northwest National Laboratory
- PATH
- Public Health-Seattle & King County
- Seattle Biomedical Research Institute
- Seattle Children's Research Institute
- SightLife
- University of Washington Department of Global Health
- Washington State University School for Global Animal Health
- World Vision
- Bill & Melinda Gates Foundation



H.S. Curriculum

11th grade interdisciplinary global health curriculum

- Lessons for Advanced Algebra, Chemistry, and U.S. History.
- Focuses on cholera, influenza, malaria, and tuberculosis.
- Developed and pilot-tested by teachers.
- Aligned to national standards
- Assessment tools



Teachers:

Teachers observed they now had a better sense of what to assess, how, and when to do it, and felt they could now develop a better project assessment. One teacher noted that he/she had written rubrics for the first time; another said he/she was using the outline and format learned in the program.

Students:

While over 48% of students reported planning to complete algebra 1, algebra 2, geometry, and pre-calculus by the time they graduated, the biggest increases in plans to take math courses were for applied math (28.6%), trigonometry (11.8%) and other math classes (11.1%).



Ag Bio Curriculum Feed/Food Safety

- Business structures influenced by globalization and consolidation.
- Increasing market uncertainty, risk analysis, petroleum dependence, niche business opportunities, and global food production and distribution systems.
- Driven by changes in biosecurity, the expanding global population, health concerns, shrinking natural resources, and climate change.
- Need for graduates with excellent business skills, international understanding, and leadership qualities.



Ag Bio Curriculum Feed/Food Safety

- 9 draft lessons
 - Introductory lesson discussing careers and breadth of possibilities
 - Ionic/inorganic nomenclature
 - Unit conversion math lesson
 - Systems approach to feed safety
 - Bio-resistance activity
 - GMO mythbusters; direct student research into pros and cons
 - An outbreak scenario/**lab** component, based around BSE
 - Feed contamination **lab**, with melamine and cyanuric acid
 - Going Global: Business management, regulatory, biosecurity



Add Ambassadors
to Your Classroom

To learn more, visit
www.wghaa.org



More about BioQuest Programs

Teacher Programs

- Internal

- SEP

Student Programs

- Site Explorations (class field trips)

- BioQuest Academy

- Internships for our 18 year old grads

- Partnerships

 - MESA, Black Achievers, Do-IT, NWABR

- College-level Programs through the University of WA

- Curriculum: WGHAA, WSDA

Contact us: www.seattlebioquest.org or

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Global Health Career Resources

BioQuest Career Game

<http://www.bioquestacademy.org/future/possibilities.php>

Relief Web

www.reliefweb.int/

Interaction

<http://careers.interaction.org>

Non-profit job listing (includes GH)

www.idealists.org

World Health Organization

<http://www.who.int/employment/en/>

Global Health Council

<https://www.globalhealth.org/>

Washington Global Health Alliance

www.wghalliance.org

Global Washington

<http://globalwa.org/>



Contact us!

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