My Background

• Anthropology undergraduate from the University of Akron
  – Cultural anthropology
    • “deals with human culture especially with respect to social structure, language, law, politics, religion, magic, art, and technology”
      http://www.merriam-webster.com/dictionary/cultural%20anthropology
  – Importance of skills
  – Importance of resume building
  – Importance of internships
My Background

• Charter class of 1999
  – Interest in underserved populations and health disparities
  – General track, focus on health education and promotion
  – Capstone Project: A Model of Medical Care Administration Applied to Health Care for the Underserved in Summit County, Ohio for NEOUCOM/Healthy Connections Network
  – Internships
    • Akron City Health Department
      – Determined teen pregnancy rates by census tract in Summit County
      – Compared teen pregnancy rates by census tract with Maternal Child Health service delivery by census tract in Summit County
    • Cleveland Clinic Foundation
      – Used novel data sources to estimate the prevalence of Sarcoidosis in North East Ohio among Medicaid and Cleveland Clinic Foundation (CCF) populations
Lessons Learned

- **People First**
  - Mentoring - on the receiving end
  - The importance of collaboration
  - Public Health Networks
- **You don’t have to be the expert**
  - Find out who the experts are and engage them in the conversation
- **Basics of public health sciences**
Finding that first job

• Importance of internships
• SELL YOURSELF!
  – Technical skills plus
• Leave a writing sample
• References that can speak to your achievements and potential
  – Mentors
  – Leaders in community volunteer organizations
Georgia Public Health

[Map of Georgia showing various health regions and counties]

We Protect Lives.
Brunswick, GA 2004
What I thought I would do

• Focus on health disparities and chronic diseases
Day One

• “You’re going to have to get over that”
The importance of having and being a good boss

• How it works- in your organization and your community
  – “Welcome to the work world, Wendy”
• Clear goals and deliverables
  – Grant in Aid
  – “Duties as assigned”
• Feedback
  – How am I doing?
  – What could I do better?
• Pathway for continued professional growth
  – Training
  – Education
  – Special Projects
The work we do
Ten Essential Public Health Services

1. **Monitor** health status to identify community health problems.
2. **Diagnose and investigate** health problems and health hazards in the community.
3. **Inform, educate, and empower** people about health issues.
4. **Mobilize** community partnerships to identify and solve health problems.
5. **Develop policies and plans** that support individual and community health efforts.
6. **Enforce** laws and regulations that protect health and ensure safety.
7. **Link** people to needed personal health services and assure the provision of health care when otherwise unavailable.
8. **Assure** a competent public health and personal healthcare workforce.
9. **Evaluate** effectiveness, accessibility, and quality of personal and population-based health services.
10. **Research** for new insights and innovative solutions to health problems.

*We Protect Lives.*
What is Disease Surveillance?

• Under the BioSurveillance umbrella
  – Ongoing, systematic collection, analysis, interpretation and dissemination of data for Monitoring the occurrence of disease

• Information for Action

**Surveillance**
Collection
Analysis
Interpretation
Dissemination

**Action**
Sets priorities
Planning/Policy
Investigation
Control
Research
What is Disease Surveillance? (it’s a process)
Types of Acute Disease Surveillance

• Traditional, Passive Surveillance: Relies on observations of external partners that notify public health of concerns
  – Notifiable Disease Reports
  – Outbreak Management (Active and Passive)

• Active Surveillance: Directed public health action to determine or confirm presence or absence of public health concerns
  – Syndromic Surveillance
  – BioWatch
  – Ebola Active Monitoring
Which diseases/conditions are notifiable?
State Electronic Notifiable Disease Surveillance System (SendSS), a System of Systems
SendSS 2014 Stats

- Over 60,000 notifiable disease reports
- Over 66,000 STD morbidity reports
- Over 10,000 Animal Bite reports
- 2.8 million ED visits captured in 2014
- 3000+ Active Users
- 38 modules over 8 major program areas
- 600+ Unique Logins each day
SendSS
(State Electronic Notifiable Disease Surveillance System)

- Syndromic Surveillance
- Influenza Surveillance
- STD Case Management
- Notifiable Disease Reporting
- Perinatal Hep B Surveillance
- Animal Bite Module
- PH On Call Calendar
- Electronic Lab Reporting
- TB Patient Management
Syndromic Surveillance

Provides near real time perspective on what is happening in emergency Departments around the state.
Syndromic Surveillance

• Started in 2004

• Supports Emergency Preparedness, Public Health and Hospitals

• The collection, analysis, and visualization of syndromic surveillance data is fully automated
  – Begins with the acquisition of electronic patient chief complaint data from participating hospitals and urgent care centers
  – These data are gathered from existing patient information systems and transferred electronically on a daily basis to SendSS
Syndromic Surveillance

• Currently, there are 24 syndromes that are derived from chief complaints via a text parse algorithm
  – Algorithm looks for key phrase components and then assigns the patients’ visits to the appropriate syndromes
  – Once “mapped”, the syndromes are processed using the CDC’s Early Aberration Reporting System (EARS) algorithm
    • Looking for statistically significant changes in expected counts of syndrome events
    • Analysis occurs at three geographic stratifications (State, District, Facility)

• Results of this analysis are expressed as “flags” or signals that are presented via the SendSS interface to authorized users

• Variety dynamic data visualizations including tabular views, time series graphs, raw data line lists, and GIS visualizations
Influenza Surveillance

- SendSS Influenza like Illness (ILI) module brings together data from ILI net providers, syndromic surveillance providers and influenza laboratory data.

- These data contribute to the weekly flu report and provide situational awareness regarding the spread and impact and provides tools to track outbreaks of influenza.

- “Georgia Flu Trends” was implemented in winter of 2008/09:
  - Includes visualization of historical ILI data from the SendSS syndromic surveillance module.
  - Includes current ILI trends, incorporating viral isolate data obtained electronically from the Georgia Public Health Laboratory.
Georgia Flu Trends
Percent of ILI visits to Georgia Emergency Departments by MMWR Week
(Measured by ILI syndrome/ Total visits from Georgia Syndromic Surveillance Program emergency department chief complaint data)

Time Series with Current and Previous Years data
Showing Ratio of ILI visits to total ED visits by MMWR Week
Viral Isolate Data Indicator for Seasonal Influenza

Blue indicates at least one positive viral culture, yellow indicates only negative results, no circle indicates no specimens tested.
2009 H1N1 Influenza indicator

Degree of green shading indicates percent of specimens testing positive for H1N1 influenza by RT-PCR, no circle indicates no specimens tested. Darker color indicates higher % positive.
Geographic Distribution of ILI visits to GA Emergency Departments

(Semiggregated daily ILI syndrome visits shown for each MMWR week distributed by patient residence zip code)

Geographic Distribution of ILI visits to GA Emergency Departments.

Semi-Transparent Circles represent daily visits by patient zip code centroid across MMWR Week. Radius of circle is adjusted based on the daily count.
2009 H1N1 Influenza Pandemic as seen through Georgia Flu Trends
**Percent of ILI visits to Georgia Emergency Departments by MMWR Week**
(Measured by ILI syndrome/ Total visits from Georgia Syndromic Surveillance Program emergency department chief complaint data)

- **2009 % ED visits for**
- **2008 % ED visits for**
- **2007 % ED visits for**

**2009 H1N1 Influenza RT PCR testing shaded by percent positive 0%-No Shading 100%-Solid Green**

**Indicates isolates testing positive for seasonal influenza were collected this week and confirmed by the Georgia Public Health Laboratory**

**Indicates testing for seasonal influenza with negative or pending results performed by the Georgia Public Health Laboratory**

**Geographic of Distribution of ILI visits to Georgia Emergency Departments**
(Aggregated daily ILI syndrome visits shown for each MMWR week distributed by patient residence zip code)

**MMWR Week Ending: 07-25-2009**

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*We Protect Lives.*
Percent of ILI visits to Georgia Emergency Departments by MMWR Week
(Measured by ILI syndrome/ Total visits from Georgia Syndromic Surveillance Program emergency department chief complaint data)

Geographic Distribution of ILI visits to Georgia Emergency Departments
(Aggregated daily ILI syndrome visits shown for each MMWR week distributed by patient residence zip code)

MMWR Week Ending: 08-08-2009
Percent of ILI visits to Georgia Emergency Departments by MMWR Week
(Measured by ILI syndrome. Total visits from Georgia Syndromic Surveillance Program emergency department chief complaint data)

Geographic of Distribution of ILI visits to Georgia Emergency Departments
(Aggregated daily ILI syndrome visits shown for each MMWR week distributed by patient residence zip code)
Percent of ILI visits to Georgia Emergency Departments by MMWR Week
(Measured by ILI syndrome/Total visits from Georgia Syndromic Surveillance Program emergency department chief complaint data)

Geographic of Distribution of ILI visits to Georgia Emergency Departments
(Aggregated daily ILI syndrome visits shown for each MMWR week distributed by patient residence zip code)

MMWR Week Ending: 08-29-2009
Percent of ILI visits to Georgia Emergency Departments by MMWR Week
(Measured by ILI syndrome/Total visits from Georgia Syndromic Surveillance Program emergency department chief complaint data)

Geographic Distribution of ILI visits to Georgia Emergency Departments
(Aggregated daily ILI syndrome visits shown for each MMWR week distributed by patient residence zip code)

MMWR Week Ending: 09-05-2009

We Protect Lives.
Percent of ILI visits to Georgia Emergency Departments by MMWR Week
(Measured by ILI syndrome/ Total visits from Georgia Syndromic Surveillance Program emergency department chief complaint data)

Geographic Distribution of ILI visits to Georgia Emergency Departments
(Aggregated daily ILI syndrome visits shown for each MMWR week distributed by patient residence zip code)

MMWR Week Ending: 09-12-2009

We Protect Lives.
Percent of ILI visits to Georgia Emergency Departments by MMWR Week
(Measured by ILI syndrome/Total visits from Georgia Syndromic Surveillance Program emergency department chief complaint data)

Geographic Distribution of ILI visits to Georgia Emergency Departments
(Aggregated daily ILI syndrome visits shown for each MMWR week distributed by patient residence zip code)
Percent of ILI visits to Georgia Emergency Departments by MMWR Week
(Measured by ILI syndrome/ Total visits from Georgia Syndromic Surveillance Program emergency department chief complaint data)

Geographic of Distribution of ILI visits to Georgia Emergency Departments
(Aggregated daily ILI syndrome visits shown for each MMWR week distributed by patient residence zip code)

MMWR Week Ending: 09-26-2009
Percent of ILI visits to Georgia Emergency Departments by MMWR Week
(Measured by ILI syndrome/Total visits from Georgia Syndromic Surveillance Program emergency department chief complaint data)

Geographic of Distribution of ILI visits to Georgia Emergency Departments
(Aggregated daily ILI syndrome visits shown for each MMWR week distributed by patient residence zip code)
Percent of ILI visits to Georgia Emergency Departments by MMWR Week
(Measured by ILI syndrome/Total visits from Georgia Syndromic Surveillance Program emergency department chief complaint data)

Geographic Distribution of ILI visits to Georgia Emergency Departments
(Aggregated daily ILI syndrome visits shown for each MMWR week distributed by patient residence zip code)

We Protect Lives.
Percent of ILI visits to Georgia Emergency Departments by MMWR Week
(Measured by ILI syndrome/Total visits from Georgia Syndromic Surveillance Program emergency department chief complaint data)

Geographic Distribution of ILI visits to Georgia Emergency Departments
(Aggregated daily ILI syndrome visits shown for each MMWR week distributed by patient residence zip code)

MMWR Week Ending: 10-24-2009

We Protect Lives.
Percent of ILI visits to Georgia Emergency Departments by MMWR Week

(Measured by ILI syndrome/ Total visits from Georgia Syndromic Surveillance Program emergency department chief complaint data)

2009 % ED visits for
2008 % ED visits for
2007 % ED visits for
2009 H1N1 Influenza RT-PCR testing shaded by percent positive 0%=No Shading 100%= Solid Green
Indicates isolates testing positive for seasonal influenza were collected this week and confirmed by the Georgia Public Health Laboratory
Indicates testing for seasonal influenza with negative or pending results performed by the Georgia Public Health Laboratory

Geographic Distribution of ILI visits to Georgia Emergency Departments
(Aggregated daily ILI syndrome visits shown for each MMWR week distributed by patient residence zip code)

MMWR Week Ending: 10-31-2009

We Protect Lives.
Percent of ILI visits to Georgia Emergency Departments by MMWR Week

Geographic of Distribution of ILI visits to Georgia Emergency Departments

MMWR Week Ending: 11-07-2009
Percent of ILI visits to Georgia Emergency Departments by MMWR Week

(Measured by ILI syndrome/Total visits from Georgia Syndromic Surveillance Program emergency department chief complaint data)

Geographic of Distribution of ILI visits to Georgia Emergency Departments
( Aggregated daily ILI syndrome visits shown for each MMWR week distributed by patient residence zip code)

MMWR Week Ending: 11-14-2009

We Protect Lives.
Percent of ILI visits to Georgia Emergency Departments by MMWR Week
(Measured by ILI syndrome/Total visits from Georgia Syndromic Surveillance Program emergency department chief complaint data)

Geographic of Distribution of ILI visits to Georgia Emergency Departments
(Aggregated daily ILI syndrome visits shown for each MMWR week distributed by patient residence zip code)
Percent of ILI visits to Georgia Emergency Departments by MMWR Week
(Measured by ILI syndrome/Total visits from Georgia Syndromic Surveillance Program emergency department chief complaint data)

Geographic of Distribution of ILI visits to Georgia Emergency Departments
(Aggregated daily ILI syndrome visits shown for each MMWR week distributed by patient residence zip code)

MMWR Week Ending: 11-28-2009
In the News...
Ebola Active Monitoring System

- DGMQ provides traveler with Symptom Monitoring Kits and provides line list to GDPH.
- Traveler records temperature and symptoms daily in online tool.
- Traveler may present to Georgia emergency department.
- GDPH Contacts travelers and establishes online monitoring account for traveler.
- GDPH Monitors traveler for symptoms and reporting compliance.
- Hospital partner can query online list to see if patient is a monitored traveler.
- GDPH provides weekly summary to CDC.
Traveler Record

Traveler ID: 146468

Demographic Information:
- Last Name: Ebola Soet
- First Name: Karl
- District Assigned To: Cobb (3-1)
- Date of Birth: 1/2/1950
- Gender: Male
- Race: Multiracial
- Ethnicity: Unknown

Traveler Address Information:
- 10/22/2014: 125 Some street, Manetta, GA, COBB H: 7704253251, W: C
- 10/15/2014: Adrian, AL, H: W, C

Ebola Followup:
- 10/22/14, 00:00:00, ksooteler, This is a test comment

Ebola Specific Information:
- Has Traveler been contacted: Yes
- Date of Contact: 10/22/2014
- Reporting Type: Online
- Needs Transactor: No
- Monitoring Type: Active

We Protect Lives.
• Detailed data related to travel and risk

• Online account established and login email sent to traveler
Temperature and Symptom Check

- Traveler logs in each day by 12 pm
- Records temperature and symptoms
- Records travel planned during monitoring period
- Automated email to epidemiology if fever or symptoms reported
Traveler Monitoring Dashboard
Ebola Active Monitoring Query

• Used by hospital to determine if patients being treated are being monitored

• Hospital Partner logs in and enters patient information

• Records matching search criteria are providing limited information
Thank you

Wendy Smith

Wendy.smith@dph.ga.gov