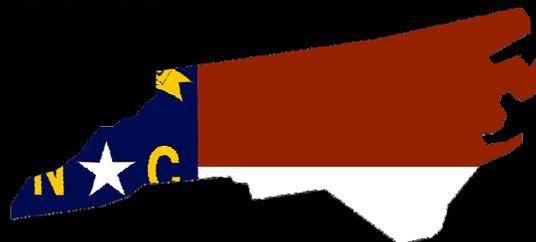# State of the State

NC Communicable Disease Conference
April 5, 2017
Zack Moore, MD, MPH
North Carolina Division of Public Health

Topics

- 10 years of communicable disease in NC

- Current priorities/hot topics

- Lessons learned

On a Normal Day

What Could Go Wrong?

GLOBAL/NATIONAL		LOCAL/STATE	
2009	• H1N1 pandemic	2009	• H1N1 pandemic • Oseltamivir resistance
2010	• Cholera	2010	• *C. perfringens* YMCA • Hepatitis B in LTCF
2011	• Listeriosis from cantaloupes	2011	• *E. Coli* at State Fair
2012	• Fungal meningitis	2012	• Salmonella Paratyphi in tempeh • Pertussis everywhere

What Could Go Wrong?

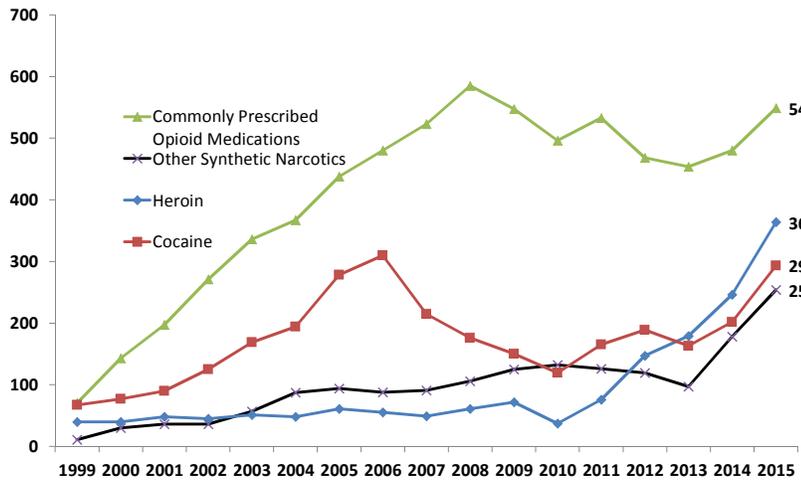| GLOBAL/NATIONAL	LOCAL/STATE
2013 • MERS • Chikungunya	**2013** • Measles • Staph septic arthritis
2014 • Ebola in West Africa • EV-D68 / AFM	**2014** • Legionellosis in healthcare facilities
2015 • Bird flu	**2015** • Syphilis / ocular syphilis • HCV in weight loss clinic
2016 • Zika virus	**2016** • Mumps • PAM

Priorities for 2017: Opioids

Death Rates* for Three Selected Causes of Injury, North Carolina, 1968–2015
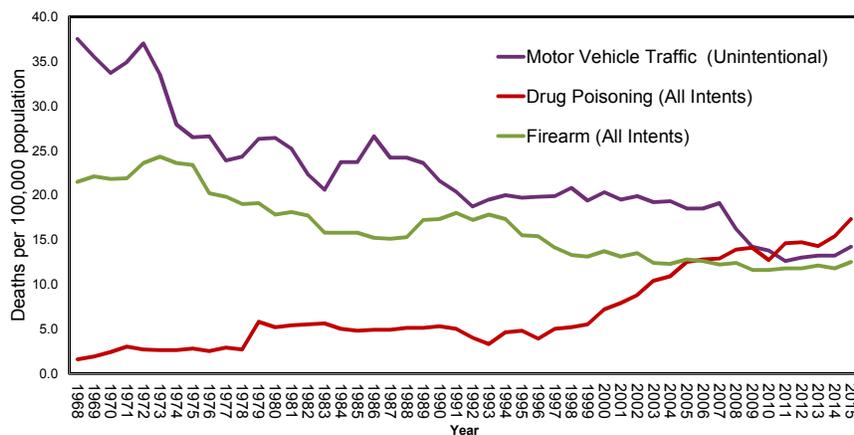
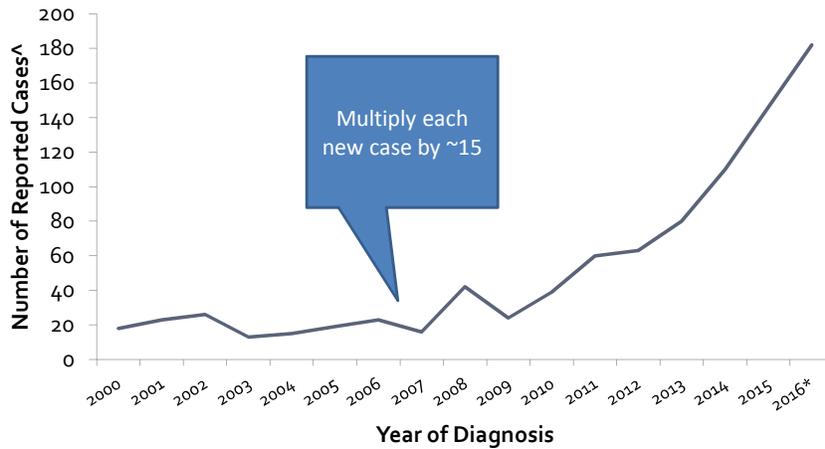National Vital Statistics System, http://wonder.cdc.gov, multiple cause dataset
Source: Death files, 1968-2015, CDC WONDER
Analysis by Injury Epidemiology and Surveillance Unit

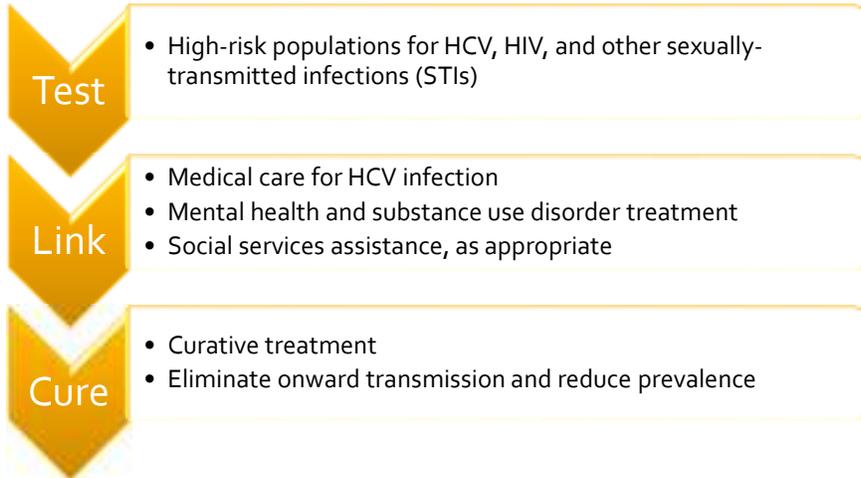## Unintentional Medication & Drug Deaths, North Carolina, 1999–2015*

Legend:
- Commonly Prescribed Opioid Medications — **549**
- Other Synthetic Narcotics — **254**
- Heroin — **364**
- Cocaine — **293**

X-axis: 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015

•Data Source: State Center for Health Statistics, Death Certificate Data (X40-X44 w/ T40.1, T40.2, T40.3, T40.4)
•* Number of times mentioned- Cases are not mutually exclusive- Deaths can have more than one drug involved.
•Does not include non-resident or out of state resident deaths.

Acute Hepatitis C in North Carolina, 2006–2016*

Multiply each new case by ~15

Y-axis: Number of Reported Cases^

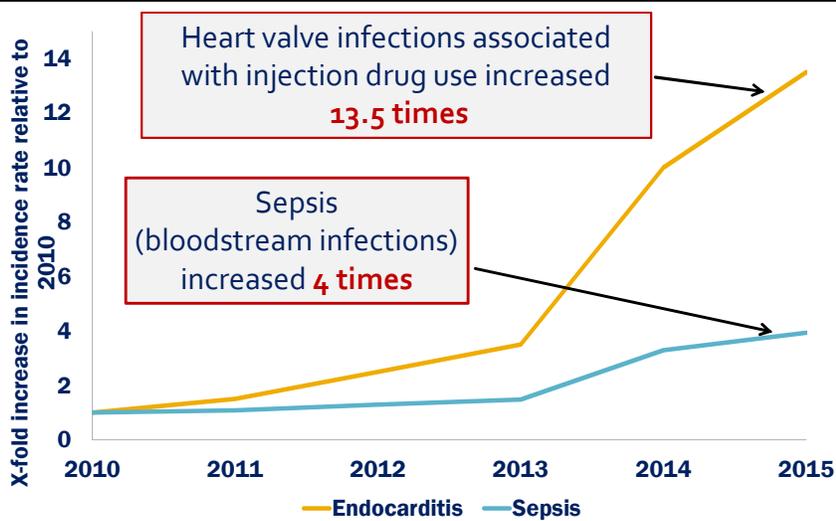X-axis: Year of Diagnosis — 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016*

*Data from 2016 are preliminary and subject to change
^ Estimated true number 10–15x higher than number of reported cases.

Hep C TLC

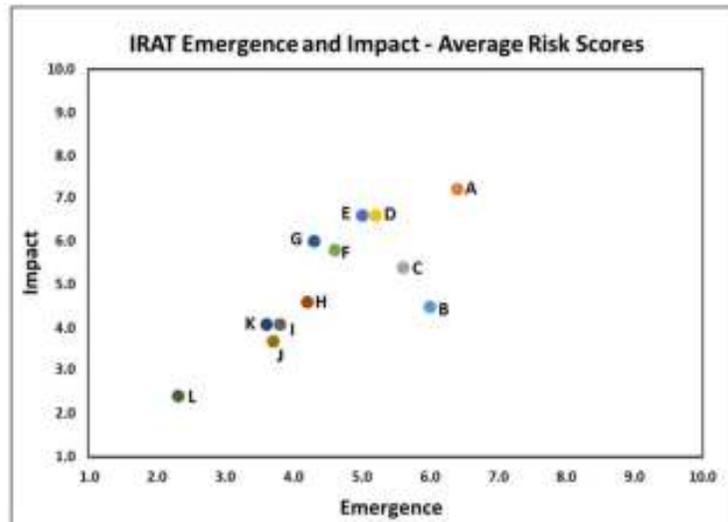**Test**
- High-risk populations for HCV, HIV, and other sexually-transmitted infections (STIs)

Link
- Medical care for HCV infection
- Mental health and substance use disorder treatment
- Social services assistance, as appropriate

Cure
- Curative treatment
- Eliminate onward transmission and reduce prevalence

Other Infectious Complications

Heart valve infections associated with injection drug use increased **13.5 times**

Sepsis (bloodstream infections) increased **4 times**

X-axis: 2010, 2011, 2012, 2013, 2014, 2015

Y-axis: X-fold increase in incidence rate relative to 2010 (0, 2, 4, 6, 8, 10, 12, 14)

Legend: Endocarditis — Sepsis

Avian Flu: H7N9 in China

Avian Flu in North America

Priorities for 2017: Public Health 3.0

Public Health 1.0

◦ Breakthroughs in medicine, epidemiology & lab sciences

◦ Uneven access to care and public health

◦ Infectious diseases

Public Health 2.0

◦ Preventive services

◦ Chronic diseases

◦ Accreditation

◦ Surveillance

◦ Access to care

Public Health 3.0

◦ Social determinants

◦ Equal access to health, not just healthcare

◦ Cross-sector actions

Public health 1.0
(late 19th – most of 20th century)

- Comprehensive public health protection— from primary prevention through treatment—becomes possible for the first time in history

- Development of an astonishing array of health-protecting **tools** and **capacity** with increasingly sophisticated techniques for ensuring sanitation and food safety.
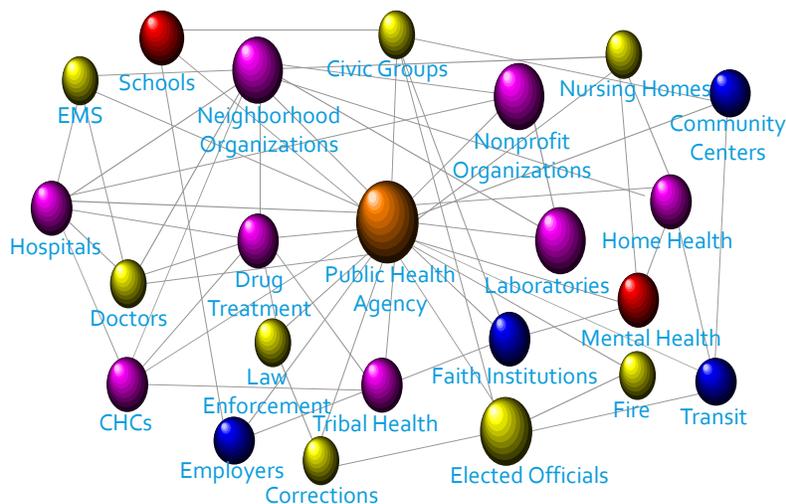
Public health 2.0
(1988 – present day)

- By late in the 20th Century there was *tremendously uneven* public health capacity at the local levels

- Ill-prepared Health Departments strained to address new infectious disease challenges as well as the growing challenge of chronic disease prevention

- *Governmental* public health 'came of age' – culminating in today's Health Department accreditation movement

What is public health 3.0?

- Emphasizes cross-sectorial environmental, policy- and systems-level actions that directly affect the social determinants of health

- LOCAL PUBLIC HEALTH LEADERS AS THE CHIEF HEALTH STRATEGIST

Public Health System

Source: Public Health Practice Program Office, Centers for Disease Control and Prevention , National Public Health Performance Standards Program, User Guide (first edition), 2002. (Current version available at www.cdc.gov/nphpsp)

Public Health 3.0 Ingredients

- Leadership and workforce

- Data, analytics, and metrics

- Essential infrastructure

- Flexible and sustainable funding

- Strategic partnerships

Lessons Learned

- Local health departments will always be the experts on the front lines

- Communication is the key

- Expect the unexpected