Get Smart Know When Antibiotics Work
Pennsylvania

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Tuesday, June 21, 2016: 2:00 PM-3:30 PM
Kahtnu 1 (Dena’ina Convention Center)
Without **urgent, coordinated action by many stakeholders**, the world is headed for a post-antibiotic era, in which common infections and minor injuries which have been treatable for decades can once again kill. ~ Keiji Fukuda, WHO, 2014
Get Smart: Know When Antibiotics Work - Pennsylvania

Outline

- State perspective on the threat of antimicrobial resistance
- Rationale for a collaborative approach
- Get Smart Program—initiatives
  - Pediatric
  - Pharmacy
  - Communication
- Conclusions

Source: Pa. Publications
State perspective on the threat of antimicrobial resistance

- The state’s role in public health began in late 1800s\textsuperscript{1-2}
  - Dreadful epidemics
- Pa. DOH mandates include
  - prevention/control of infectious disease
  - Antibiotics: 20\textsuperscript{th} century revolution
    - Resistance is a thriller movie


Anne Sheafe Miller: first patient to be treated in the US with penicillin

Source: William Birch, from The City of Philadelphia, 180

Source: Eric Otman Columbia University
State perspective on the threat of antimicrobial resistance (cont’d)

- Consequences of overuse and misuse of antibiotics
  - Exacerbates emergence of resistant bacteria\(^3\) as well as increases risk of certain infections
    - Increased risk of *Clostridium difficile*\(^4\)
  - Drug adverse events~140,000 ED visits annually\(^5\)


Adverse Reaction to Amoxicillin
Source: [www.healthtap.com](http://www.healthtap.com)

VRSA infected wound; Source: K. Julian, 2012
The recent discovery of a plasmid-borne colistin resistance gene, \textit{mcr-1}, heralds the emergence of truly pan-drug resistant bacteria\textsuperscript{6}.

Rationale for a Collaborative Approach

- Multifaceted pediatric interventions can reduce Abx use
  - Statewide campaign in WN compared with MN (control) 1998-2003 had limited impact \(^8\)

- Community-wide interventions in Knox County TN- 1997-1998
  - Abx prescription rate: Decrease was 11% \(^9\)

- 16-community trial in MA-1998-2003
  - Greater in Medicaid-insured children and for broad spectrum antibiotics (BSA) agents \(^10\)

Get Smart Program Initiatives


LTCFs*

Communications

Pediatrics

Pharmacy

Decreased Abx, BSAs prescriptions

Get Smart App Mobile ready site

* Long Term Care Facilities
Get Smart Program Initiatives: Objectives

- Promote guidelines for antimicrobial stewardship
- Estimate antibiotic prescriptions
- Decrease consumer demand for unnecessary antibiotics
- Increase preventive measures (vaccination, hygiene, and infection control)

Dr. Levine reading “Katie Caught a Cold” to children at a child care center in State College, Pa. November 17, 2015
Pediatric Initiative

Pediatric settings

- Pediatric clinics Abx stewardship
  - Promote Get Smart guidelines
  - Provider-based feedback on Abxs and BSAs
  - Reduce parental expectations for Abxs

Collaborations

- Penn State Hershey Pediatrics
- Children’s Hospital of Pittsburgh

Focus

- Childcare facilities
  - ~7907 facilities
  - ~242,324 children in childcare facilities

11. Pennsylvania Department of Human Services
Pediatric Initiative (cont’d)

Example of activities

- Develop practical guidance for implementation of model sick-child exclusion policies
  - Advisory group of pediatricians, childcare directors, Keystone STARS, regulators and public health
  - Identify sources of confusion
  - Suggest actions based on experience
  - Review mandated exclusions in light of current science
**Example of outcomes**

- **Pre-intervention study in 2007**
  - Main finding and editorial suggested the need to promote model policies \(^{12-13}\)
- **Sick-Child Exclusion Policy Advisory Group (Practical Considerations) in 2014**
  - Children ≥6 months with fever without behavior change do not need exclusion

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With the growing development of antibiotic resistance, it is imperative that we no longer take the availability of effective antibiotics for granted. As a nation, we must respond to this growing problem, and our response needs to be multifactorial and multidisciplinary.

~ Thomas Frieden, 2010
Get Smart Pharmacy Initiative

Objectives

- Engage pharmacy faculty and students in antimicrobial stewardship
  - Outreach in community pharmacies
  - Support preventive measures (hand hygiene and vaccination)
- Research on antibiotic prescribing trends
- Collaborator: University of Pittsburgh School of Pharmacy
Get Smart Pharmacy Initiative (cont’d)

Examples of activities

- Annual Get Smart workshop
  - Get Smart CDC and State perspective, since 2003
  - Online course “Community Pharmacists Tip the Scales”
    - ~110 students outreach in ~75 com. pharmacies in Allegheny county each year
    - Over 2000 encounters since 2013

- Community outreach
  - Abx quiz, feedback and Get Smart brochures

14- CDC: Weighing in on Antibiotic Resistance (available at www.cdc.gov)

Source: CDC

Josh Krise and Melanie Beers: Class of 2018 and Christine Murphy, DOH;
Source: NM
Get Smart Pharmacy Initiative (cont’d)

Example of outcomes

- Community outreach in 2015
  - 778 encounters, 57% females; majority 18-40 yrs old
  - 37% taken abx within past 6 months
  - 677 completed abx quiz

Source: CDC

Percentage of pharmacy customers giving correct answers on antibiotic quiz (N=677), western Pa., 2015

- High, 5≥: 44
- Medium, 3-4: 35
- Low, < 3: 21
Get Smart Communication Initiative

Objectives

- Disseminate guidelines and training materials
  - Get Smart Web portal
  - Social media Facebook, Twitter, blogs...
  - Monthly newsletter
- Conduct behavioral research on drivers of abx use
- Coordinate Get Smart Week and One Health forums
Get Smart Communication Initiative (cont’d)

Examples of activities

- Web portal 2012-present
  - Engaged target audience
    - Childcare directors, parents, teachers, and providers
  - Kids’ art competition, 2013-
    - Art competition engaged children and drove traffic to the website
    - Unexpected publicity by media

Poster session ID #5796
Get Smart Communication Initiative (cont’d)

Examples of activities and outcomes

- Get Smart Week
  - Governor’s Proclamation 2015
    - First seminar at Penn State Nov 17
    - ~300 participants, Student Health Services
  - Get Smart Award Ceremony
    - 18 award recipients Mar. 23, 2016
    - 100 participants—parents, kids, legislators
Conclusions

- Collaborate in the process
  - Review experiences and consult with stakeholders, CDC, other states, sites...
  - Identify mutual benefits
  - Involve collaborators from initial steps

- Maintain team spirit
  - Schedule pre-planned interactions
  - Set concrete objectives; yet be flexible
  - Ensure shared ownership and shared recognition

source: bussiness2community.com
Team means Together Everyone Achieves More!
~Author Unknown
“Alone we can do so little; together we can do so much” – Helen Keller