CDC-Get Smart for Healthcare Campaign

Edina Avdic, Pharm.D., MBA, BCPS

Pharmacy Director, Get Smart for Healthcare-CDC

Associate Director, Antimicrobial Stewardship Program-The Johns Hopkins Hospital

Mission

- To optimize the use of antimicrobial agents in in-patient healthcare settings.

Goals

- Improve patient safety through better treatment of infections.
- Reduce the emergence of anti-microbial resistant pathogens and *Clostridium difficile*.
- Increase awareness of the challenges posed by antimicrobial resistance in healthcare and encourage better use of antimicrobials as one solution.

CDC
Centers for Disease Control and Prevention

GET SMART
Know When Antibiotics Work

Antimicrobial Stewardship Experts Input

- Sought input from variety of experts on antimicrobial stewardship.

Recommendations:

1. Incorporate stewardship messages into the growing healthcare-associated infection prevention and control efforts.

Antimicrobial Stewardship Experts Input

2. Make stewardship programs and interventions easier to implement in all healthcare settings.

3. Enhance efforts to get healthcare administrators to recognize the importance of stewardship and provide resources to do it.

Antimicrobial Stewardship Experts Input

4. Find a way to make stewardship interventions feasible in hospitals that don't have infectious diseases physicians and pharmacists.

5. Develop methods to better monitor in-patient antimicrobial use.

Measuring Antimicrobial Use

- Days of therapy (DOT) identified as preferred measure by experts

- **Immediate goal:**
  - Enable hospitals to perform risk-adjusted inter-facility comparisons of antimicrobial use.

Measuring Antimicrobial Use

- **Future goals:**
  - Measure the impact of antimicrobial use on resistance.
  - Evaluate the impact of stewardship efforts on antimicrobial use.
  - Assess the appropriateness of antimicrobial use.

Monitoring Antimicrobial Use

- CDC is developing a methodology that would allow electronic reporting of antimicrobial use data to National Healthcare Safety Network (NHSN).

- Discussions with vendors of pharmacy computer systems how to implement this methodology within their systems.

Monitoring Antimicrobial Use

- CDC planning an antibiotic point prevalence survey as part of a healthcare associated infection point prevalence survey.
- Goal is to get a national snapshot of in-patient antibiotic use.
  - Frequency
  - Agents
  - Indications

CDC
Centers for Disease Control and Prevention

GET SMART
Know When Antibiotics Work

Initial CDC Activities: Stewardship

- Focused on developing an “implementation framework” that will make stewardship activities practical and feasible in any acute care setting.

Stewardship Framework

- CDC has partnered with the Institute for Healthcare Improvement (IHI) to help develop and promote in-patient stewardship.

CDC
Centers for Disease Control and Prevention

GET SMART
Know When Antibiotics Work

Why Partner with IHI?

- IHI has established itself as a leader in driving change in healthcare at the national level.
  - 100K Lives Campaign
  - 5 Million Lives Campaign
- IHI has established a methodology for affecting practice change that fits well with our need for a practical implementation framework.

CDC
Centers for Disease Control and Prevention

GET SMART Know When Antibiotics Work

IHI Driver Diagram Methodology

- “A driver diagram is used to conceptualize an issue and determine its system components which will then create a pathway to get to a goal”

- http://www.periscopihos.com/adjuntos/253.1-IHI90DayResearchandDevelopmentProcessApr09.pdf

CDC
Centers for Disease Control and Prevention

GET SMART Know When Antibiotics Work

Driver Diagram- In English

- Start with a goal
- "Timely and appropriate antibiotic utilization in the acute care setting."

Driver Diagram: In English

- What are the most important practices that need to occur to get to the goal?
  - Primary drivers
- Ideally you want to select the practices that are the most influential and influenceable.

Driver Diagram: In English

- What needs to be in place to ensure those practices can be carried out consistently?
  - Secondary drivers
- These can be systems issues or educational issues.

Driver Diagram: In English

- What tools are necessary to ensure that everything is in place to ensure the desired practices?
  - Change concepts and change ideas
- This is the most important element of the diagram and where our current efforts often fall short.

Primary Divers to Improve Antibiotic Use

1. Timely and appropriate initiation of antibiotics.
2. Appropriate administration and de-escalation.
3. Data monitoring and transparency.
4. Improving knowledge and engagement in antimicrobial stewardship efforts.

Secondary Drivers: Timely and Appropriate Initiation of Antibiotics

a. Promptly identify patients who need antibiotics.
b. Obtain cultures prior to starting antibiotics.
c. Avoid therapy with overlapping activity or combinations not supported by evidence or guidelines.

Secondary Drivers: Timely and Appropriate Initiation of Antibiotics

d. Determine and verify allergies and modify therapy accordingly.
e. Make choices based on local susceptibility patterns.
f. Start treatment promptly.

Secondary Drivers: Timely and Appropriate Initiation of Antibiotics

g. Make sure orders for antibiotics include information that will facilitate reviews.

h. Specify expected duration of therapy based on evidence, local, and national guidelines.

Secondary Drivers: Appropriate Administration and De-escalation

a. Make antibiotics a patient is receiving, start, and stop dates visible in the medical record.
b. Give antibiotics at the right dose and interval.
c. Stop or de-escalate therapy promptly based on culture and sensitivity results.

Secondary Drivers: Appropriate Administration and De-escalation

d. Review and modify antibiotics at all transitions of care.
e. Monitor for toxicity and adjust agent and dose promptly.

Secondary Drivers: Data Monitoring and Transparency

a. Develop criteria for monitoring the appropriateness of antimicrobial use in the facility and mechanisms for disseminating that information.

Secondary Drivers: Improving Knowledge and Engagement in the Antimicrobial Stewardship Efforts

a. Promote a culture of optimal antibiotic use within the facility.
b. Develop and make available education and expertise in antibiotic use.
c. Ensure expertise is available to clinicians at the point of care.

CDC
Centers for Disease Control and Prevention

GET SMART
Know When Antibiotics Work

Current Status of the Driver Diagram

- Reviewed by group of experts and modified based on feedback received.
- Introduced “Get Smart for Healthcare” campaign, at 5th Decennial International Conference on Healthcare-Associated Infections via workshop.
- In process of identifying tools and methodologies that already exist to facilitate implementation of the secondary drivers.

CDC
Centers for Disease Control and Prevention

GET SMART
Know When Antibiotics Work

Next Step for the "Get Smart for Healthcare"

- Partner with hospitals who are interested in pilot testing ("prototyping") one or more aspects of the driver diagram.
- Develop a comprehensive web-based resource to assist clinicians interested in implementing stewardship programs and interventions.

CDC
Centers for Disease Control and Prevention

GET SMART
Know When Antibiotics Work

Thanks!

eavdic1@jhmi.edu

The findings and conclusions are those of the author and do not represent the view of the CDC