Policy Initiatives to Support Antibiotic Stewardship

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Why Do We Need Policy Initiatives on Antibiotic Stewardship?

- We often turn to health policies as a solution when certain key conditions exist:
  - There is an important health problem that needs to be addressed quickly and broadly.
  - There are one or more effective solutions to the problem.
  - Education alone either has been or is unlikely to address the problem.
Why Do We Need Policy Initiatives on Antibiotic Stewardship?

- Antibiotic resistance is a major public health problem.
  - We are now in the “post-antibiotic era”

- Antibiotic over use is one factor that is driving this problem - and one factor that we can actually do something about.
Why Do We Need Policy Initiatives on Antibiotic Stewardship?

- Antibiotics are a shared resource.
  - How I use antibiotics can impact how well they work for your patients.
- Antibiotics are fast becoming a scarce resource.
- The solutions to improve use require creating better systems through a coordinated effort from multiple partners:
Why Do We Need Policy Initiatives on Antibiotic Stewardship?

- We can probably only go so far in addressing *C. difficile* and MDROs without tackling antibiotic use.
- Infection control efforts will reduce transmission, but can’t address development.
- Better antibiotic use can help turn these problems off at the source.
Why Do We Need Policy Initiatives on Antibiotic Stewardship?

- There are lots of studies demonstrating effective implementations of antibiotic stewardship.
- The studies have demonstrated not just reductions in antibiotic use, but also improvements in patient outcomes.
Why Do We Need Policy Initiatives on Antibiotic Stewardship?

- We need to try something new.
- Education and efforts to highlight the benefit of stewardship have led to great progress. But we’ve got a long way to go.
- Organized, more formal policy initiatives might help us do more, faster.
What Do I Mean by Policies?

- Yes.
- These can be “big P” policies like state or federal mandates, programs and requirements.
- They can also be “little p” policies that are simply statements of what we want to do and where we want to go.
Bolstering Support for Stewardship

- There is no question that accreditation and regulatory standards are major drivers of activity in healthcare.
- Many have suggested that stewardship will not move to the top of facility priority lists until it becomes “required.”
- There is some experience with requirements for antibiotics.
Experience with In-Patient Antibiotic Requirements

• Community acquired pneumonia core measures from CMS/TJC.
• Based on best published evidence from large studies.
• Antibiotic timing
• Antibiotic selection
Pneumonia Core Measure

• Dramatically improved compliance.
• Posed challenges for stewardship.
• Several published studies have demonstrated problems with the timing rule.
  – Led to repeal in January 2012
• Is the measure driving unnecessarily broad spectrum therapy?
Experience with In-Patient Antibiotic Quality Measures

- Surgical Care Improvement Project does have quality improvement measures related to antibiotic use.
  - Prophylactic antibiotics within one hour
  - Appropriate choice of prophylactic agent
  - Antibiotics discontinued with 24 hours (48 for cardiac surgery)
SCIP Antibiotic Quality Measures

• Have led to improvements in compliance with these recommendations.
• Impact on ultimate outcome of infections rates remains controversial.
• No data specifically on the impact of the antibiotic recommendations.
• No evidence of unintended consequences.
Quality Measures for In-Patient Antibiotic Use

• CDC and SHEA convened a meeting in Atlanta on February 3, 2011 to discuss this issue with a variety of stakeholders.
  – E.g. TJC, CMS QIO, SHM, ASHP, SIDP

• There was general agreement that this could be helpful, but challenging.

• The group came up with a few candidates.
Challenges

• Want measures that will accurately reflect good antibiotic use.
• Measures must be applicable in any hospital.
  – Adult, pediatric, large, small
• Compliance must be relatively easy to assess by someone with no infectious disease training and using simple methods.
Quality Measures Discussion

- Several potential measures were discussed at the SHEA/CDC meeting.
- Some broad - pertain to use in general
- Some narrow - pertain to specific agents
- The group favored broader measures over agent specific ones.
Favorite “Candidates”

• Antibiotic orders have an indication
  – Broadly implementable
  – Would assist in stewardship efforts
  – Could be part of medication safety/medication reconciliation and safe patient hand-offs
  – Already suggested by ASHP
  – Already being done in some facilities
**Favorite “Candidates”**

- There is a process to review selected courses of antibiotic therapy within 72 hours.
  - Is a core of improving in-patient use
  - Could be done by treating team or stewardship program
  - More difficult to implement so more flexibility is needed
• Episodes of selected positive blood cultures are reviewed within 24 hours to ensure appropriate therapy.
  – Important patient safety issue
  – Gets much harder when we start to talk about “appropriate” therapy
Quality Measures for In-Patient Antibiotic Use

• In 2012, CDC was able to work with the center for Medicare and Medicaid Services (CMS) to include a few of these antibiotic use quality measures into a new infection control audit tool that CMS was developing.
Quality Measures

1. C.2.a Facility has a multidisciplinary process in place to review antimicrobial utilization, local susceptibility patterns, and antimicrobial agents in the formulary and there is evidence that the process is followed.

1. C.2.b Systems are in place to prompt clinicians to use appropriate antimicrobial agents (e.g., computerized physician order entry, comments in microbiology susceptibility reports, notifications from clinical pharmacist, formulary restrictions, evidenced based guidelines and recommendations).
Quality Measures

1. C.2.c Antibiotic orders include an indication for use.

1. C.2.d There is a mechanism in place to prompt clinicians to review antibiotic courses of therapy after 72 hours of treatment.

1. C.2.e The facility has a system in place to identify patients currently receiving intravenous antibiotics who might be eligible to receive oral antibiotic treatment.
Next Steps

• These are NOT citation level events, but are intended for assessment and quality improvement.
• The infection control worksheet tool is still being pilot tested.
• We will see how the questions work and can refine them as needed.
A Step in the Right Direction?

• Yes, but only one step.
• Some of the measures have vague requirements for a “process” or “system” or “mechanism”
• We need more implementation data and experience so we can guide facilities and surveyors on what good “processes”, “systems” and “mechanisms” are.
A Step in the Right Direction?

- The specific measures won’t improve the quality of antibiotic use on their own.
  - People can always check a box for an indication or to confirm they reviewed the therapy.
- They need to be part of a broader effort to improve antibiotic use.
- We will need to think carefully about unintended consequences.
Another Policy Option - Require It

• California Senate Bill 739 mandated that, by January 1, 2008, California Department of Public Health require general acute care hospitals to monitor and evaluate the utilization of antibiotics and charge a quality improvement committee with the responsibility for oversight of the judicious use of these medications.
What’s the Impact Been?

• In 2010, CA did a survey to assess the impact of the stewardship law.
• Of 135 responding hospitals, 22% reported that Senate Bill 739 influenced initiation of their ASP.
California Experience- Part II

• Based on their current experience, CA legislature is currently revising their stewardship mandate to be more specific.
• Considering more details on what programs need to look like and accomplish.
• Considering requirements for more training for stewardship program directors.
Should This be the Model?

- **SHEA/IDSA Policy Statement on Antimicrobial Stewardship**
- **Recommendation 1:**
  - Antimicrobial stewardship programs should be required through regulatory mechanisms.
  - CMS should require participating facilities to implement stewardship programs and to monitor the use of antibiotics.
Stewardship as a Condition of Participation?

- Experience from infection control demonstrates that inclusion as a Condition of Participation can be transformative.
- Every acute care hospital in America has an infection control program with dedicated support.
- There are thousands of trained infection prevention experts in the country.
How Could This Be Done?

• CMS has the authority to set rules that hospitals must follow in order to receive payments from CMS.

• These rules are known as the “Conditions of Participation”.

• There is currently a “Condition of Participation” for infection control, that requires hospitals to have an infection control program that accomplishes specific tasks.
CMS Speak - A Primer

• The Condition of Participations are generally broad statements of processes and practices that CMS requires.

• CMS also issues “Interpretive Guidance” for each Condition of Participation that provides much more detailed guidance on what hospitals must do to be considered in compliance with the Condition.
Stewardship as a Condition of Participation?

• Many have called for Antibiotic Stewardship to become a Condition of Participation.

• It could be an independent Condition or could become part of the infection control Condition.

• This would be the most effective way of ensuring hospitals implement stewardship programs.
Stewardship as a Condition of Participation?

• Crafting the condition would be challenging.
• Needs to be specific enough to ensure that facilities take aggressive action to improve antibiotic use.
• Needs to be flexible enough to be feasible in every acute care hospital in the country.
• Need to be able to assess compliance.
Be Careful What You Wish For

- Prescriptive mandates have benefits and drawbacks.
- You get universal compliance- but is this compliance just on paper?
- Would a mandate lead facilities to do the minimum to comply and end up hurting some really strong programs?
- How do you monitor success?
- What about other unintended consequences?
Solutions to These Challenges

- We have to be flexible.
- Hospitals don’t all look the same, and neither do stewardship programs.
- There must be flexibility in how programs are implemented.
- But, there are certain key elements that have been strongly associated with success.
Core Elements for Antibiotic Stewardship Programs

- Leadership commitment from administration
- Single leader responsible for outcomes
- Single pharmacy leader
- Antibiotic use tracking
- Regular reporting on antibiotic use and resistance
- Educating providers on use and resistance
- Specific improvement interventions
Solutions to These Challenges

• We can train hospital surveyors on what to look for to make sure that stewardship efforts are most effective in actually improving use.
  – CA has growing experience with this.

• We need to monitor antibiotic use and also come up with ways to look at treatment outcomes to look for potential adverse consequences.
Expanding the Reach of Stewardship

- Currently, efforts to improve antibiotic use are perceived as the job of an “antibiotic stewardship program”
- A multi-disciplinary team of an ID clinician and an ID pharmacist (and others) who oversee antibiotic use.
Problems With the Current Approach

- Formally staffed stewardship programs are beyond the reach of most hospitals
  - Just over half of HCA facilities had access to an ID clinician
  - Less than 5% had an ID pharmacist
- Even if money were no object, there are not enough ID clinicians and pharmacists to go around.
- When is money not an object?
Problems With the Current Approach

- Even a really good stewardship program can’t intervene on every patient getting antibiotics.
- We’ve created a perception that antibiotic stewardship is something that is done for you or, worse, to you.
Everyone’s Responsibility

- Think about how infection control used to be, and how much better it is now.
- We’ve moved to a model where the practitioners are taking responsibility for preventing infections.
- We need to do the same for stewardship.
How Can We Get There?

- One key 1\textsuperscript{st} step is to engage more specialties in taking leadership roles in efforts to improve antibiotic use.
- Hospitalists are at the top of that list.
Engaging Hospitalists

- Hospitalists are one of the fastest growing groups of providers.
- They are now present in nearly all acute care hospitals.
- In 2010, they cared for 30% of all acute care discharges.
- They probably use more antibiotics than any other group.
- They like quality improvement work.
Engaging ID Docs

- There are not nearly enough ID docs engaged in stewardship work.
- ID docs have to take a stronger leadership role in both promoting the importance of stewardship and in promoting their roles in leading.
Engaging ID Docs

- ID docs should not only be experts in prescribing antibiotics.
- They should also be experts in antibiotic stewardship.
- We need more training during ID fellowships to help make this happen.
Future Opportunities

- Antibiotic stewardship could be a promising growth area for careers in infectious diseases.
- Increased calls for stewardship programs and the potential for stewardship requirements will create big demand for skilled leaders in stewardship.
Measurement and Antibiotic Use

- Measurement of antibiotic use remains one of the major challenges in stewardship.
  - You can’t improve something you can’t measure

- Just measuring use doesn’t necessarily tell you if that use is appropriate.

- Ultimately, we all care about patient outcomes, not the amount of antibiotic use.
Policies on Antibiotic Measurement

- California has been having discussions on how to potentially incorporate measurement of use into their stewardship mandate.
- This is very hard to do without more and better data on how best to risk-stratify and interpret that information.
Measurement Priorities

- We need to work on improving our understanding of antibiotic use data.
  - Risk-stratification
  - Potential proxy measures of inappropriate use
  - Factors that explain variation in use

- This information will help us ultimately develop some potential reporting measures for antibiotic use.

- But we’re not there yet.
Conclusion

• Improving antibiotic use is an important public health priority.
• We need to see a lot more progress.
• Stewardship policies will be an important part of advancing this effort.
• We need to explore the full range of policy options, implement them thoughtfully and monitor them carefully.