National Center for Emerging and Zoonotic Infectious Diseases

Science Guiding Practice: CDC's Role

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CDC Makes Recommendations For Many People

- The general public

- Healthcare providers and facility administrators in all settings

- Health departments
- Clinical and public health laboratories

How Does CDC Guide Practice?

Guidance

- Suggested practices based on available data, along with expert opinion and experiences
- Developed internally by CDC staff
- Interim Guidance: guidance that might change more frequently based on new information, or is time limited for an emergency response

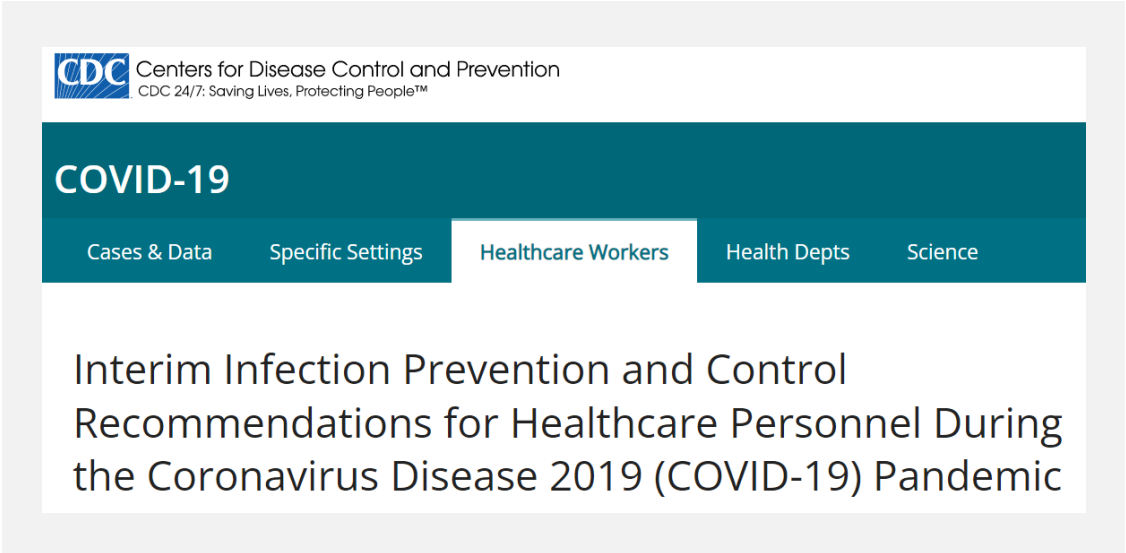
Guidelines

- Evidenced-based best practice recommendations based on systematic literature reviews and GRADE framework (Grading of Recommendations, Assessment, Development and Evaluations)
- Usually developed in collaboration with external experts and includes opportunity for public comment

Guidance

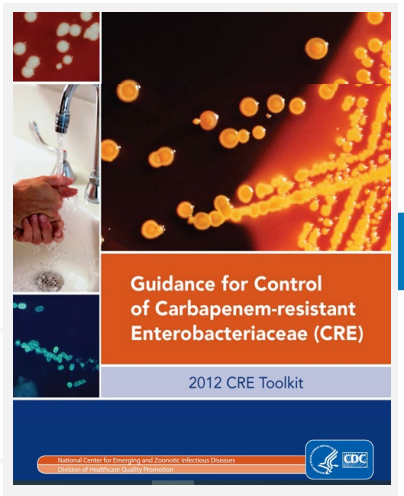
CDC Guidance on Infection Prevention for COVID-19

- CDC's COVID Infection Prevention Guidance was updated multiple times per year since the start of the pandemic as new information emerged.
- Guidance is often archived when a response is over (e.g., SARS, MERS).

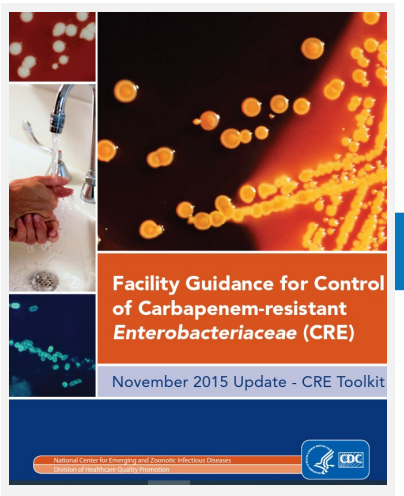


Guidance

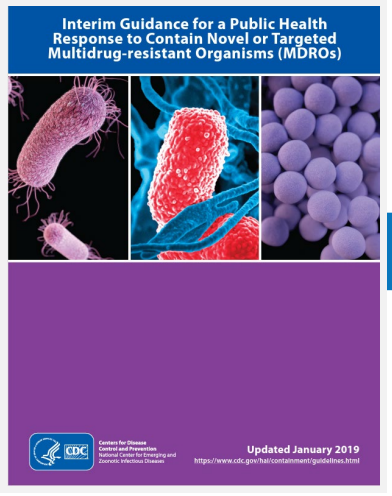
CDC Guidance on Multi-Drug Resistant Organisms



- 2012: CDC issued guidance on controlling the spread of CRE



- 2015 & 2017: CDC revised the guidance in 2015, then expanded it in 2017 to address a broader group of resistant organisms



- 2019: CDC's "Containment Guidance" was last revised

Guideline | CDC Infection Prevention and Control Guidelines

- CDC Infection Prevention and Control Guidelines are developed with an official Federal Advisory Committee—HICPAC, or the Healthcare Infection Control Practices Advisory Committee.

- Guidelines are rigorous and supported by systematic review of relevant evidence.
  - Disclose and manage conflicts of interest
  - Develop in 18-24 months (goal)
  - Involve stakeholders throughout process; many societies are non-voting members of HICPAC
  - Offer a transparent process
  - Provide multiple opportunities for public comment

- CDC guidelines are considered “standard of care” and are referenced in regulatory and accreditation standards like CMS Conditions of Participation.

Guidance vs Guideline – What Can Be Said?

The guidance process is less formal, offering flexibilities.

From the Containment Guidance

> In general, failure to identify the organism or mechanism of interest from at least two consecutive sets of screening cultures are the minimum criteria that should be met before an episode of colonization is considered resolved.

From the MDRO Guideline

> Discontinuation of Contact Precautions. No recommendation can be made regarding when to discontinue Contact Precautions. Unresolved issue (See Background for discussion of options.)

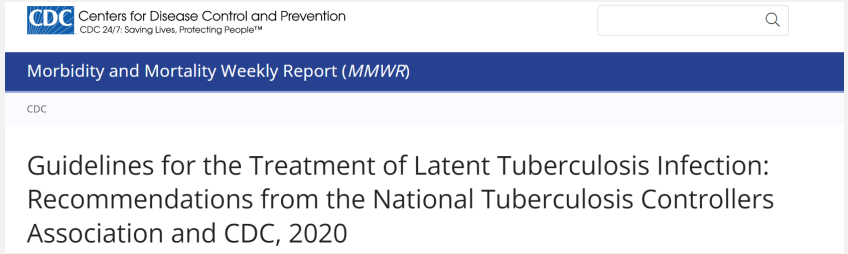
HICPAC's Role Has Been Expanding

- The fields of healthcare epidemiology and antibiotic stewardship have increasingly recognized a need for an official body to weigh in on topics, even when there is not a strong evidence base.
- HICPAC has started to play this important role.
  - Experts felt that treatment guidelines could do a better job in supporting efforts to address antimicrobial resistance and antibiotic overuse.
  - 2016: HICPAC issued a statement with recommendations to address this need:

> Professional societies and guideline developers should incorporate the principles of diagnostic testing and treatment directly into the recommendations included in their treatment guidelines.

Guideline

CDC Also Develops Treatment Guidelines



Currently, most treatment guidelines start and end with a careful review and distillation of the studies done on various treatment trials.

Rethinking Infectious Disease Treatment Guidelines

- However, just because an agent has been shown to treat an infection, that does not mean it's the best choice from a patient or societal perspective.
- For inpatient adults with non-severe community acquired pneumonia (CAP) who are without risk factors for MRSA or *P. aeruginosa*, we recommend the following empiric treatment regimens in no order of preference:

Monotherapy with a respiratory fluoroquinolone (levofloxacin 750 mg daily, moxifloxacin 400 mg daily) (strong recommendation, high quality of evidence)

OR

Combination therapy with a β-lactam (ampicillin + sulbactam 1.5–3g every 6h, cefotaxime 1–2g every 8h, ceftriaxone 1–2g daily, or ceftaroline 600mg every 12h) and a macrolide (azithromycin 500mg daily or clarithromycin 500mg twice daily) (strong recommendation, high quality of evidence)

What About In Practice?

- From a purely evidenced based perspective, there might be no order of preference to these choices. But many antibiotic stewardship experts don't see it that way.
- From a societal perspective, is it the best choice to use a novel agent with MRSA activity to treat CAP in patients who are without risks for MRSA?
- From a hospital perspective, are quinolones the best choice if the facility has very high rates of *C. difficile*?
- From a patient perspective, are quinolones the best choice if you are at high risk for *C. difficile*?

What if guidelines came with suggestions and ideas for how hospitals might consider these different options and make decisions, based on evidence and expertise that already exists?

How Might We Improve the Uptake of Treatment Guidelines?

- Improving the uptake of treatment guidelines requires
  - Resources like clinical pathways that guide and support optimizing diagnosis, agent selection, and duration
  - Suggestions on ways to assess compliance with the guideline

- How might it change the way guidelines are written if we focused on how the guideline could be implemented and monitored right from the start?

- CDC is working with IDSA to develop a standardized approach for incorporating stewardship principles and considerations into guideline development.

Should There Be A Dedicated Body for Treatment Guidelines?

- Other countries have taken the approach of having a central, government-funded body take the lead in writing infectious diseases treatment guidelines.

- While national guideline development processes have limitations, there are advantages compared to the current U.S. approach of guidelines developed by professional organizations:
  - Publicly available process for vetting members and conflicts
  - Requirements for transparency on process
  - Development committee not dominated by one specialty or society
  - Comprehensive consideration for what is best course of treatment
  - Publicly funded

- Should the U.S. do the same?

Dedicated Body for Infectious Disease Treatment Guidelines Would it Take?

- Fully funding the guideline process from development to tracking implementation (no professional society can do unilaterally)
- Oversight and processes, such as what diseases, in what order, and when to revise
- Support for administration, logistics, implementation, monitoring, and evaluation
- Support for literature reviews and data management

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