

Lessons Learned from COVID-19 in the U.S. that are Applicable to AMR

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Accelerating the Development of Rapid Diagnostics to Address Antibiotic Resistance – A Workshop

The National Academies of Sciences, Engineering, and Medicine

Disclaimer

The content and opinions offered in this presentation are mine and do not necessarily represent the official position of the Centers for Disease Control and Prevention.



Lessons

1. Testing is not just for symptomatic patients
2. We need more than one type of test for a disease
3. Testing is not just for people, using wastewater

Lesson 1: Testing is not just for symptomatic patients

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Presymptomatic SARS-CoV-2 Infections and Transmission in a Skilled Nursing Facility

M.M. Arons, K.M. Hatfield, S.C. Reddy, A. Kimball, A. James, J.R. Jacobs, J. Taylor, K. Spicer, A.C. Bardossy, L.P. Oakley, S. Tanwar, J.W. Dyal, J. Harney, Z. Chisty, J.M. Bell, M. Methner, P. Paul, C.M. Carlson, H.P. McLaughlin, N. Thornburg, S. Tong, A. Tamin, Y. Tao, A. Uehara, J. Harcourt, S. Clark, C. Brostrom-Smith, L.C. Page, M. Kay, J. Lewis, P. Montgomery, N.D. Stone, T.A. Clark, M.A. Honein, J.S. Duchin, and J.A. Jernigan, for the Public Health–Seattle and King County and CDC COVID-19 Investigation Team*

Morbidity and Mortality Weekly Report

Presymptomatic Transmission of SARS-CoV-2 — Singapore, January 23–March 16, 2020

Wycliffe E. Wei, MPH^{1,2}; Zongbin Li, MBBS¹; Calvin J. Chiew, MPH¹; Sarah E. Yong, MMed¹; Matthias P. Toh, MMed^{2,3}; Vernon J. Lee, PhD^{1,3}

Morbidity and Mortality Weekly Report

Asymptomatic and Presymptomatic SARS-CoV-2 Infections in Residents of a Long-Term Care Skilled Nursing Facility — King County, Washington, March 2020

Anne Kimball, MD^{1,2}; Kelly M. Hatfield, MSPH¹; Melissa Arons, MSc^{1,2}; Allison James, PhD^{1,2}; Joanne Taylor, PhD^{1,2}; Kevin Spicer, MD¹; Ana C. Bardossy, MD^{1,2}; Lisa P. Oakley, PhD^{1,2}; Sukarma Tanwar, MMed^{1,2}; Zeshan Chisty, MPH¹; Jeneita M. Bell, MD¹; Mark Methner, PhD¹; Josh Harney, MS¹; Jessica R. Jacobs, PhD^{1,3}; Christina M. Carlson, PhD^{1,3}; Heather P. McLaughlin, PhD¹; Nimalie Stone, MD¹; Shauna Clark⁴; Claire Brostrom-Smith, MSN⁴; Libby C. Page, MPH⁴; Meagan Kay, DVM⁴; James Lewis, MD⁴; Denny Russell⁵; Brian Hiatt⁵; Jessica Gant, MS⁵; Jeffrey S. Duchin, MD⁴; Thomas A. Clark, MD¹; Margaret A. Honein, PhD¹; Sujun C. Reddy, MD¹; John A. Jernigan, MD¹; Public Health – Seattle & King County; CDC COVID-19 Investigation Team

The Journal of Infectious Diseases

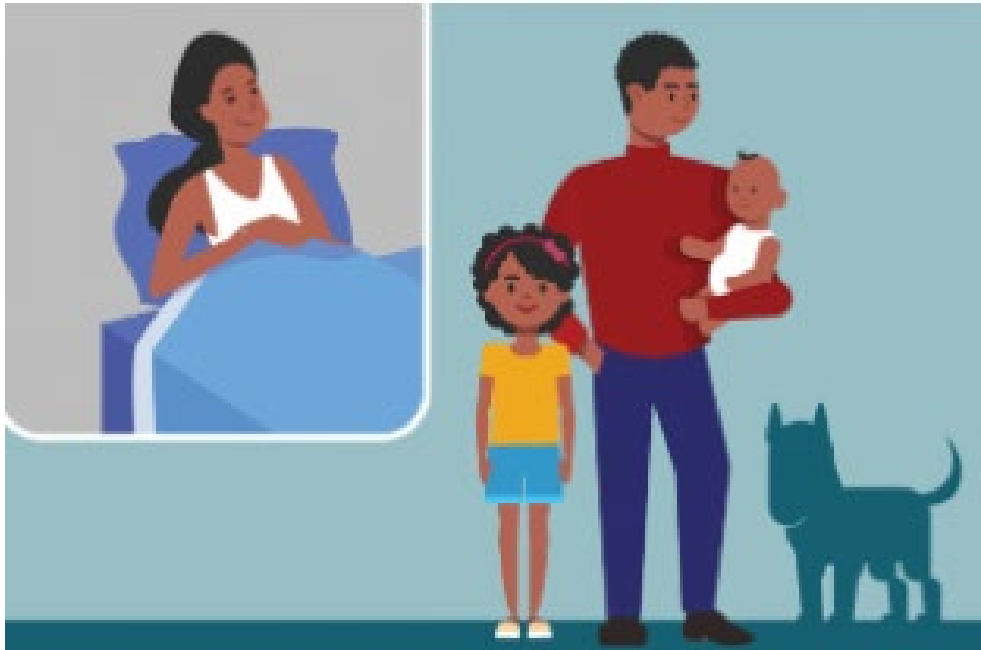
BRIEF REPORT

Transmission Potential of Asymptomatic and Paucisymptomatic Severe Acute Respiratory Syndrome Coronavirus 2 Infections: A 3-Family Cluster Study in China

Xiao-Lin Jiang,^{1,*} Xiao-Li Zhang,^{2,*} Xiang-Na Zhao,^{3,*} Cun-Bao Li,⁴ Jie Lei,¹ Zeng-Qiang Kou,¹ Wen-Kui Sun,¹ Yang Hang,¹ Feng Gao,⁵ Sheng-Xiang Ji,² Can-Fang Lin,⁴ Bo Pang,¹ Ming-Xiao Yao,¹ Benjamin D. Anderson,⁶ Guo-Lin Wang,⁷ Lin Yao,⁷ Li-Jun Duan,⁷ Dian-Min Kang,^{1,8} and Mai-Juan Ma^{1,8,9}

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Lesson 1: Testing is not just for symptomatic patients



CDC Provided Guidance for Screening Testing of Several Populations

- **Nursing Home Residents**
- **Homeless Shelters**
- **K-12 Schools**
- **Correctional Facilities**
- **Non-Healthcare Workplaces**
- **Hospitalized Patients**



Lesson 1: Testing is not just for symptomatic patients

THE NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Veterans Affairs Initiative to Prevent Methicillin-Resistant *Staphylococcus aureus* Infections

Rajiv Jain, M.D., Stephen M. Kralovic, M.D., M.P.H., Martin E. Evans, M.D., Meredith Ambrose, M.H.A., Loretta A. Simbartl, M.S., D. Scott Obrosky, M.S., Marta L. Render, M.D., Ron W. Freyberg, M.S., John A. Jernigan, M.D., Robert R. Muder, M.D., LaToya J. Miller, M.P.H., and Gary A. Roselle, M.D.

INFECTION CONTROL & HOSPITAL EPIDEMIOLOGY JANUARY 2018, VOL. 39, NO. 1

GUIDELINE

Israeli National Policy for Carbapenem-Resistant Enterobacteriaceae Screening, Carrier Isolation and Discontinuation of Isolation

Ester Solter, RN;^{1,a} Amos Adler, MD;^{1,2,a} Bina Rubinovitch, MD;¹ Elizabeth Temkin, DrPH;¹ David Schwartz, PhD;¹ Debby Ben-David, MD;¹ Samira Masarwa, RN;¹ Yehuda Carmeli, MD, MPH;^{1,2} Mitchell J. Schwaber, MD, MSc^{1,2}

INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY OCTOBER 2009, VOL. 30, NO. 10

ORIGINAL ARTICLE

5 Years of Experience Implementing a Methicillin-Resistant *Staphylococcus aureus* Search and Destroy Policy at the Largest University Medical Center in the Netherlands

Margreet C. Vos, MD, PhD; Myra D. Behrendt, MSc; Damian C. Melles, MD; Femke P. N. Mollema, MSc; Woutrinus de Groot, RN; Gerard Parlevliet, RN; Alewijn Ott, MD, PhD; Deborah Horst-Kreft, LT; Alex van Belkum, PhD; Henri A. Verbrugh, MD, PhD

Research

Original Investigation

Effect of Detecting and Isolating *Clostridium difficile* Carriers at Hospital Admission on the Incidence of *C difficile* Infections A Quasi-Experimental Controlled Study

Yves Longtin, MD; Bianka Paquet-Bolduc, RN, MPA; Rodica Gilca, MD, PhD; Christophe Garenc, PhD; Elise Fortin, PhD; Jean Longtin, MD; Sylvie Trottier, MD, MSc; Philippe Gervais, MD; Jean-François Roussy, MD; Simon Lévesque, PhD; Debby Ben-David, MD; Isabelle Cloutier, BPharm; Vivian G. Loo, MD



ENHANCED BARRIER PRECAUTIONS



EVERYONE MUST:



Clean their hands, including before entering and when leaving the room.

PROVIDERS AND STAFF MUST ALSO:



Wear gloves and a gown for the following High-Contact Resident Care Activities.

Dressing
Bathing/Showering
Transferring
Changing Linens
Providing Hygiene
Changing briefs or assisting with toileting
Device care or use:
 central line, urinary catheter, feeding tube,
 tracheostomy
Wound Care: any skin opening requiring a dressing



Do not wear the same gown and gloves for the care of more than one person.



U.S. Department of
Health and Human Services
Centers for Disease
Control and Prevention

WORKSHOP

Drug Development Considerations for the Prevention of Healthcare-Associated Infections

AUGUST 30, 2022



Lesson 2: We need more than one type of test for a disease

- 276

In Vitro Diagnostics EUAs - Molecular Diagnostic Tests for SARS-CoV-2

- 51

In Vitro Diagnostics EUAs - Antigen Diagnostic Tests for SARS-CoV-2

- 85

In Vitro Diagnostics EUAs - Serology and Other Adaptive Immune Response Tests for SARS-CoV-2

FDA website as of 10/7/2022





Journal of
Clinical Microbiology®

POINT-COUNTERPOINT



Point-Counterpoint: What Is the Optimal Approach for Detection of *Clostridium difficile* Infection?

Ferric C. Fang,^a Christopher R. Polage,^b Mark H. Willcox^c

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Clinical Infectious Diseases

VIEWPOINTS



Advancing Diagnostic Stewardship for Healthcare-Associated Infections, Antibiotic Resistance, and Sepsis

Emily J. Curren,¹ Joseph D. Lutgring,¹ Sarah Kabbani,¹ Daniel J. Diekema,² Steven Gitterman,^{3,4} Ebbing Lautenbach,⁵ Daniel J. Morgan,⁶ Clare Rock,⁷ Reynolds M. Salerno,⁸ and L. Clifford McDonald¹

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Lesson 3: Testing is not just for people, using wastewater



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The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

