Activity Outline
FDA Grand Rounds: Facial Coverings during the COVID-19 Pandemic: How Well do They Flatten the Curve?
November 12, 2020
Virtual

Activity Coordinator:
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Series Description

The FDA Grand Rounds is webcast every other month to highlight cutting-edge research underway across the agency and its impact on protecting and advancing public health. Each session features an FDA scientist presenting on a key public health challenge and how FDA is applying science to its regulatory activities.

Lecture Description

During the spread of an infection, affected populations would ideally be provided with respiratory protective devices (RPD's) that filter out 95% or more of the particulates, and are fit-tested, providing maximum protection to wearers. However, as the COVID-19 pandemic has demonstrated, this level of protection is not possible in some emergencies. As a result, non-traditional facial coverings such as do-it-yourself (DIY) cloth-based and 3D-printed facemasks, are playing a key role in our effort to reduce the spread of COVID-19. For the 3D-printed facemasks, multiple designs are being shared, printed, and used by healthcare facilities and the general public. Unfortunately, the extent to which these coverings reduce the emission of virus into the environment, and the amount of virus inhaled by a wearer, has often not been quantified. Additionally, the extent to which filtration efficiency of the different types of face coverings translates into actual reduction in COVID-19 infection rate is almost completely unknown.

To enable us to more thoroughly evaluate the ability of facial coverings to reduce the spread of infection, we are developing a comprehensive risk-assessment tool. The goal is to predict the probability of infection of an individual wearing the mask, given the characteristics of the mask, the population, and the pathogen. As a part of the effort, we first obtained the filtration and leakage performance of coverings using both experimental and computational methods. The particle deposition in different parts of the respiratory system was estimated using our lung-deposition model model. All this information was input into a risk assessment model we that we recently developed and are currently calibrating for COVID-19. The output of the risk-assessment model is infection rate as a function of time, similar to those seen on the news. Using these tools, we are predicting the extent to which different face covering can flatten the infection curves for the COVID-19 pandemic, for a given pattern of population behavior (including contact rate and level of mask usage.)

References

- https://www.tandfonline.com/doi/full/10.1080/02786826.2014.975334
- https://www.sciencedirect.com/science/article/pii/S0196655315002205
- https://www.tandfonline.com/doi/abs/10.1080/15459624.2016.1237029
- https://academic.oup.com/imammb/article-abstract/35/1/1/2433376
- https://onlinelibrary.wiley.com/doi/full/10.1111/risa.13181

Series Objectives

- Discuss the research conducted at the FDA
- Explain how FDA science impacts public health

Learning Objectives After completion of this activity, the participant will be able to:

- Explain the types of DIY masks being used by the public during the pandemic
- Describe how the filtration and fit testing play a critical role in evaluating the performance of these PPEs
- Explain how estimates of infection probabilities are an important final step in the evaluation of masks

Target Audience

This activity is intended for physicians, pharmacists, nurses, and other scientists within the agency external scientific communities.

Agenda

Lecture 1 November 12, 2020

Time	Topic	Speaker

12:00 - 1:00 PM	Facial Coverings during the COVID-19 Pandemic: How Well do They Flatten the Curve?	Prasanna Hariharan, PhD Matthew Myers, PhD Suvajyoti Guha, PhD

Continuing Education Accreditation

In support of improving patient care, FDA Center for Drug Evaluation and Research is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC) to provide continuing education for the healthcare team.

This activity was planned by and for the healthcare team, and learners will receive 1 Interprofessional Continuing Education (IPCE) credit(s) for learning and change.

CME

FDA Center for Drug Evaluation and Research designates this live activity for a maximum of 1.00 *AMA PRA Category 1 Credit(s)*™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

CPE

This knowledge-based activity has been assigned ACPE Universal Activity Number JA0002895-0000-20-022-L04-P for 1.00 contact hour(s).

CNE

FDA Center for Drug Evaluation and Research designates this activity for 1.00 contact hour(s).

Requirements for Receiving CE Credit

Physicians, pharmacists, nurses, and those claiming non-physician CME: participants must attest to their attendance and complete the final activity evaluation via the CE Portal (ceportal.fda.gov). For multi-day activities, participants must attest to their attendance and complete the faculty evaluation each day. Final activity evaluations must be completed within two weeks after the activity - no exceptions.

Attention Pharmacists and Pharmacy Techs: Failure to provide your correct NABP AND Date of Birth information, in the required format, may result in the loss of credit for this activity. NABP profile number should be the 6-7 digit profile number assigned by the CPE Monitor and your birth date should be in the MMDD format (e.g. 0721) Do not provide your pharmacy license number. Please click the "My Account" tab and then navigate to "Edit Contact Information" to verify that your information is correct.

Important Note regarding completion of evaluations and receiving credit
Attendees have 14 days from the last day of the activity to log in, complete the required evaluation(s) and attest to your attendance to claim credit.Physicians and nurses may then view/print statement of credit. Pharmacists should log into the CPE monitor 10 weeks after the last session of the activity to obtain their CE credit.

Disclosure

Faculty

- Guha, Suvajyoti, PhD, Staff Fellow, US Food and Drug Administration - nothing to disclose
- Hariharan, Prasanna, PhD, Research General Engineer, US FDA - nothing to disclose
- Myers, Matthew, PhD, Research Physicist, FDA/CDRH/OSEL/DAM - nothing to disclose

Planning Committee

- Dinatale, Miriam, Team Leader, Food and Drug Administration - nothing to disclose
- Pfundt, Tiffany, PharmD, Pharmacist, FDA - nothing to disclose
- Thomas, Devin, LCDR, MPH, CHES, Health Promotions Specialist, FDA/OC/OCS/OSPD - nothing to disclose
- Wheelock, Leslie, RN, MS, RN, Director, OSPD, FDA, OC, OCS, OSPD - nothing to disclose

CE Consultation and Accreditation Team

- Bryant, Traci, M.A.T., CE Consultant, FDA/CDER/OEP/DLOD - nothing to disclose
- Zawalick, Karen, CE Team Leader, FDA/CDER/OEP/DLOD - nothing to disclose

Registration Fee and Refunds
Registration is complimentary, therefore refunds are not applicable.