

# Transitioning In-Person Research to Remote: A Reflection on the Taste of Medicine Study

Erin Hyer BS,<sup>1</sup> Jacqueline Kopaygorodsky BA,<sup>1</sup> Jennifer Chapman,<sup>2</sup> MPH, Fran Balamuth, MD, PhD,<sup>1</sup> Julie Mennella, PhD,<sup>3</sup> Elizabeth Lowenthal, MD, MSCE<sup>2</sup>

<sup>1</sup> Division of Emergency Medicine, Children's Hospital of Philadelphia, PA, <sup>2</sup> Division of General Pediatrics, Children's Hospital of Philadelphia, PA, <sup>3</sup> Monell Chemical Senses Center, Philadelphia, PA



## Introduction:

Our team is studying children's perceptions of a bitter-tasting pediatric medication (oral liquid clindamycin) and relationships between taste perception, side effects and taste receptor genetics. When the COVID-19 pandemic changed the research guidelines within the CHOP Emergency Department, we adapted our protocols to allow for remote assessments. This included:

- Reframing the timeline of enrollment procedures
- Utilizing secure video chat platforms
- Mailing participants relevant study materials.



Figure 1. Saliva Collection Kit mailed to participants



Figure 2. Liquid Clindamycin

## Results:

Table 1. Protocol Changes made during COVID-19 Pandemic

Protocol Element	In-Person Protocol	Remote Protocol
Recruitment	<ul style="list-style-type: none"> <li>• Study team alerted when liquid clindamycin ordered in CHOP Emergency Department (ED)</li> <li>• Approach family in ED at time of prescription</li> </ul>	<ul style="list-style-type: none"> <li>• Study team alerted when liquid clindamycin ordered in CHOP ED or participating CHOP outpatient clinics</li> <li>• Contact parent by telephone</li> </ul>
Consent Procedures	<ul style="list-style-type: none"> <li>• In-person consent/ assent discussion with written consent</li> </ul>	<ul style="list-style-type: none"> <li>• Consent discussion(s) over phone and/or WebEx</li> <li>• Consent document sent via email with a survey link for electronic signature in REDCap</li> </ul>
Observation of Child Taking Medicine Dose	<ul style="list-style-type: none"> <li>• Saliva collected in ED prior to medication dosing</li> <li>• Child trained to use taste rating scale in ED</li> <li>• First dose of medicine given in the ED</li> <li>• Videotaping of first dose and ratings of taste done in-person</li> </ul>	<ul style="list-style-type: none"> <li>• Time of medication dose (first dose when possible) coordinated for WebEx meeting between family and study team</li> <li>• Child trained to use taste rating scale over WebEx</li> <li>• Medicine dose given by parent and recorded over WebEx with rating of taste</li> </ul>
Medication Adherence and Side Effect Follow-up	<ul style="list-style-type: none"> <li>• Paper diary given in ED and sent back to study team (mailed or scanned)</li> <li>• Telephone call after completion of prescription to discuss course of treatment with parent</li> </ul>	<ul style="list-style-type: none"> <li>• Daily electronic adherence surveys sent via REDcap</li> <li>• Telephone call after completion of prescription to discuss course of treatment and electronic survey responses with parent</li> </ul>
Saliva Collection	<ul style="list-style-type: none"> <li>• Completed in person in the ED</li> </ul>	<ul style="list-style-type: none"> <li>• Collection tubes sent in mail</li> <li>• Second WebEx study encounter for facilitated/observed saliva collection</li> <li>• Collection tubes mailed back to study team</li> </ul>



Figure 3. Example of remote enrollment recording using Webex

## Benefits and Challenges of Remote Enrollments

### Benefits

- Flexibility for study participants
- Expand recruitment pool
- Relationship-building with some families

### Challenges

- Technology limitations (e.g. cell phones vs. computer use)
- Inability to assess reasons for non participation of eligible individuals
- Scheduling difficulties
- Maintaining data integrity (e.g. parents prompting children off-screen)

## Conclusion:

- Remote methods allowed for continued enrollment during the pandemic, but created new challenges
- Some limitations we experienced during this study include:
  - Remote research increased pool of eligible patients : but may increase risk of selection bias
  - When doses other than the first dose are observed/rated, taste ratings may be modified by number of prior doses
  - Response bias harder to avoid with remote procedures
  - Missing or unreliable data may be increased with remote methods due to technology limitations

## Methods:

- Tried secure video chat platforms and protocols for remotely recording the child swallowing and rating the medicine were created.
- Created procedures to remotely obtain saliva samples for genetic testing.
- Developed remote screening methods.
- Reconfigured our REDCap database to allow electronic consent to be emailed to participants and completed remotely.
- Developed electronic surveys to replace daily paper adherence diaries