NORMalizing Community Mask-Wearing
Scaling Up an Effective Approach

Contact: Mushfiq Mobarak, ahmed.mobarak@yale.edu
Motivation

*Until the virus is eradicated globally, mask-wearing remains critical*

Scientific evidence: face masks can slow COVID-19 spread

**Real life situation with imperfect use over time?**

Critics: Mask wearers will engage in compensatory behaviors e.g. not physically distance.

**Is this true?**

Are mask distribution and promotions strategies *worth the cost?*

What specific *strategies* are most *cost-effective?*

Widespread vaccination in low-income countries may be more than a year away. New strains continue to emerge.
Background

Large-scale randomized controlled trial evaluating:

1. How best to change mask-wearing norms
2. Effect of masks on COVID-19 transmission

Cluster randomized controlled trial (RCT) evaluation

Large-scale trial: 341,830 adults in 600 villages in rural Bangladesh

Tested two types of mask (cloth vs surgical)

Tested a portfolio of encouragement strategies to identify the precise combination needed to increase mask-wearing

Studying impacts on community and individual rates of COVID-19 infection
Before showing you results, let’s conduct a poll.

You will be asked to predict the effect of various encouragement strategies.
Combination that worked to NORMalize mask-wearing

No-cost
free masks distributed
door-to-door

Offering information
on mask wearing via video and
brochures

Reinforcement
in-person and in public

Modeling
and endorsement by trusted
leaders
We let the village police (chowkidars) accompany the mask promoters. Do you think this increased mask-wearing further?
Results
1. The NORM intervention more than *tripled* mask usage in all locations.
The NORM intervention increased mask wearing by 29 percentage points.

The largest increase in mask use was in **mosques**

<table>
<thead>
<tr>
<th></th>
<th>Comparison</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>13%</td>
<td>42%</td>
</tr>
<tr>
<td>Markets</td>
<td>12%</td>
<td>41%</td>
</tr>
<tr>
<td>Mosques</td>
<td>12%</td>
<td>49%</td>
</tr>
<tr>
<td>Other Locations</td>
<td>14%</td>
<td>39%</td>
</tr>
</tbody>
</table>
2. In-person reinforcement was a critical part of the NORM intervention
In Pilot 2, mask wearing increased 28 percentage points with addition of in-person, public reinforcement.

<table>
<thead>
<tr>
<th>Pilot 1</th>
<th>Pilot 2</th>
<th>Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distribution + Information + Modelling</td>
<td>Distribution + Information + Modelling + Reinforcement</td>
<td>Same as Pilot 2</td>
</tr>
<tr>
<td>Control</td>
<td>Control</td>
<td>Control</td>
</tr>
<tr>
<td>Treatment</td>
<td>Treatment</td>
<td>Treatment</td>
</tr>
</tbody>
</table>

12% Mask uptake 22% Mask uptake 9% Mask uptake 37% Mask uptake 13% Mask uptake 42% Mask uptake
3. Mask use was sustained 10 weeks into the trial, even after the intervention ended.
Mask use was sustained 10 weeks into the trial, even after the mask promotion ended.

Proportion of people properly wearing a mask

![Graph showing proportion of people properly wearing masks over time in treatment and control villages. The graph indicates sustained mask use for 10 weeks, even after the promotion ended.](image)
Did the NORM intervention change physical distancing behavior?
4. NORM intervention *increased* physical distancing
Overall physical distancing increased by 5 percentage points

Effect was larger in markets; group prayer rituals inelastic to physical distancing

<table>
<thead>
<tr>
<th></th>
<th>Overall</th>
<th>Markets</th>
<th>Mosques</th>
<th>Other Locations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comparison</td>
<td>24%</td>
<td>29%</td>
<td>0%</td>
<td>31%</td>
</tr>
<tr>
<td>Treatment</td>
<td>29%</td>
<td>36%</td>
<td>0%</td>
<td>38%</td>
</tr>
</tbody>
</table>

17
5. Surgical masks were preferred to cloth masks
(one-third the cost, better filtration efficiency)
Surgical Masks are Preferred to Cloth

Surgical vs Cloth

Local production
All masks can be manufactured locally.
Cloth = 70-120/day; Surgical 140,000 /machine/day

Price & cost-efficiencies
Surgical masks one-third the price
₹ 9.75/ $0.13 vs. ₹ 30/ $0.40
Cost can be reduced to ₹ 4.50/$0.06
by eliminating sticker & bulk order

Surgical masks (like cloth) can be washed and reused
Communicated on mask itself, but could be done through mass media

Comfort
People expressed greater comfort with surgical masks particularly in hot & humid weather
Cloth masks lose color & smoothness after some washing

Filtration Efficiency
High quality surgical masks: 98%
After 20 washes with soap & water: 81%
Cloth masks: 37%

Distribution
In our project: 3 masks/HH + additional at public places. (1.2m total)
Poll Questions 5, 6 & 7

A few more questions...
Lessons Learned: What’s Not Needed

Not harmful but had no impact

Legal Sanctions
Having the village police accompany mask promoters had no further effect

Signaling to others
Putting signage on the door saying they were a “mask wearing household” had no effect

Verbal commitment
No effect of asking household members to make a verbal commitment to mask-wearing

Text message reminders
Twice weekly messages had no impact, even when sent to all households and whether framed as altruistic or self-protective

Monetary incentives for village or its leaders
Incentive if village attained 75% mask wearing rate did not have an effect on mask-wearing

Social rewards (non-monetary incentives) at village level
Promises of government-issued certificates for mask compliance had no effect
Lessons learned: What is Needed

Door-to-door distribution + Follow-up reinforcement is critical
Frequent reminders in public places to wear the freely distributed masks was critical.

Social sanctions were sufficient
Creating shame/awkwardness was sufficient; threats of legal sanctions (chowkidar presence) were not necessary or helpful in rural Bangladesh.

Surgical masks preferred
Surgical masks as likely to be adopted as cloth, one-third the cost & better filtration. More positive reactions from people around surgical masks- particularly in hot weather.

Local leaders engagement was important
Local hires helped establish rapport with the community leaders quickly. Social leaders, especially, members of the mosque and market committees, locally respected elderly, youth, and female leaders were key.

Local preferences matter
Aesthetics such as mask color were important.
Is this a good investment?
Conservative pilot results from Bangladesh in a low case rate period

Cost per village of 200 households
₹ 1 - 1.5 Lakh
$1500 - $2200

Cost per life saved
₹ 20 - 50 Lakh
$28,000 - $66,000 USD

Cost per life saved over 4 months, assuming just 1 month of masking

Masks vs. Lockdowns
Savings of ₹90,000 per village each month vs. lockdowns

Lockdown loss (10% of GDP) = ₹15,750 ($210)/person/year
Masks = ¼ benefit of lockdown, but at much lower cost
Average-sized district in India saves ₹18.75Cr/$2.5m per month

At scale: 60-75% reduction in cost
Costs can be further reduced through sourcing efficiencies and reducing promoter costs.
What’s next?
Emerging scale-up coalitions to reach 100MM people can save thousands of lives

**National - 160 MM**
Govt: DHGS, a2i
NGO: BRAC starting w 50MM

**Gujarat - 1 MM (Done)**
NGO-led - Sewa/Kudumbashree
Harvard, CSBC, J-PAL

**Gujarat - Govt 63 MM**
Govt-led - Health Secretary
CSBC, J-PAL

**Telangana - 35 MM**
Health Commissioner, CEGIS, CSBC

**Bihar - 99 MM**
Jeevika, CSBC, J-PAL

**Punjab Province - Lahore City- 11 MM**
Commissioner, LUMS

**Sindh Province - 48 MM**
Health Minister, LUMS

**KP Province - 36 MM**
Minister of Finance & Health (Mr. Taimur Jhagra), LUMS
The SEWA Scale-Up
From sharing results to launching for 1MM people in India in 2 weeks

1. SEWA is the “Self Employed Women’s Organization” with ~1.5M members.

2. We shared NORM amidst the crisis in late April and knew they had to act.

3. Their network mobilized to execute all four components of the NORM model, starting May 1.

4. SEWA is using their own resources and staff to execute.
   - Their women also made cloth masks to distribute.

5. Remaining gaps → a) surgical masks for reinforcement and b) technical support to quickly analyze monitoring data, ensuring the model was working (and adapt if it wasn’t).
   - An individual philanthropist made a high leverage gift to fill this remaining gap.

6. This fast rollout could save dozens if not hundreds of lives and serve as a model for others.
1. Reaching 50MM people - 3,060 unions, 318 upazilas, 38 districts

2. Part of overall COVID response - prevention, response, vaccination

3. Re-designing the program to hew closely to the NORM model. (e.g. adding the reinforcement component)

4. BRAC: using the *Shastho Shebika* network Research team: sharing collateral, scripts, mask procurement guides, monitoring

5. **Remaining gaps** → current program only planned to distribute masks to 10-12% of households (ultra poor).
   - Need extra masks for reinforcement efforts to increase likelihood of changing social norms and reducing community spread.
   - Need resources to do simple monitoring to ensure quick course correction.
India: State Governments

Critical Pathway to reach 100 MM+ masks: Gujarat, Telangana, Bihar

Technical advisory team - J-PAL, CSBC (Ashoka University)

Working with Gujarat, Telangana, Bihar governments

Creating a **scalable model** in line with govt. capabilities incl. workforce planning & budgeting

Critical gaps

- Free masks & procurement
- Monitoring

### What’s driving behaviour change?

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>No cost: free masks distributed door-to-door</th>
<th>Offering Information on mask-wearing via video and brochures</th>
<th>Reinforcing and reminding 15 persons in public places, regularly, twice a week for 8 weeks</th>
<th>Modeling of appropriate behaviour and endorsement by trusted local leaders and influencers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improving access to good masks</td>
<td>Creating expectation of reciprocity: When someone gives you a gift, you feel you should reciprocate when they ask you to do something - like wear a mask in public.</td>
<td>Correcting misinformation: Defining proper mask usage increases knowledge</td>
<td>Normalizing mask wearing: Making it the norm to wear a mask in public places.</td>
<td>Trust: People copy those who they trust, like and relate to.</td>
</tr>
</tbody>
</table>

Trust: People copy those who they trust, like and relate to.

<table>
<thead>
<tr>
<th>Checklist of Resources needed</th>
<th>1. Masks purchased in bulk. Surgical triple-layer 3D are washable and give highest protection</th>
<th>2. Video of famous people promoting mask-wearing</th>
<th>3. Training module for home visits</th>
<th>4. Script in local language</th>
<th>5. Printed brochures with visual communication</th>
<th>6. Training module for public places, including brief polite requests for different situations.</th>
<th>7. Training module to engage help of community leaders and influencers</th>
<th>8. Script for what a religious speaker may say</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mask per unit: Rs. 5. For 4 masks per person: for 1 crore people will need Rs. 20 crore</td>
<td>Information Material calculated for a crore population.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Step-by-step “Implementation Toolkit” for Governments

Each step hyperlinked to detailed protocols

Example scripts, videos and brochures, HR training materials used in Bangladesh

Research and technical assistance team available for support:

- review of mask design,
- localisation of messaging
- monitoring & surveillance activities
- review of additional protocols/training

Normalizing Community Mask-Wearing: Protocol

Date Updated: 29 April 2021

Introduction

This implementation guide is designed to assist potential implementers in using a demonstrated approach to increase mask-wearing, especially in rural or semi-urban areas. This protocol is based on an intervention that worked to sustainably increase mask-wearing by 30 percentage points, while increasing social distancing. This intervention was run as a large-scale randomized controlled trial in rural Bangladesh.

The intervention had four necessary components to NORMALize mask wearing i.e.

- No-Cost: Free masks distributed door-to-door
- Offering information on mask wearing via video and brochures
- Reinforcement in-person, in-public
- Modeling and endorsement by trusted leaders
1. Preparation

- 1.1 Procure Masks
- 1.2 Produce messaging materials
- 1.3 Align on COVID-19 safety protocols
- 1.4 Purchase equipment & kit for promoters

2. Field preparation

- 2.1 Identify areas for in-person reinforcement
- 2.2 Plan Surveillance
- 2.3 Plan and Recruit Team
- 2.4 Train Team
- 2.5 Identify community leaders
- 2.6 Complete Baseline Surveillance

3. Field Activity

- 3.1 Meet community leaders
- 3.2 Complete Household Distribution
- 3.3 Meet with market & religious leaders
- 3.4 Start in-person reinforcement

4. Field Activity

- 4.1 Continue in-person reinforcement
- 4.2 Second wave of surveillance
- 4.3 Continue support from leaders

For examples of the detailed protocol in the guide, click on the hyperlinked boxes.
Implementation Toolkit Detail - Example

1.1 Mask Design & Procurement Guide

Introduction & Overview of Guide
This guide is based on rigorous testing of a number of types of cloth & surgical masks in a randomized controlled trial in Bangladesh between Nov 2020 and Feb 2021.

The Study
The study was a large-scale (>350,000 adults across 600 villages in rural Bangladesh) cluster-randomized evaluation. In this stage of the study, various strategies were tested to increase mask-wearing. Two kinds of masks were tried: surgical and cloth.

The intervention comprised four critical components to NORMALize community mask-wearing:
- No cost: free masks distributed door-to-door
- Offering information on mask-wearing via video and brochures
- Reinforcement in-person in public
- Modelling and endorsement by trusted leaders
Other encouragement strategies such as nudges (signaling, verbal commitment, text reminders) and incentives (monetary and non-monetary social rewards) were also tested.

Results:
- The core intervention (NORM outlined above) more than tripled mask-wearing from 13% (in control villages) to 42% in treatment villages.
  - Reinforcement in person, in public was critical to the success of the intervention.
- Impact was sustained 10 weeks into the trial, even after the intervention ended.
- The intervention increased physical distancing.
- Surgical masks (which were one-third the cost of cloth masks and provided better filtration efficiency) were equally likely to be adopted as cloth masks.
- Nudges and incentives had no effect on mask-wearing.

More information on the study design and results can be found here:
https://tinyurl.com/Banglasmask
For principles around scaling-up and some learnings from the trial in Bangladesh, see
https://tinyurl.com/maskpromotion

Overview of Guide
This guide covers learning as well as recommendations from the Bangladesh mask-wearing study. It may be continually updated as new information comes in, so please check back for the latest updates. The contents are:
1. Recommended mask type: Surgical
2. Design specifications
3. Filtration Efficiency
4. Mask Procurement

1. Recommended Mask Type: Surgical
Based on the input from the Bangladesh study and preliminary investigations into cost and time, we recommend surgical masks for the following reasons:

1. Filtration efficiency of the material: triple-layer polypropylene (surgical mask material) has three times higher filtration efficiency (~95%) than triple-layer cloth masks (~30%)
2. Comfort: users in the study reported the surgical mask was more comfortable, especially in hot and humid weather. Cloth masks also tended to lose smoothness and shine after a few washes.
3. Washable: surgical masks have higher filtration efficiency even after 20 washes
4. Close fitting: longer ear loops can be tied to improve the fit
5. Production cost: At scale, we estimate that the surgical masks could cost $4.35 (USD 0.05) instead of $30 (USD 0.40)
6. Production Time: Factory production is much faster for surgical masks. We estimate that factory capacity for surgical masks is around 65,000-86,000 per 12 hour day, versus 70-120 masks/12 hour day for cloth masks.

Back to Overview
2. Design specifications
While we strongly recommend surgical masks, there may be a requirement for cloth masks (for livelihood reasons, starting immediately etc). Therefore we have given design specifications for cloth masks as well in this document.

2.1 Surgical Masks (recommended)

<table>
<thead>
<tr>
<th>Material</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior Layer</td>
<td>100% spunbond, non-woven polypropylene</td>
</tr>
<tr>
<td>Middle Layer</td>
<td>100% meltblown, non-woven polypropylene</td>
</tr>
<tr>
<td>Interior Layer</td>
<td>100% spunbond, non-woven polypropylene</td>
</tr>
<tr>
<td>Filtration</td>
<td>~95% Filtration Efficiency of 0.3 um particles</td>
</tr>
<tr>
<td>Style</td>
<td>3D Mask</td>
</tr>
<tr>
<td>Formable nose bridge</td>
<td>2.5 in</td>
</tr>
</tbody>
</table>

Note: Given demand for 100% meltblown polypropylene, some companies are starting to blend their polypropylene with other materials, which substantially reduces the filtration efficiency. Companies should provide third-party certification that they are using 100% meltblown and 100% spunbond polypropylene materials.

2.1.2 Features
Standard model produced by machines (standardized)
- Flat, pleated masks
- Two elastic loops for head attachment
- Colour: Ideally, this should be fixed after consulting with the community. In Bangladesh, local preferences mattered: where surgical masks were distributed, blue surgical masks were 2.9 percentage points more likely to be observed than green surgical masks.
- Sticker - in Bangladesh, a sticker was affixed on each surgical mask. It had the logo of a mask with an outline of the Bangladeshi flag and a phrase in Bengali that noted that the mask could be washed and reused.
- Lengthening the ear loops by 1-2 cm would allow them to be knotted before being looped around the ears, a method recommended by the CDC (US government centre for disease control and prevention) to improve fit.

2.1.3 Improving Fit
- Tie earloops - this method does not work if ear loops are too short
- Double-masking: wear a cloth mask over a surgical mask.
(Source: CDC guidance on how to improve mask fit, April 25, 2021)

2.2. Cloth Masks
Though we strongly recommend surgical masks, in case there is a requirement for cloth masks (e.g. for livelihood reasons, or starting implementation immediately then these could be a good option).

2.2.1 Material

<table>
<thead>
<tr>
<th>Material</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior Layer</td>
<td>100% non-woven polypropylene</td>
</tr>
<tr>
<td>Middle Layer</td>
<td>Interlocking knit 60% cotton / 40% polyester</td>
</tr>
<tr>
<td>Interior Layer</td>
<td>Interlocking knit 60% cotton / 40% polyester</td>
</tr>
<tr>
<td>Filtration</td>
<td>~35% Filtration Efficiency of 0.3 um particles</td>
</tr>
<tr>
<td>Style</td>
<td>Flat, Pleated</td>
</tr>
<tr>
<td>Formable nose bridge</td>
<td>2.5 in</td>
</tr>
</tbody>
</table>

Note: Cloth masks can be substantially improved by replacing the middle layer of interlocking knit with 100% meltblown non-woven polypropylene (the cloth masks described above were made at a time when meltblown polypropylene was not available).
Implementation Toolkit Detail - Example

1.1 Mask Design & Procurement Guide

2.2.2 Features
- Standardize masks according to the figure given in Appendix 1. This was selected based on focus group discussions in Bangladesh regarding mask fit (to minimize leakage while talking and not taking) and comfort.
- Colour – take local preferences into account. In the Bangladesh study, violet cloth masks were 5.8 percentage points more likely to be observed than red masks.
- Adjustable elastic tie for head attachment. This type of tie allows the mask to hang around the neck when not in use.

If you need support on the technical specification of the masks you are considering, please email Laura Kwong <kwong.laura@gmail.com>.

3. Filtration Efficiency

3.1 Testing filtration efficiency
Masks were tested when brand new and again after handwashing 20 times with a detergent bar. 1

The process for handwashing was as follows:
- Rubbing vigorously with hands on both sides for 2 minutes, making sure to open pleats
- Rinsing with water, making sure to open pleats
- Squeezing (not wringing) to remove excess water.

Filtration efficiency of brand new surgical masks

<table>
<thead>
<tr>
<th></th>
<th>Higher quality surgical masks</th>
<th>Lower quality surgical masks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before washing</td>
<td>97-98%</td>
<td>62-65%</td>
</tr>
<tr>
<td>After handwashing 20 times</td>
<td>81%</td>
<td>47%</td>
</tr>
</tbody>
</table>

1. The method the project used to test masks was as accurate as the standard National Institute for

3.2 Where to test for filtration efficiency
In India: Masks can be tested by a number of companies, such as SGS (+91 875 442 0204).
Ask for filtration efficiency testing for masks using the US CDC National Institute for Occupational Safety and Health (NIOSH) protocol. Masks for the Bangladesh study were tested by the Tata Institute of Fundamental Research.

For more guidance on filtration efficiency contact Arnab Bhattacharya <arnab@fril.res.in> and Shailabh Kumar <shailabh@stanford.edu>.

Back to Overview

4. Mask procurement

4.1 Estimated Production Cost and Time

<table>
<thead>
<tr>
<th></th>
<th>Surgical costs</th>
<th>Cloth costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost per mask [for ~100 million masks]</td>
<td>Approximately USD 0.058 ($4.35) without sticker</td>
<td>Approximately USD 0.40 ($30)</td>
</tr>
<tr>
<td>Production method</td>
<td>Automated machines</td>
<td>Sewn by hand</td>
</tr>
<tr>
<td>Production time</td>
<td>64,800-86,400 masks per 12-hour day (90-120 masks/minute)</td>
<td>70-120 masks per 12-hour day</td>
</tr>
</tbody>
</table>

Source: the estimates based on observations of factory production in Bangladesh, and estimates reported by NGOs in Bangladesh and India regarding hand-stitching.

4.2 Template contracts
Surgical mask procurement contract template: https://tinyurl.com/surgicalmasktemplatecontract
Cloth mask procurement contract template https://tinyurl.com/clothmasktemplatecontract

Back to slide
### 1.3 Where to procure

The following companies are known to the study team to produce high-quality surgical masks (filtration efficiency > 95%).

<table>
<thead>
<tr>
<th>Country</th>
<th>Companies known to the research team to have high-quality surgical masks (there may be many other companies that produce high-quality surgical masks)</th>
</tr>
</thead>
</table>
| India    | Magnum (Virguard surgical mask)  
Contact: Rakesh Bhagat <rakesh@magnuohs.com>                                                                                           |
| Bangladesh| Katex General  
Contact: Yasser Choudhury <yasser@katex-bd.com>                                                                                      |
3.2.1 BEFORE GOING TO THE FIELD

Supervisors should ensure the following kit is complete every day:

- **Mask-wearing**: Every promoter is wearing a project mask over the nose and mouth, for their own protection and role-modelling.
- **Hand Sanitizer**: Every promoter has a sufficient alcohol-based hand rub/hand sanitizer (supplied by the project) to use between each household visit.
- **Masks for distribution**: Every promoter has sufficient masks for the day to distribute to every household as required. Distribute at least one mask per person in the household so around 3-4 / HH. The promoter can record the number of masks he/she had at the beginning of the day and then record the number of masks he/she has at the end of the day, to keep track of how many masks were distributed throughout the day.
- **Video**: Every promoter has a working and fully charged tablet/smartphone and charger so that they are able to display the video. Video is working.
  - Promoters should charge their tablet/smartphone the night before and should make sure their device is fully charged before heading to the field.
- **Brochures**: Every promoter has enough brochures for distribution. If leaving behind, should have at least 50 brochures (one per household).
- **Letter of Authorization**: Every promoter has at least one clean, non-torn copy of the letter of authorization/support.
- **Script**: Every promoter has [111 Script for mask distribution at households](#) and has read the script carefully.
Implementation Toolkit - Example
Section 3.2 Household Distribution - Linked materials and scripts

Script (Hindi)

Script: Household mask distribution

लिपि: पहलू मास्क वितरण

मानसे, मैं ______ मैं ______ के लिए कम करती/ करता हूँ ______

कुछ लोगों को लगता है की कोरोना केवल बड़े शहरों में ही है या फिर यह महामारी आता हो रही है। वास्तव में, जैसा कि आपने देखा है, कोरोना हर जगह बड़ी/हुँदी संस्थाया है।बड़ी संस्था में बच्चों, मास्क और कुदरती लोग कोरोना से बीमार हो रहे हैं। आप आपको कोरोना हो जाए, तो आपकी गंधर बीमारी के गहराए भी मुस्तु का खरा हो सकता है।

कोरोना के प्रसार का एक कारण है कि बहुत से लोग जो संक्रमित हैं उनमें कोई लक्षण नहीं है।

लेकिन ऐसे भी कोरोना के तेज़ सकते हैं। जब वे बाढ़ करते हैं, खुलकर, खादीजी करते हैं जो वे कोहिट कुद्दू मास्क लाते हैं जो आपके मुंह या नाक के बीजी हो सकती हैं यदि आपके मास्क न पहनते हो। इनके कारण वे संक्रमित हो सकते हैं, और दूसरी से संक्रमित कर सकते हैं।

कोरोना के प्रसार को कम करने के लिए, आपके सगे/गृह के नेताओं ने हर किसी को मास्क पहनने के लिए कहा है, जब वे अपने घर के बाहर हों और अन्य लोगों के पास हों।

इस लक्ष्य को प्राप्त करने में मदद करने के लिए, इस विशेष क्षेत्र से बनाए गए मास्क हर घर में दे दिए हैं।

आपका घर उन परिवारों की बड़ी संस्था में शामिल हो सकता है जो खुद को कोरोना के कारण बीमारी के गहराए भी मुस्तु का खरा हो सकते हैं।

(आप की संबंधित विख्यात है)

कई महलपुरी लोग हर व्यक्ति को मास्क पहनने के लिए प्रोत्साहित कर देंगे हैं। यहाँ उनमें

से तुझे हैं:

आप संक्रमण की समझाना को मास्क पहन कर कम कर सकते हैं। मास्क से झेलें या नाक को बचाएं।
Increasing Mask-Wearing in South Asia | Scaling Considerations

- **No-cost**: Free masks distributed door-to-door
- **Offering information**: On mask wearing via video and brochures
- **Reinforcement**: In-person and in public
- **Modeling**: And endorsement by trusted leaders

Designed for Rural + Tier 3- cities: need to adapt for urban centers
To cover 30 villages in 30 days (about 200 households per village), we need a team of 30 people.

**Pre-implementation**
- Training

**Week 1**
- HH Distribution + Village Promotion
  - Door-to-door mask distribution (4 person-days/village of 200 households)
  - Village promotion: 2 people/day for 6 days
  - Meet Imam at mosque for script

**Week 2-3**
- Village Promotion
  - Market promotion: 1-2 people for 4-5 days/week
  - Mosque distribution: once in this period

**Week 4+**
- Village Promotion
  - Market promotion - 1-2 people for 3 days/week
  - Mosque distribution - twice during the period
# Potential Scaling Partners and Pathways

## India

<table>
<thead>
<tr>
<th>Role</th>
<th>Mask Production</th>
<th>Mask distribution + promotion</th>
<th>Information provision</th>
<th>Data &amp; Monitoring Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source Masks</td>
<td>Door-to-door distribution</td>
<td>Benefits of mask wearing</td>
<td>Scope implementation areas</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Markets promotion</td>
<td>When to wear</td>
<td>Collect data &amp; provide learning to course correct</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mosque promotion</td>
<td>How to wear</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>In-person reinforcement</td>
<td>Masks can be reused</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Partners

<table>
<thead>
<tr>
<th>Partners</th>
<th>Source Mask</th>
<th>Promotion</th>
<th>Information</th>
<th>Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnum (Mumbai)</td>
<td>Source Masks</td>
<td>Door-to-door distribution, Markets promotion, Mosque promotion, In-person reinforcement</td>
<td>Benefits of mask wearing, When to wear, How to wear, Masks can be reused</td>
<td>Scope implementation areas, Collect data &amp; provide learning to course correct</td>
</tr>
<tr>
<td>State governments, ASHAs, Community organizations: e.g. SEWA, Kudumbashree, Private sector: e.g. ITC, Unilever</td>
<td>TV - Information Ministry + Private sector, SMS to YouTube (Banerjee et al 2020), Ringtone message, Social: FB, WhatsApp</td>
<td>NCAER, J-PAL, IDinsight, CSBC, Ashoka U, ISB/IIMs etc</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Contact:
Mushfiq Mobarak, ahmed.mobarak@yale.edu, Neela Saldanha, neela.saldanha@gmail.com

These slides can be found here: https://tinyurl.com/maskpromotion

Appendix slides with some details follow
Principles for Selecting Locations to Prioritize
(Within villages & small towns where our interventions can affect norms)

**Location Considerations**

- High COVID-19 case rates
- Increasing trajectory
- Large population
- High density of population
- Low levels of mask wearing
  "Our program effects were stronger in such villages"

**Execution Considerations**

- Ability for promoters to access/reach
- Good relationships with local leaders; particularly young leaders & female leaders
- Ability to reach via social media or mass media
### Bangladesh

**Potential Scaling Partners and Pathways**

#### Role

- **Source Masks**
  - HH distribution
  - Markets promotion
  - Mosque promotion
  - Monitoring/Reminders

- **Benefits of wearing**
  - When & how to wear
  - Masks can be reused

- **Scope implementation areas**
  - Provide data & learning to course correct

#### Partners

- **RMG Factories**
  - Katex

- **Community organizers**
  - e.g. BRAC, GreenVoice
  - DGHS: health assistants
  - Private Sector: e.g. Unilever (strong distribution)

- **TV - Information Ministry + Private sector**
  - SMS link to YouTube Video (Banerjee et al 2020)
  - Ringtone message
  - Social: FB, WhatsApp

- **a2i, IPA-Bangladesh, Yale-RISE**

---

**Increasing Mask-Wearing in South Asia | Scaling Considerations**
Pakistan
Potential Scaling Partners and Pathways

**Mask Production**
- Source Masks

**Mask distribution + promotion**
- HH distribution
- Markets promotion (reminders)
- Mosque promotion
- Monitoring/Reminders

**Information provision**
- Benefits of mask wearing
- When to wear
- How to wear
- Masks can be reused

**Data & Monitoring Support**
- Scope implementation areas
- Collect data & provide learning to course correct

---

**Role**
- Source Masks

**Partners**
- Public health system
- Community organizations
- TV - Information Ministry + Private sector
- SMS link to YouTube Video (Banerjee et al 2020); Ringtone message (UNDP Pakistan)
- Social: FB, WhatsApp
- CERP, LUMS

---

Increasing Mask-Wearing in South Asia | Scaling Considerations
Cost-Benefit Analysis Relative to Imposing a Lockdown

Lockdowns reduce GDP by 8-12%  

A 10% reduction in GDP costs $210 per person per year
  - Annual GDP per capita in India is $2,100

Lockdowns reduce R by about 60% in India  
https://bmjopen.bmj.com/content/bmjopen/10/12/e041778.full.pdf

Our intervention reduces total transmission by 15%
  - Our intervention increases masking by 30 percentage points
  - Masks reduce transmission by 50%

Mask intervention generates as much public health benefits as ¼ of a lockdown

And it does so at much lower cost: only $2.50 per person per month
  - In comparison, ¼ of a lockdown costs ($210/12)/4 = $4.50 per person per month

Savings generated by avoiding a more stringent lockdown:
  - $1200 per village each month
  - $2.5 million each month for the average district in India
  - With lowered cost of mask promotion at scale, savings would be even larger
Main Results on Increasing Mask Usage

More details: https://tinyurl.com/Banglamask

Free mask distribution and promotion more than **tripled mask usage** (13% to 42%)

Impact was **sustained** at least 10 weeks into the trial, including after intervention activities ended

Free mask distribution & promotion increased physical distancing

Reusable **surgical masks** (one-third the cost) were **as likely** to be adopted as **cloth masks**

Mask **promotion and monitoring** is an essential complement to free mask distribution
## Monthly Cost of Intervention (USD)

### Household Distribution & Promotion - per village

<table>
<thead>
<tr>
<th>Costs (distribution, training, PPE, video, transport)</th>
<th>USD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed costs</td>
<td>$302</td>
</tr>
<tr>
<td>Mask costs</td>
<td>$88-$275</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$391-$578 USD</strong></td>
</tr>
</tbody>
</table>

### Village Distribution & Promotion

<table>
<thead>
<tr>
<th>Costs</th>
<th>USD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Promoter costs/day</td>
<td>$23</td>
</tr>
<tr>
<td>Total person-days of promotion</td>
<td>$33</td>
</tr>
<tr>
<td>Total promotion costs</td>
<td>$759</td>
</tr>
<tr>
<td>Masks costs</td>
<td>$382-$838</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$1,141-$1,597 USD</strong></td>
</tr>
</tbody>
</table>

- **$1,532 - $2,175 USD**: Total cost per village per month
- **$2.58 - $3.66 USD**: Total cost per person treated
# Ideas to Reduce Costs at Scale

<table>
<thead>
<tr>
<th>Promoter cost</th>
<th>Type of mask</th>
<th>Study cost</th>
<th>Estimate of Cost-at-Scale</th>
<th>Lever</th>
</tr>
</thead>
<tbody>
<tr>
<td>Media &amp; PPE Costs</td>
<td>Surgical: $0.13 USD</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cloth: $0.50 USD</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$23 USD/day</td>
<td>Surgical: $0.06 USD</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cloth: $0.40 USD</td>
<td>$6-$10 USD</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$100 USD/village (media)</td>
<td>$75 USD /village</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$70 USD /village (PPE)</td>
<td>$52 USD /village</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Surgical Mask without sticker + order in bulk (100 MM masks)**
- **Existing local infrastructure e.g. community organizations, govt. health system, eliminate transport costs**
- **Mass media efficiencies of scale**
- **Procurement efficiencies**
Implementation Challenges & Solutions

How do we recruit & manage 700 people during a COVID-19 crisis?

- GreenVoice (NGO) collaboration: volunteer network (university students)
- Prioritized hiring staff with good communication skills
- Free COVID testing, health insurance & paid sick leave was offered.

How do we change negative attitudes towards masks?

- Government authorization important to convincing community
- Small details on mask design e.g. making cloth masks easy to hang around the neck when not in use.
- Changed perception that “surgical masks are cheap” by showing superiority of project surgical masks in a vivid way (light penetration through masks compared to store-bought ones)
- Surgical preferred over cloth as weather becomes hot

How do we get community buy-in?

- Local youth needed to establish rapport with community leaders.
- Most critical to persuade: social leaders (members of mosques and market committees), locally respected elderly, youth and female leaders
- Actively supported imams: promoters went twice a day to mosques on every promotion day
- Multiple conversations with community leaders, market leaders, government officials BEFORE intervention began