Prevention, diagnosis and early management of COVID-19

- This webinar will start at 8.30pm IST / 4pm UK.
- You can watch the recording on the AHSN Network and SAHF YouTube channels afterwards.
- Please use the chat to submit your questions.

Panellists

- **Dr Rachna Chowla,** Joint Director of Clinical Strategy, King's Health Partners

- **Professor Prabhakaran Dorairaj,** Vice President (Research & Policy) & Director, Centre for Control of Chronic Conditions, Public Health Foundation of India

- **Professor Jaideep C Menon,** Head, Preventive Cardiology & Population health sciences (Public health), Amrita Institute of Medical Science, Kochil

- **Professor Kamlesh Khunti,** Professor of Primary Care Diabetes & Vascular Medicine, GP and SAHF Trustee

- **Prof Trish Greenhalgh,** Professor of Primary Care Health Sciences, University of Oxford

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Welcome

The webinar is about to begin.

Dr Rachna Chowla

Joint Director of Clinical Strategy, King's Health Partners

Overview of webinar

- Current context in India and home-based care
- Diagnosis of COVID-19 and symptom complex between the two waves
- Preventing the spread of COVID-19
- Prevention in the context of both individuals and multi-generational households
- Question and answer session on prevention and telemedicine

Current context in India and home-based care

Professor Prabhakaran Dorairaj

Vice President (Research & Policy) & Director, Centre for Control of Chronic Conditions, Public Health Foundation of India

COVID-19 in India

- India successfully navigated the first wave through a series of measures
- Second surge from February due to a variety of reasons including new variants : B1.617 and B1.618 (mutations from India) or B.1.1.7 through travelers
- Rapid spread
- R0 varying from 1+ to almost 3 in most places
- Rural spread
- 400,000 cases per day at the highest

The second wave characteristics and consequences

- Affliction of younger individuals
- High levels of infectivity & High positivity rate >50% in many states
- Overwhelming of the health systems
- States with good primary care and HMIS performing better
- Remedial measures and global support has been helpful
- Treatment protocols vary but most suggest Ivermectin and Budesonide inhaler for mild cases
- Peaked in big cities but status in rural areas unclear

Telemedicine based model for home-based care

- Recent surge in COVID-19 cases : immense pressure on the public and private health systems.
- Important to triage COVID-19 cases and discourage hospital visits for those that do not require hospital-based care.
- Triaging for home-based isolation should ideally be done from the patient's home itself.
- It is also important to ensure that quality healthcare is made available at home through appropriate use of digital health technology.
- Patient interface in the current PHFI Telemedicine Platform: Symptom-based triaging adapted from MOHFW/AIIMS/ICMR; self or assisted assessment
- Modified doctor interface : access to patient's EHR, current COVID 19 triage status as well as longitudinal data to assess improvement in vital parameters

Algorithm for care of COVID patients : Mild

Patient Triaged with Mild disease

Call transferred to physicians for tele-consultation

E-Prescription issued; Repeat triage every 3 days

Algorithm for patients with MODERATE disease

Patient Triaged with Moderate disease

Call transferred to physicians for tele-consultation

Call transferred to HCW for house visit appointment

Care Kit collected/handed over at Team Moving Point (TMP)

E-Prescription issued

House visit: caregiver training, parenteral meds & baseline blood samples

Follow-up visit on 3rd & 5th day: Evaluation, teleconsultation & e-prescription

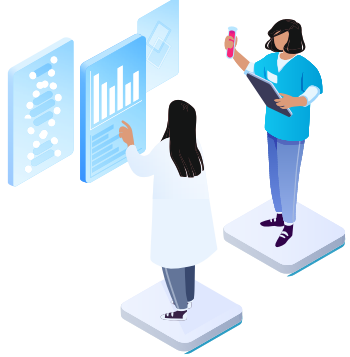
Stable vital signs & assessment via telemedicine (assisted)

Patient discharge & care kit recovery initiated & sanitized at the TMP

Algorithm for patients with SEVERE disease

Patient Triaged with Severe disease → Call referred to state helpline → Identification of nearest health facility and arrangement of ambulance services

The PHFI Telemedicine Platform



Upscaling skills of health workers in providing assisted telemedicine

Improving quality of care through point of care diagnostics and electronic clinical decision support systems

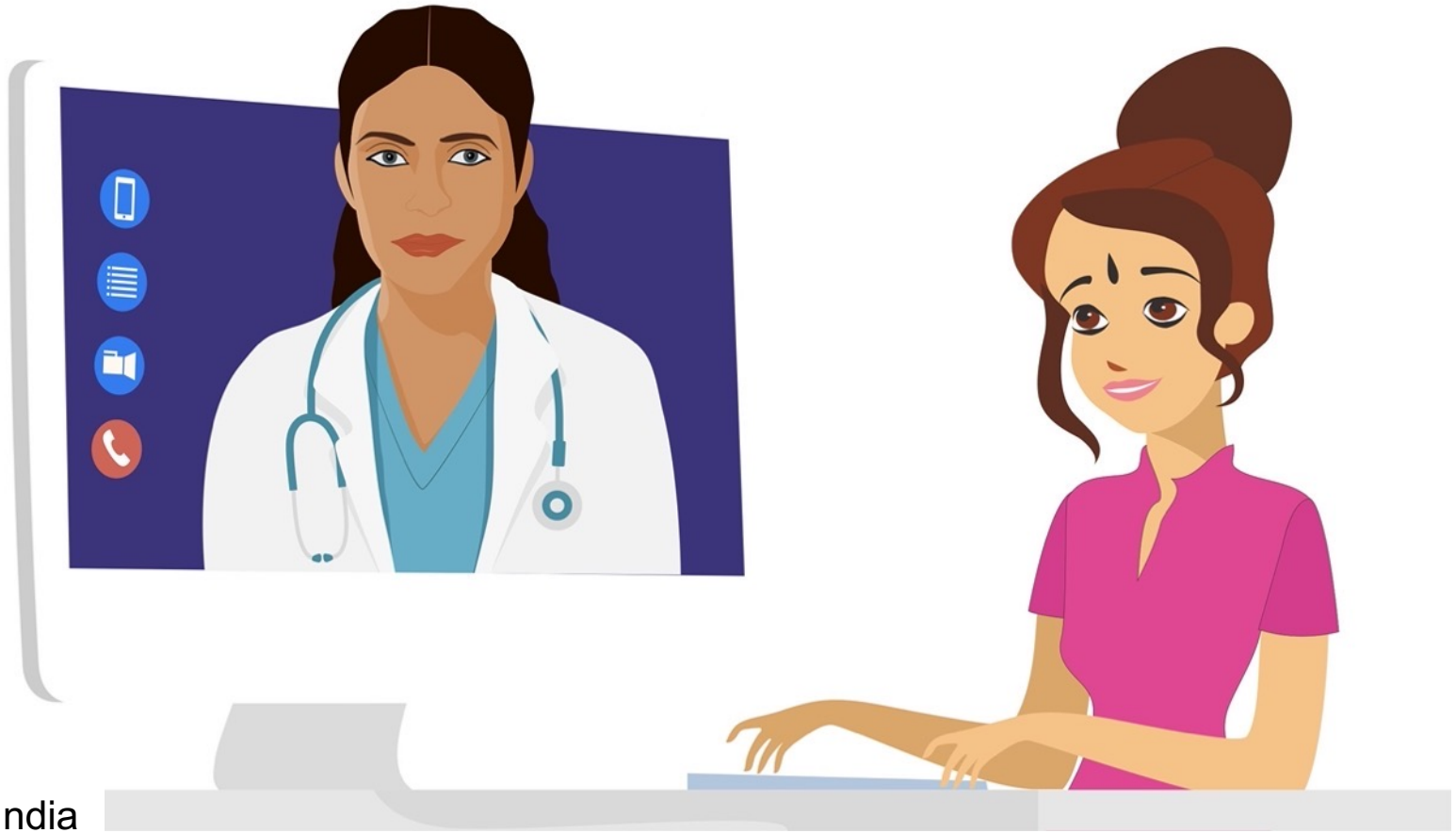
Real time monitoring and feedback mechanisms that assure quality standards

1 2 3 4 5

Improving access to primary and tertiary care through trained personnel

Reducing the need of follow up visits to health facilities

The telemedicine platform of PHFI embeds electronic health records, point of care diagnostics, electronic clinical decision support systems and numerous state-of-the-art digital health technologies



Digital Health Technologies

M-Power

Electronic Clinical Decision Support System

Swasthya Sahayak

Point-of-Care Diagnostic Device

KardioScreen

FDA approved Cloud-based 6-12 lead portable ECG

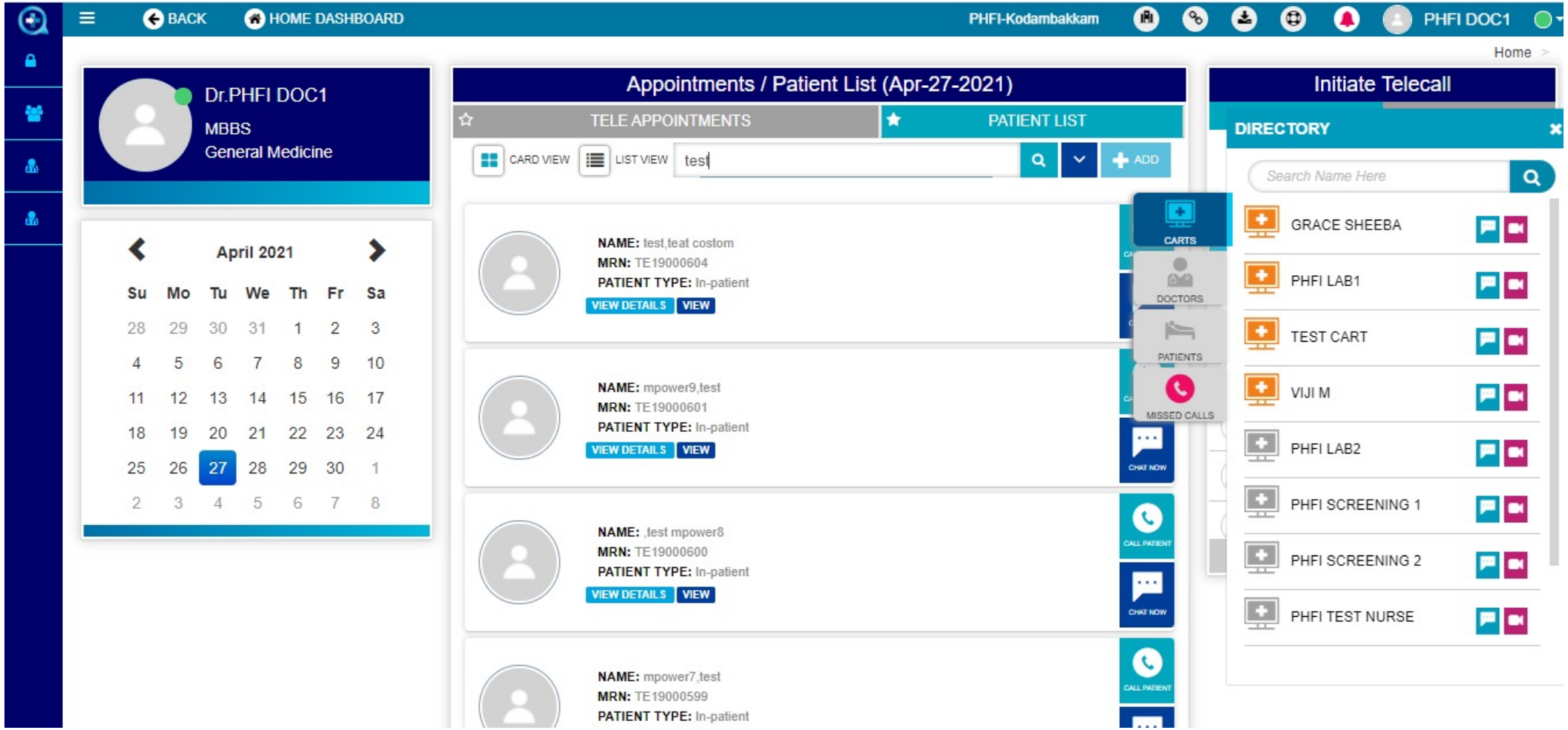
Eko Steth

Digital Stethoscope

Minnray

Paired remotely controlled HD camera

PHFI Innovations CorTechs



https://telephfi.tiatech.net/core/login

Thank you

COVID-19: symptoms and diagnosis

Professor Jaideep C Menon

Amrita Institute of Medical Sciences, Kochi

Background - Agent

- Coronaviruses were earlier thought to be restricted to species, either animal or human

- Three coronaviruses have crossed the species barrier to cause disease in humans since the beginning of the 21st century: severe acute respiratory syndrome coronavirus (SARS-CoV), 2002, Middle-East respiratory syndrome coronavirus (MERS-CoV) ,2012 and SARS-CoV-2, 2019

- These zoonotic pathogens, belong to the β-coronavirus genus, four of which are endemic in humans

- SARS-CoV-2 binds with high affinity to human angiotensin-converting enzyme ectodomain (hACE2) and uses it as an entry receptor to invade target cells.

Coronavirus infections

- Severe acute respiratory syndrome coronavirus (SARS-CoV) infected 8,000 people, with a fatality rate of ~10% between 2001-2003
- The Middle East respiratory syndrome coronavirus (MERS-CoV) has infected more than 1,700 people, with a fatality rate of ~36% in 2012
- Since 2013, porcine epidemic diarrhoea coronavirus (PEDV) spread across the US, causing an almost 100% fatality rate in piglets and wiping out >10% of America's pig population in less than a year

ACE 2 receptors

- ACE2 is a Zn containing metalloenzyme present in most organs: ACE2 receptors are found in type II alveolar cells of the lungs, enterocytes, endothelial cells and arterial smooth muscle cells in most organs. ACE2 mRNA expression is also found in the cerebral cortex, striatum, hypothalamus and brainstem cortex
- ACE-2 is the functional receptor for SARS-CoV that the S protein binds initially to start the host cell invasion by the virus. After binding of SARS-CoV-2 to the ACE-2, the S protein undergoes activation

Comparison of available tests

	Real Time RT PCR	Xpress SARSCov2 (Rapid RT PCR)	Truenat-beta-Cov (Screening PCR Test)	Antibody Test
Sample Required	Nasopharyngeal Swab	Nasopharyngeal Swab	Nasopharyngeal Swab	Blood
Expertise Required for Lab	High	Medium	Medium	Low
Minimum Time to get results once sample reaches Lab	6 Hours (-96 tests/cycle)	45 Min (-4 tests/ cycle)	60 min (-4 tests/cycle)	30 Min
Applicability	Initial Days of Infection for Early detection	Initial Days of Infection for Emergency Detection.	Initial Days of Infection for Ruling Out the disease. All positive results to be confirmed by another test.	Later days of Infection Only (After 7 days) for **Surveillance**

Symptoms

- Symptoms of COVID-19 appear within one to 14 days after exposure:
  - Fever
  - Cough
  - Fatigue
  - Difficulty in breathing
- Symptoms can range in severity from very mild to severe, primarily involving the respiratory system and leading to multisystem failure
- 80% patients have mild/no symptoms
- Less common symptoms include: aches and pains, sore throat, diarrhoea, conjunctivitis, headache, ageusia or anosmia

Organs involved

Organ System	Manifestations
Neurologic	Anosmia, CVA, ageusia, encephalopathy, Guillain-Barre syndrome, acute transverse myelitis
Renal	Acute kidney injury, haematuria, proteinuria
Cardiac	Myocarditis, coronary artery disease, cardiogenic shock, acute cor pulmonale, stress cardiomyopathy
Gastrointestinal	Nausea/vomiting, diarrhoea, anorexia, hepatocellular injury
Endocrine	Hyperglycaemia, diabetic ketoacidosis
Dermatological	Urticaria, erythematous rash, petechiae, purpura fulminans
Thromboembolism	DVT, PE, catheter-related thrombosis

Clinical classification

	MILD	MODERATE	SEVERE
SPO2	>94	90-94	<90
RR	<24	24-30	>30
XRAY-CHEST	WNL	1 or 2 zones	2 or more zones
CT CHEST	WNL or <25%	<50%	>50%
SYMPTOMS	Fever +/-	Fever with breathing difficulty	Fever with respiratory distress

Laboratory classification of severity

	MILD	MODERATE	SEVERE
NLR	< 1.5	1.5 – 3.5	> 3.5
CRP mg/dl	<26	26-100	> 100
Ferritin (ng/ml)	< 500	500-800	> 800
D-dimer (ug/ml)	< 0.5	0.5-1	> 1
LDH (U/L)	<300	300-400	>400
IL-6 (pg/ml)	< 15	15-100	> 100
Transaminases	normal	< 2-3 fold rise	> 3 fold rise

	MILD	MODERATE	SEVERE
RT-PCR (Cycle Threshold)	> 35	24-35 (moderate viral load)	17-24 (high viral load)
HRCT (Severity score)	< 8	9-15	> 15

Clinical red flags (adults)

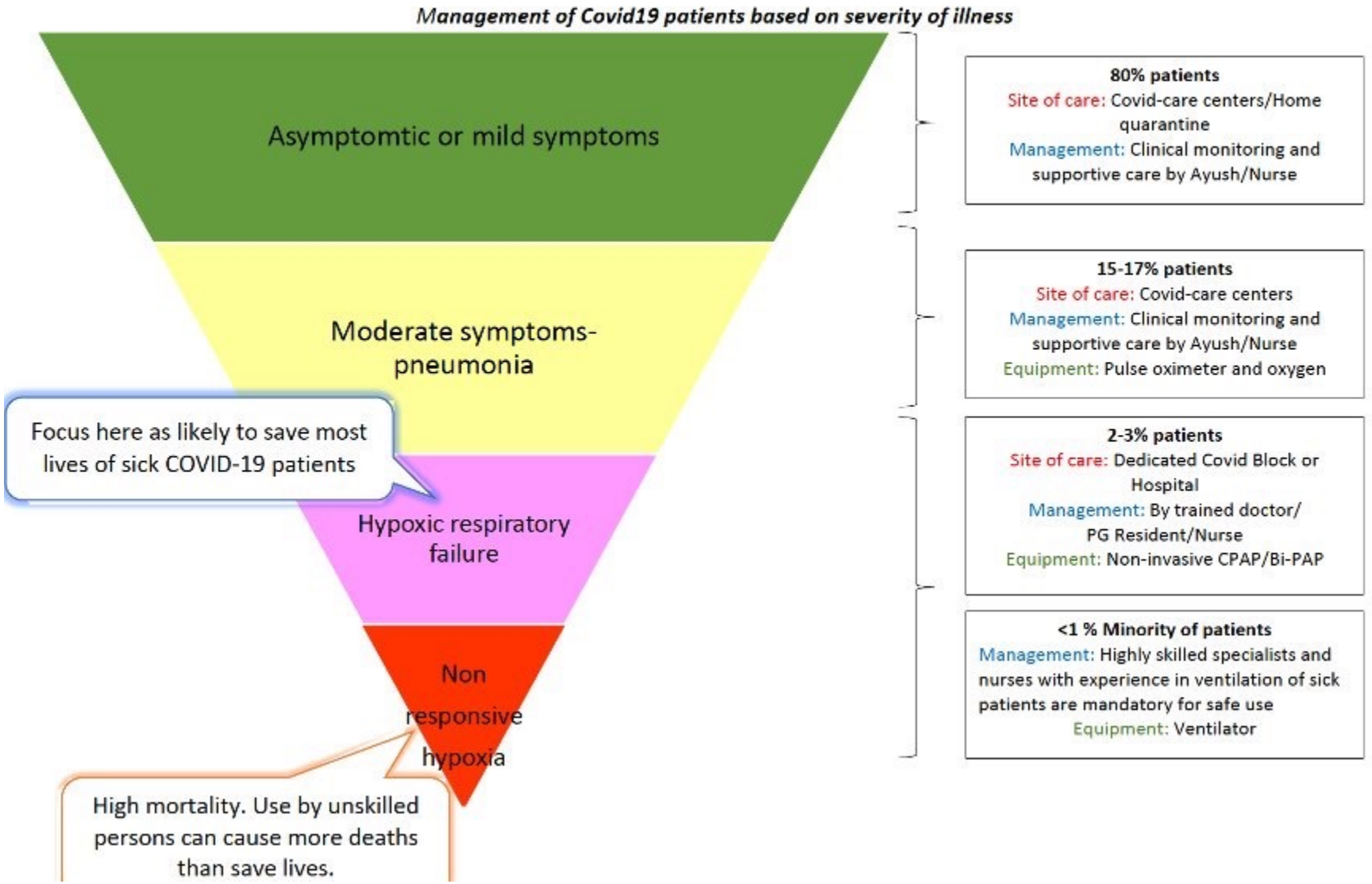
- Pulse rate >125/min
- Respiratory rate > 24/min
- Blood pressure <90mm Hg systolic and <60mm Hg diastolic
- Altered sensorium
- SpO2 < 94% on room air
- PAO2/FiO2 <300mm Hg

High risk based on Laboratory parameters

- C-reactive protein (CRP) >100mg%
- Creatine phosphokinase twice the normal values
- Ferritin >300mcg/L
- Lactate dehydrogenase (LDH) >245 U/L
- Troponin I elevation
- D dimer >1000ng/ml
- Absolute lymphocyte count <0.8
- Neutrophil lymphocyte ratio >3.13
- Elevated NT-pro-BNP

Severity, proportions

AIIMS/Deo/140420



- Seroprevalence surveys detected the presence of antibodies in 20% to 30% of the overall population
- In Mumbai and Delhi, in the areas that were surveyed, sero-prevalence was 50% to 60% in crowded slums.

DOUBLE MUTANT

- The mutant, the technical name being B.1.617 — was first seen in December which alongside the introduction of the U.K. variant (B.1.1.7) in January ‘21 has powered the “second wave”

- This mutant virus has 15 changes from the original. Six mutations are in the spike protein, and two of those are in a very critical region called the receptor binding motif

- Of the two key mutations in the Double Mutant variant, one was first seen in Denmark, in the mink population. That mutation was then found in humans in California. It was responsible for the expansion of the outbreak in Southern California. The second mutation is very similar, but not identical, to one found in the South African variant, which is responsible for partially evading antibodies.
- These two mutations came together for the first time, as far as we know, in this Indian variant.

- In Punjab and Haryana almost 80% the virus circulating is the U.K. variant.
- In Delhi, the U.K. variant and the Double Mutant, both.
- In Maharashtra, roughly 35-60% in circulation is the “double mutant”

FIRST WAVE

- Symptoms like dry cough, joint pain, headaches were more
- Among hospitalised 41.7 % reporting shortness of breath
- O2 use less, 41.5%
- Mechanical ventilation in 27.8%
- > 70% more than 40yrs, average age 50

SECOND WAVE

- The symptoms of joint ache, fatigue, muscle ache, loss of smell or sore throat are much less compared to the first wave
- Among hospitalised 47.5 % reporting shortness of breath
- O2 use more- 54.5%
- Ventilation support in 37.3%
- Average age 49 yrs

FIRST WAVE

- Diarrhoea was seen in ~ 20%
- Transmissibility less

SECOND WAVE

- Diarrhoea and abdominal symptoms commoner, especially in prior vaccinated
- Transmissibility more with almost all family members being infected in affected households
- Mucormycosis more seen with the second wave

Thank you

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NUFFIELD DEPARTMENT OF PRIMARY CARE HEALTH SCIENCES

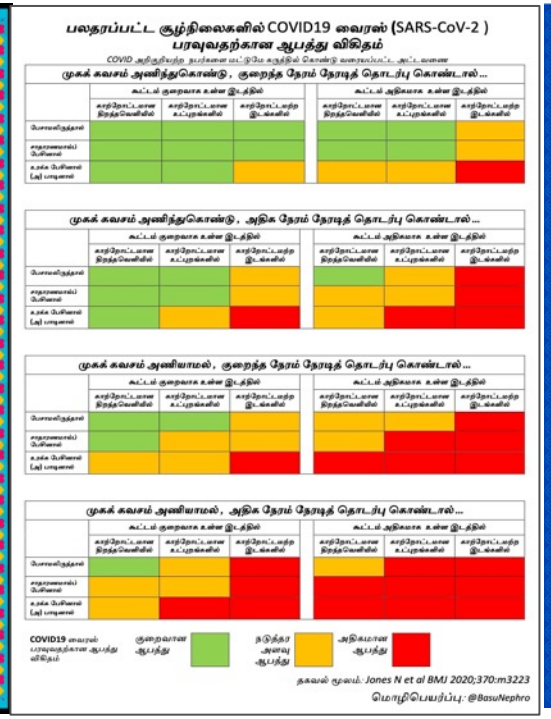
@trishgreenhalgh

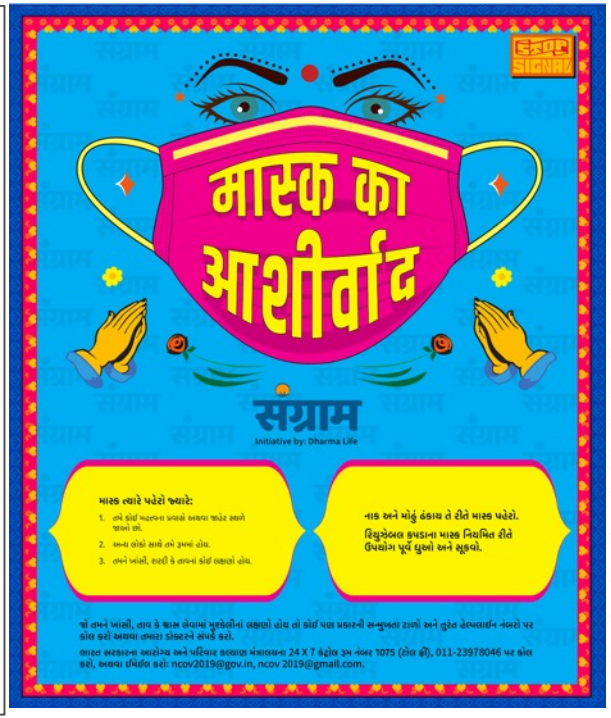
UNIVERSITY OF OXFORD

Prevention, remote triage and monitoring

Professor Trish Greenhalgh

Professor of Primary Care Health Sciences,
University of Oxford





RECAP-V0 SCORE FOR PATIENTS WHO DO NOT HAVE RED ALERT SYMPTOMS OR SIGNS						
		Score 0	Score 1	Score 2	Score 3 => refer urgently	Score
1	Heart rate (per minute) *(if heart rate not available, score 1)*	51-90	41-50 or 91-110 or missing data	111-130	≤ 40 OR > 130, if unexplained	
2a	Shortness of breath	Not breathless at all	Breathless on moderate exertion e.g. walking room to room	Breathless on mild exertion e.g. getting out of a chair	Severe breathing difficulty; can't complete sentences at rest	Highest of 2a or 2b
2b	or Respiratory rate (per minute)	12-20	21-24	9-11 or 25-29	8 or less, or 30 or more	
3	Trajectory of breathlessness	Same or better than yesterday	Breathless, worse than yesterday	-	Significant deterioration in last hour	
4a	Oxygen saturation at rest	96% or above	95% (don't do 40-step test unsupervised)	94% (don't do 40-step test unsupervised)	93% or below (don't do 40-step test)	Highest of 4a, 4b & 4c
4b	or Saturation after 40 steps	Fall of 0-1%	-	Fall of 2%	Fall of 3% or more	
4c	or Profound tiredness or fatigue	None or mild	Noticeably more tired doing usual activities	Struggling to get out of bed	Unable to speak because of tiredness	
5a	Temperature	≤ 38 °C	38.1-39 °C	> 39 °C or < 35 °C	-	Highest of 5a or 5b
5b	or Feeling feverish with shivers	None	Feverish or chills	Uncontrollable shivering	-	
6	Time from first symptom (days)	7 or fewer	8 or more	-		
7	Muscle aches	None or mild	Moderate	Severe		
8	Cognitive decline	No	Less mentally alert than usual	New and worsening confusion	Reduced level of consciousness	
9	On COVID-19 shielded list (or has been inadvertently left off it)?	No	Yes	-	-	
10	Other risk factors for poor outcome? e.g. age, ethnicity	0-2	3 or more	-	-	
TOTAL						

Thanks for Rebecca Inglis for pictures on ventilation and to Dharma Life for artwork

Prevention

Prevention (see more at dharmalife.in)

Prevention messages need to be simple, culturally congruent and available in all the languages spoken locally

HANDS
FACE
SPACE
VENTILATE

AVOID
crowds
closed spaces
close contact

1) OUTSIDE IS SAFEST

The safest way to minimise COVID-19 transmission is by being outside. Where possible, screening and assessment of patients should take place outside. Waiting areas should also be outside. If using a covering to protect from the weather, leave the sides open.

2) OPEN WINDOWS

Keep windows open at all times. Where possible, open the windows on opposite walls to improve air flow through the room.

3) AVOID OVERCROWDING

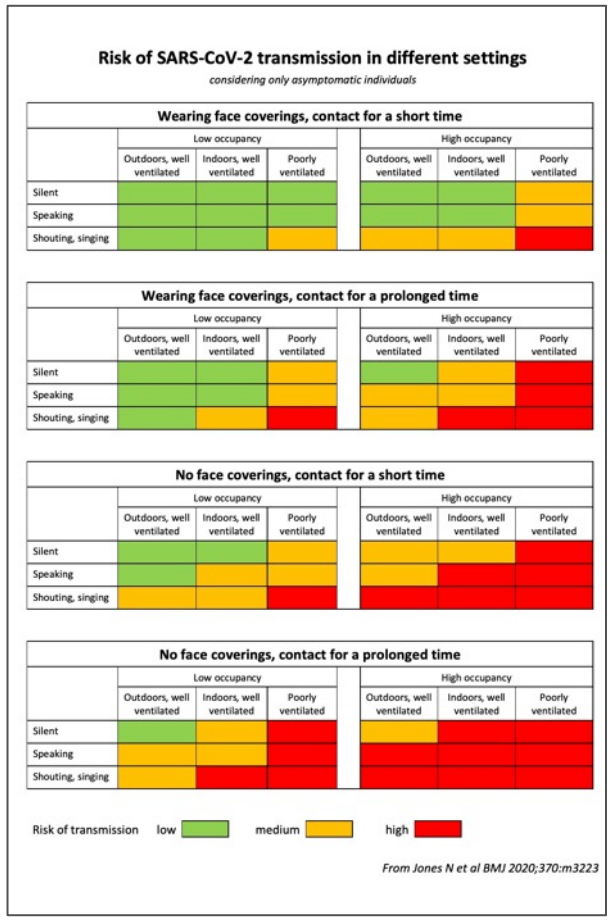
The more people in a room, the higher the risk. Avoid overcrowding anywhere in the hospital. Ensure everyone is wearing a mask.

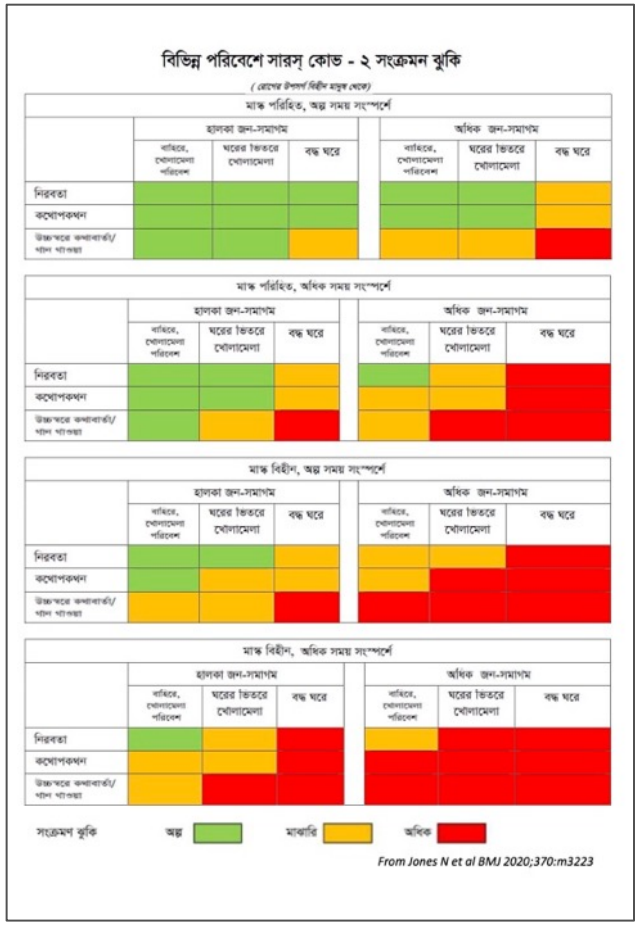
4) SET EXTRACTOR FANS TO BLOW OUTWARDS

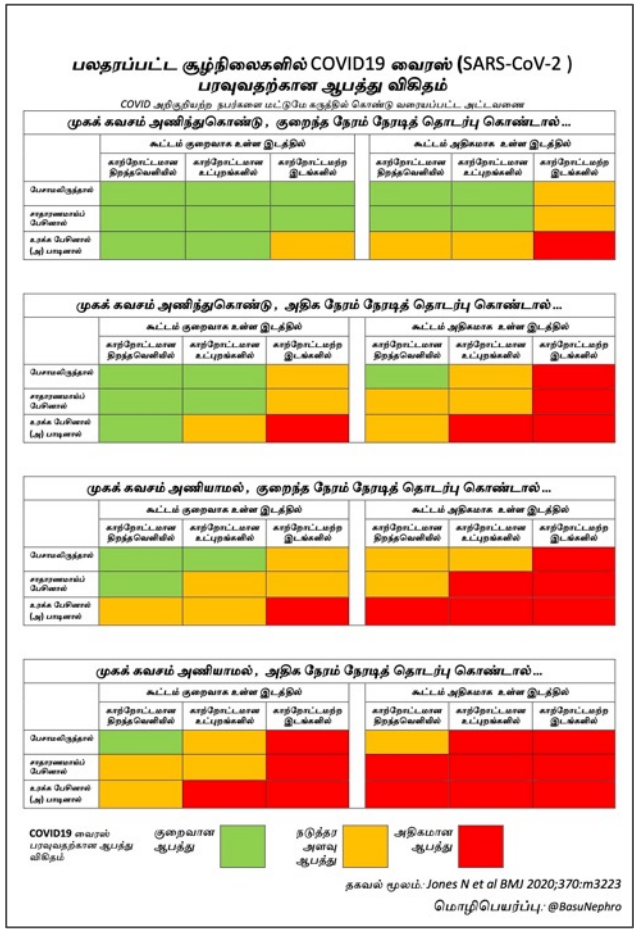
The extractor fan in a room with patients in should be set to blow outwards not inwards and should be left switched on at all times (check the direction of air flow with a piece of tissue).

5) UNBLOCK AIR VENTS

Many hospitals have been designed to promote the flow of fresh air. Make sure these features are not blocked off or taped shut.







#CovidRiskChart now available in over 50 languages

Remote triage

thebmj

BMJ 2020;368:m1182 doi: 10.1136/bmj.m1182 (Published 25 March 2020)

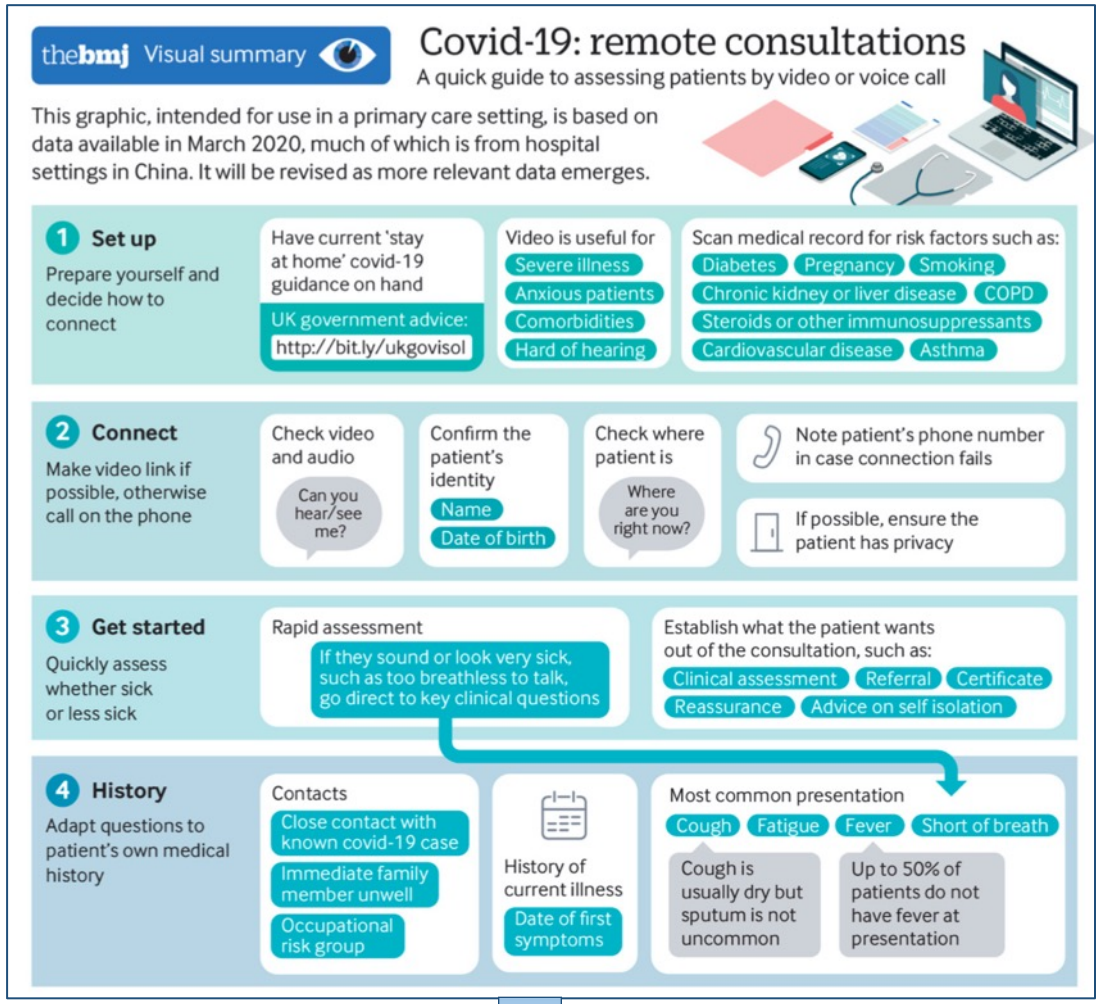
PRACTICE

Check for updates

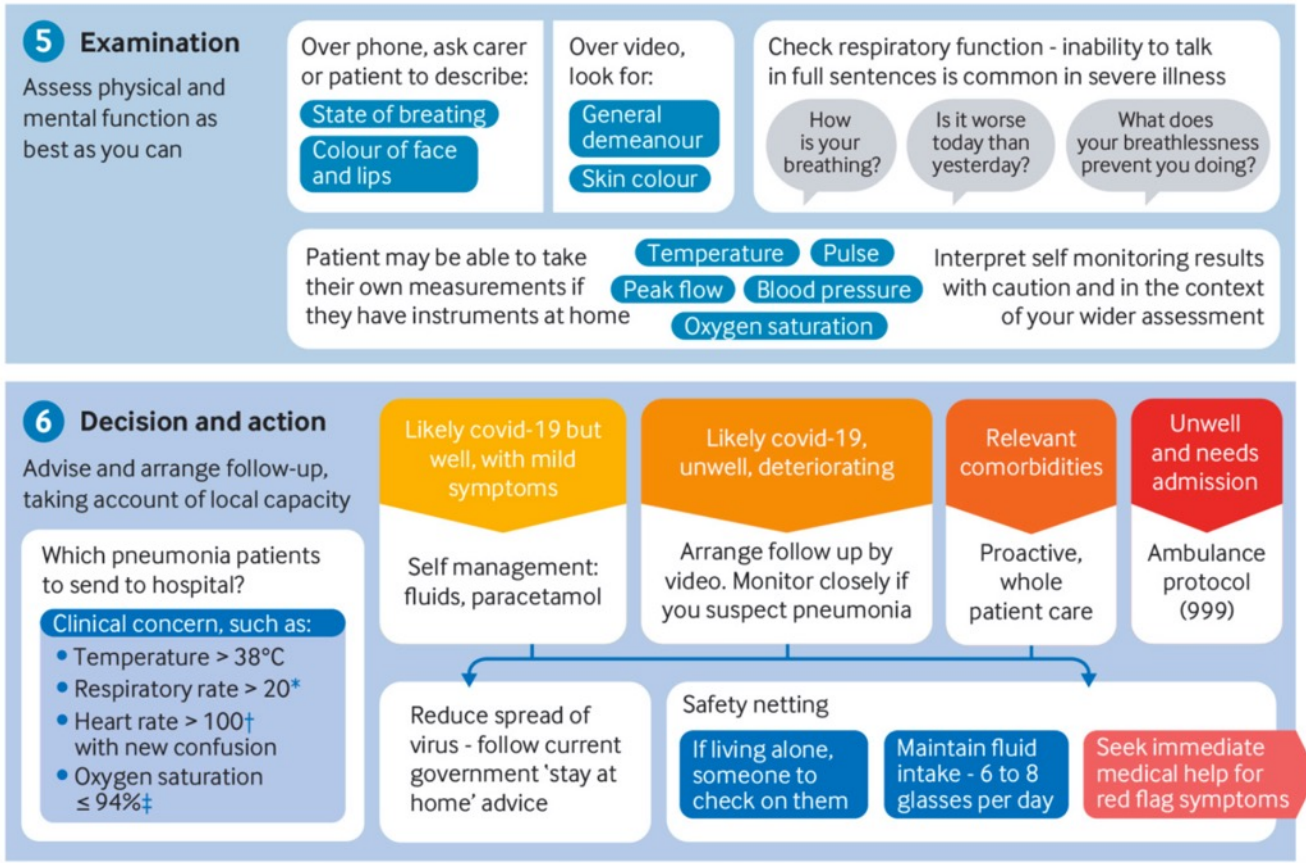
10-MINUTE CONSULTATION

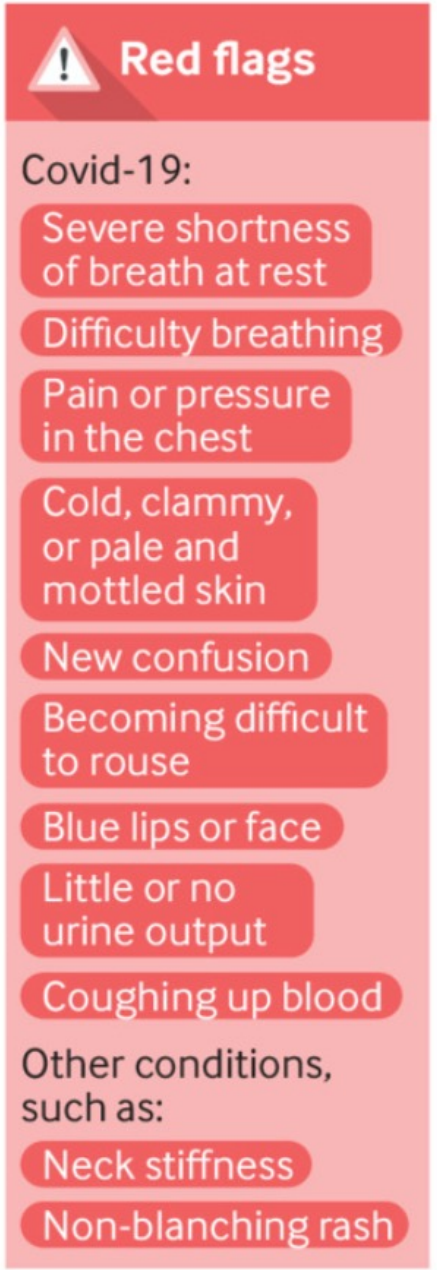
Covid-19: a remote assessment in primary care

Trisha Greenhalgh *professor of primary care health sciences*[1], Gerald Choon Huat Koh *professor of public health and family medicine*[2], Josip Car *director, reader in primary care and e-health*[3 4]



We developed a rapid assessment guide for use in primary care (by phone or video)





In March 2020, we didn't really know what the key signs of deterioration were

Box 1: Remote assessment of breathlessness

There are no validated tests for the remote assessment of breathlessness in an acute primary care setting. A rapid survey of 50 clinicians who regularly assess patients by telephone revealed some differences of opinion. For example, most but not all rejected the Roth score (which times how long it takes for a patient to take a breath while speaking) on the grounds that it has not been validated in the acute setting and could be misleading.

However, there was consensus among respondents around the following advice:

1. Ask the patient to describe the problem with their breathing in their own words, and assess the ease and comfort of their speech. Ask open ended questions and listen to whether the patient can complete their sentences:

   "How is your breathing today?"

2. Align with the NHS 111 symptom checker, which asks three questions (developed through user testing but not evaluated in formal research):

   "Are you so breathless that you are unable to speak more than a few words?"

   "Are you breathing harder or faster than usual when doing nothing at all?"

   "Are you so ill that you've stopped doing all of your usual daily activities?"

3. Focus on change. A clear story of deterioration is more important than whether the patient currently feels short of breath. Ask questions such as

   "Is your breathing faster, slower, or the same as normal?"

   "What could you do yesterday that you can't do today?"

   "What makes you breathless now that didn't make you breathless yesterday?"

4. Interpret the breathlessness in the context of the wider history and physical signs. For example, a new, audible wheeze and a verbal report of blueness of the lips in a breathless patient are concerning.

   There is no evidence that attempts to measure a patient's respiratory rate over the phone would give an accurate reading, and experts do not use such tests. It is possible, however, to measure the respiratory rate via a good video connection. More generally, video may allow a more detailed assessment and prevent the need for an in-person visit.

Qualitative questions seem to be more sensitive and more specific than quantitative "scores" in assessing deteriorating breathlessness

Translated to Hindi

बॉक्स 1: सांस फूलना का दूरवर्ती आकलन श्वास-प्रश्वास के दूरस्थ मूल्यांकन के लिए कोई मान्य परीक्षण नहीं हैं एक तीव्र प्राथमिक देखभाल सेटिंग में। 50 चिकित्सकों का तेजी से सर्वेक्षण नियमित रूप से टेलीफोन द्वारा रोगियों के आकलन से कुछ अंतरों का पता चला राय। उदाहरण के लिए, अधिकांश लेकिन सभी ने रोथ स्कोर को अस्वीकार नहीं किया (जो कि मरीज को बोलते समय सांस लेने में कितना समय लगता है) इस आधार पर कि इसे तीव्र सेटिंग में मान्य नहीं किया गया है और कर सकता है भ्रामक हो।

हालांकि, उत्तरदाताओं के बीच निम्नलिखित सलाह बीच सहमति थी :

• रोगी को अपने साँस लेने में समस्या का वर्णन करने के लिए कहें अपने शब्दों, और उनके भाषण की आसानी और आराम का आकलन करें। मरीजों से सवाल पूछें और सुनें कि क्या रोगी पूरा कर सकता है उनके वाक्य::

- "आज आपकी सांस कैसी है?"

• एनएचएस 111 लक्षण परीक्षक के साथ संरेखित करें, जो तीन प्रश्न पूछता है (उपयोगकर्ता परीक्षण के माध्यम से विकसित लेकिन औपचारिक शोध में मूल्यांकन नहीं किया गया):

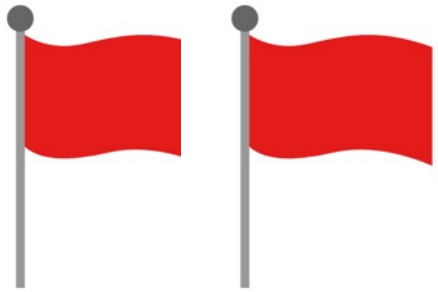
- "क्या आप इतने बेदम हैं कि आप कुछ शब्दों से अधिक बोलने में असमर्थ हैं?"
- "क्या आप सामान्य रूप से कठिन या तेज सांस ले रहे हैं जब कुछ भी नहीं कर रहे हैं बिलकुल?"
- "क्या आप इतने बीमार हैं कि आपने अपने सभी सामान्य दैनिक कार्य करना बंद कर दिया है?"

• बदलाव पर ध्यान दें। बिगड़ने की एक स्पष्ट कहानी की तुलना में अधिक महत्वपूर्ण है क्या वर्तमान में रोगी को सांस की कमी महसूस होती है। सवाल पूछो जैसे कि

- "क्या आपकी सांस तेज, धीमी या सामान्य है?"
- "आप कल क्या कर सकते थे जो आप आज नहीं कर सकते?"
-"कुछ नई गतिविधि है जो आपको अब बेदम बना रही है जो कल आपको बेदम नहीं कर रही थी?"

• व्यापक इतिहास के संदर्भ में श्वास-प्रश्वास की व्याख्या करें और शारीरिक संकेत। उदाहरण के लिए, एक मरीज में एक नया, श्रव्य घरघराहट और होंठों का नीलापन चिंताजनक है।

- फोन पर एक डॉक्टर रोगी का माप नहीं कर सकता है सही ढंग से साँस लेना, और विशेषज्ञ ऐसे परीक्षणों का उपयोग नहीं करते हैं। हालांकि, यह संभव है एक अच्छे वीडियो कनेक्शन के माध्यम से श्वसन दर को मापें। आमतौर पर, वीडियो एक अधिक विस्तृत मूल्यांकन की अनुमति दे सकता है और एक व्यक्ति की यात्रा की आवश्यकता को रोक सकता है।



RECAP-v0: Based on clinical consensus and patient experience (being validated)

RECAP-V0 SCORE FOR PATIENTS WHO DO NOT HAVE RED ALERT SYMPTOMS OR SIGNS

		Score 0	Score 1	Score 2	Score 3 => refer urgently	Score
1	Heart rate (per minute) *(if heart rate not available, score 1)*	51-90	41-50 or 91-110 or missing data	111-130	≤ 40 OR > 130, if unexplained	
2a	Shortness of breath	Not breathless at all	Breathless on moderate exertion e.g. walking room to room	Breathless on mild exertion e.g. getting out of a chair	Severe breathing difficulty; can't complete sentences at rest	Highest of 2a or 2b
2b	or Respiratory rate (per minute)	12-20	21-24	9-11 or 25-29	8 or less, or 30 or more	
3	Trajectory of breathlessness	Same or better than yesterday	Breathless, worse than yesterday	-	Significant deterioration in last hour	
4a	Oxygen saturation at rest	96% or above	95% (don't do 40-step test unsupervised)	94% (don't do 40-step test unsupervised)	93% or below (don't do 40-step test)	Highest of 4a, 4b & 4c
4b	or Saturation after 40 steps	Fall of 0-1%	-	Fall of 2%	Fall of 3% or more	
4c	or Profound tiredness or fatigue	None or mild	Noticeably more tired doing usual activities	Struggling to get out of bed	Unable to speak because of tiredness	
5a	Temperature	≤ 38 °C	38.1-39 °C	> 39 °C or < 35 °C	-	Highest of 5a or 5b
5b	or Feeling feverish with shivers	None	Feverish or chills	Uncontrollable shivering	-	
6	Time from first symptom (days)	7 or fewer	8 or more	-		
7	Muscle aches	None or mild	Moderate	Severe		
8	Cognitive decline	No	Less mentally alert than usual	New and worsening confusion	Reduced level of consciousness	
9	On COVID-19 shielded list (or has been inadvertently left off it)?	No	Yes	-	-	
10	Other risk factors for poor outcome? e.g. age, ethnicity	0-2	3 or more	-	-	
TOTAL						

Monitoring

What to do if you don't have an oximeter reading?

2a	Shortness of breath	Not breathless at all	Breathless on moderate exertion e.g. walking room to room	Breathless on mild exertion e.g. getting out of a chair	Severe breathing difficulty; can't complete sentences at rest	Highest of 2a or 2b
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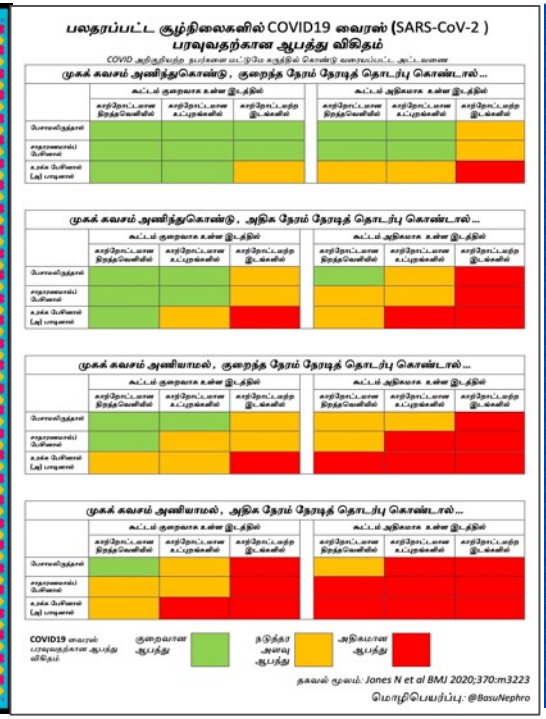

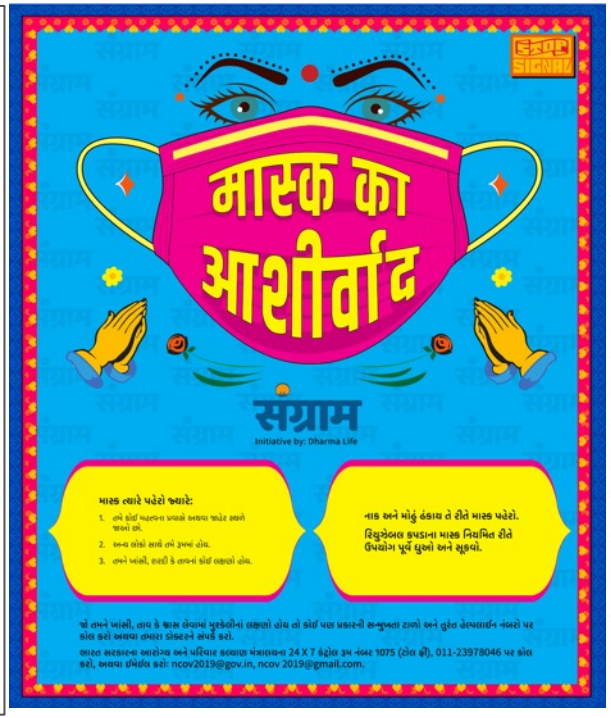

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TOTAL						

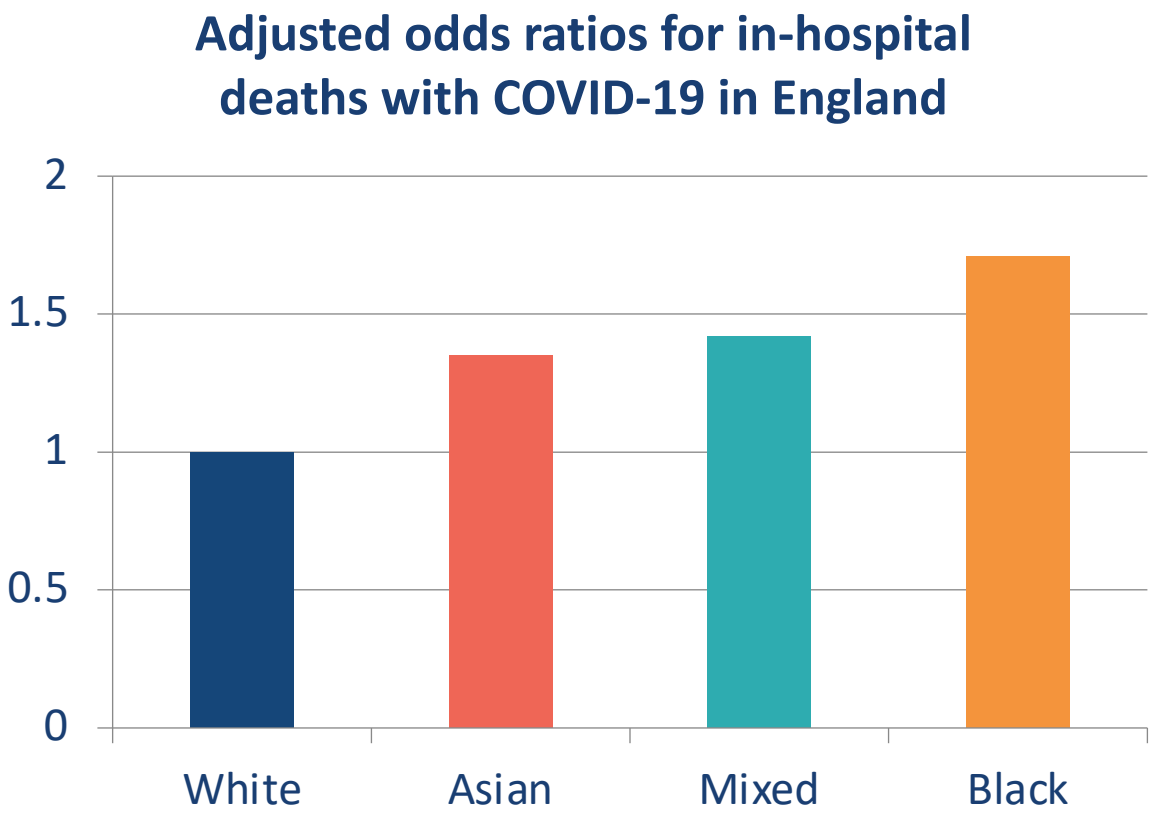
Thank you for your attention

Prevention in the context of multigenerational households: Learnings from the ethnic minority communities in the UK

Professor Kamlesh Khunti

Professor of Primary Care Diabetes & Vascular Medicine, GP and SAHF Trustee

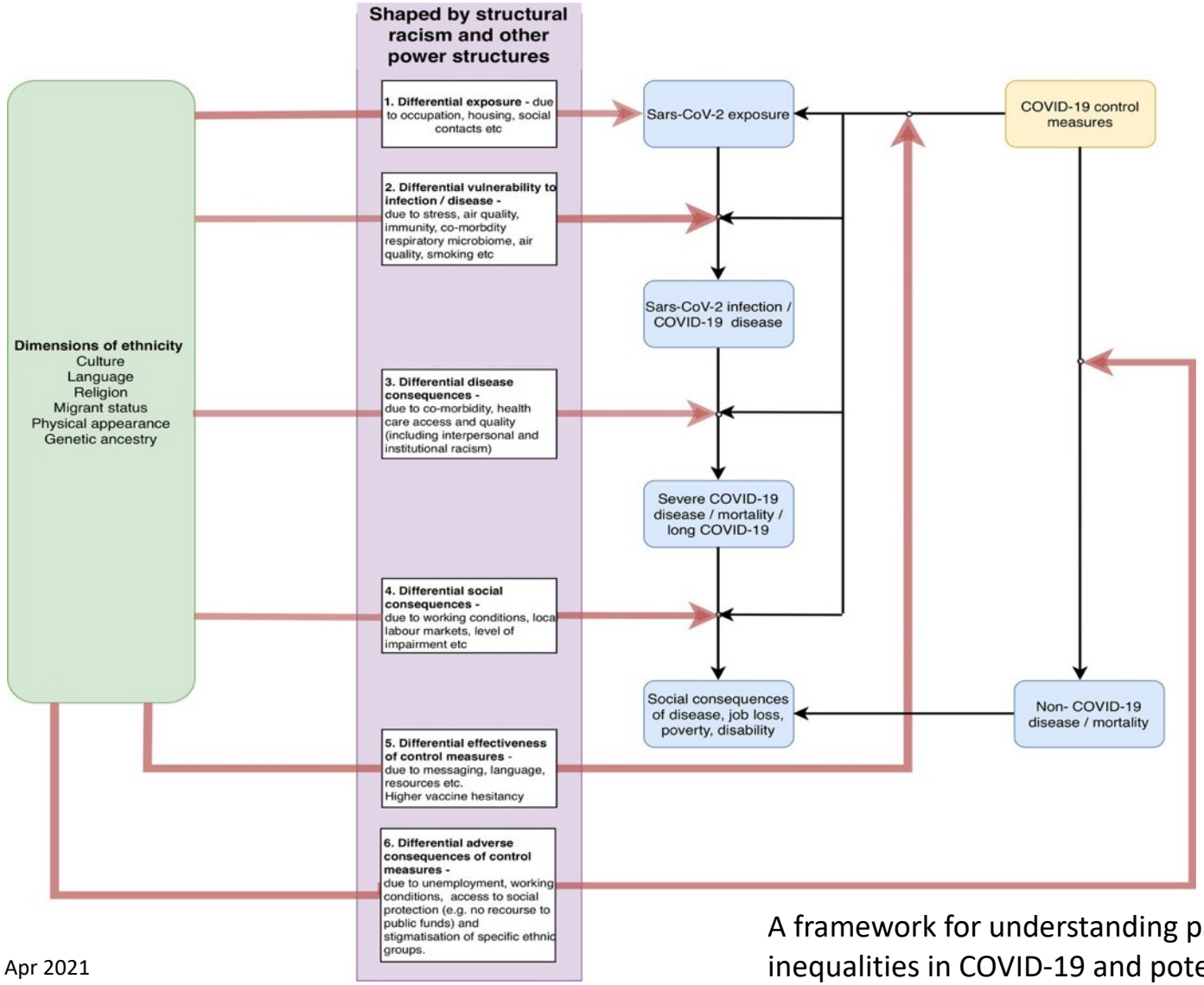
COVID-19 and adverse outcomes



- There are marked ethnic inequalities in the risk of death from COVID-19.
- Black and South Asian groups appear at greatest risk.
- For example, The NHS and PHE led linked and analysed medical records and death data in over **61 million people.**
- From figure (right), greater mortality risk for minority groups with 1.7x increased risk for Black, and 1.3x risk for Asian.
- Adjusted for sex, age, deprivation, diabetes status, and region.

(Barron et al. Lancet DE 2020).

Unequal impact of the COVID-19 crisis on minority ethnic groups: a framework for understanding and addressing inequalities



A framework for understanding pathways underpinning ethnic inequalities in COVID-19 and potential targets for policy.

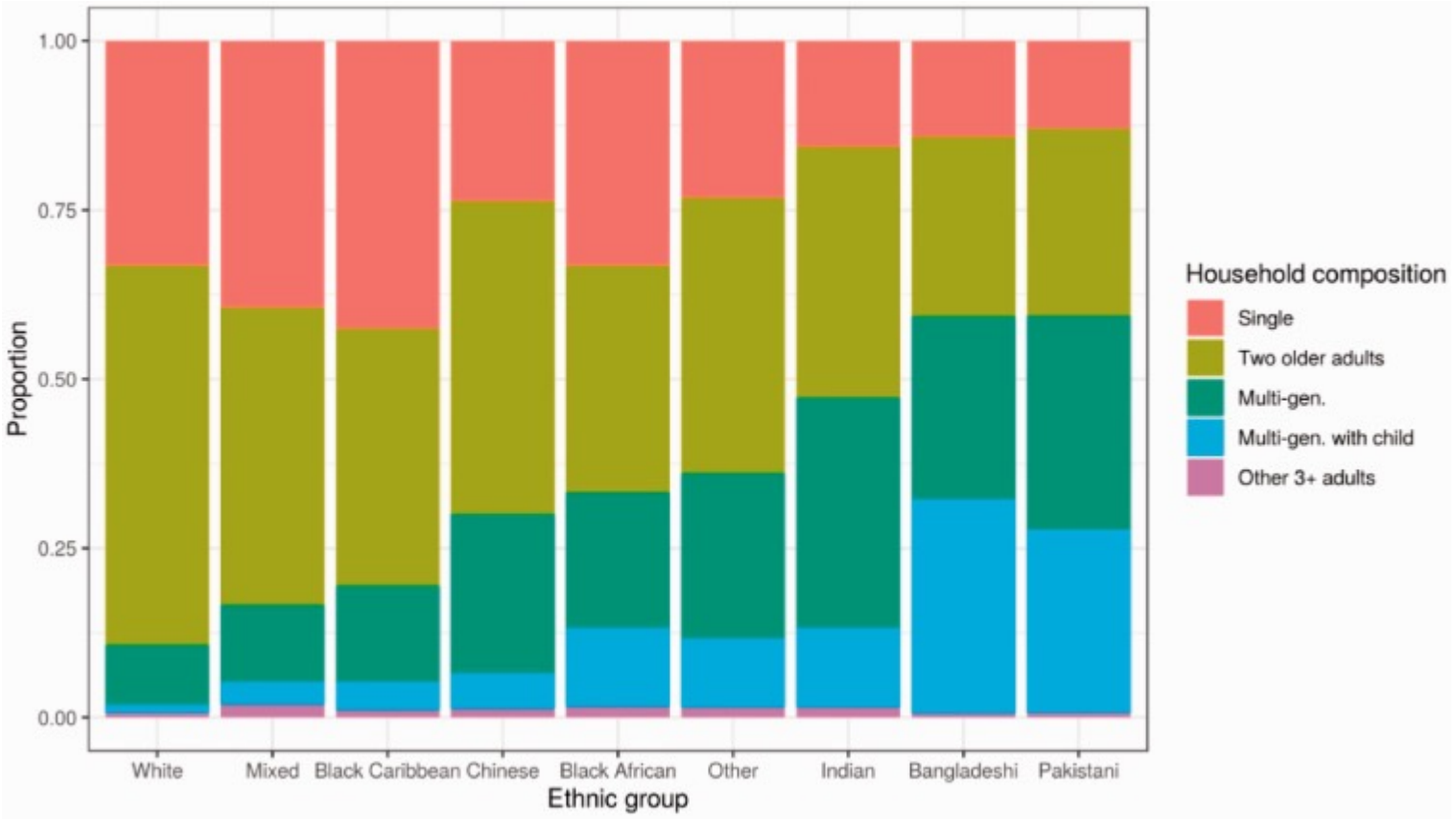
Katikireddi SV, et al. *J Epidemiol Community Health* Apr 2021

Proportion of households with at least one person aged 70+ by ethnic group of that person by the mix of ages in their household, UK, 2018

	Contains only those aged 70 and over	Contains somebody aged 0 to 19, somebody aged 20 to 69 and somebody aged 70 and over
White	75.1%	1.5%
Indian	41.4%	13.3%
Pakistani	27.1%	34.7%
Bangladeshi	26.8%	56.4%
Any Other Asian Background[4]	44.3%	9.6%
Black African	54.3%	11.0%
Black Caribbean or Any Other Blac	58.1%	5.6%
Other ethnic group[4]	61.0%	6.3%

Source: Office for National Statistics - Annual Population Survey (APS) Household dataset January to December 2018
Produced by Demographic Analysis Unit, Office for National Statistics
pop.info@ons.gov.uk

Ethnicity, household composition and COVID-19 mortality: a national linked data study

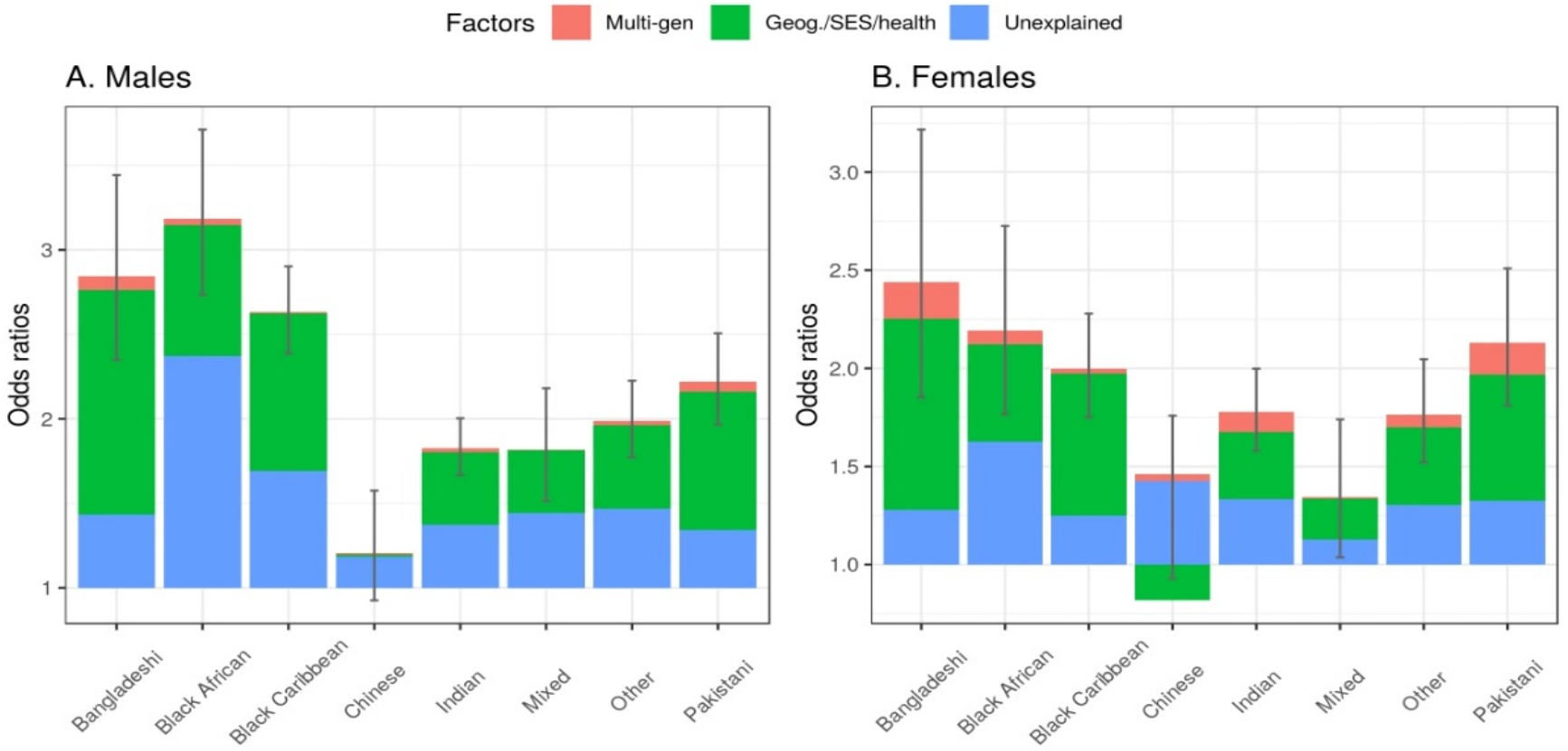


Household composition by ethnic group for people in England aged ≥ 65 years. Note: Linked 2011 Census and mortality registration data for people in England aged ≥ 65 years, excluding those living in a care home in 2019. The number of adults in the household was calculated as the number of people aged ≥ 25 years who lived in the household at the time of the Census, minus those who died between 27 March 2011 and 1 March 2020.

Vahe N et al *J R Soc Med* [Published online 24th March 2021]

Quantifying the contribution of living in multi-generational household in explaining COVID-19 inequalities

Risk of COVID-19 death compared to white people

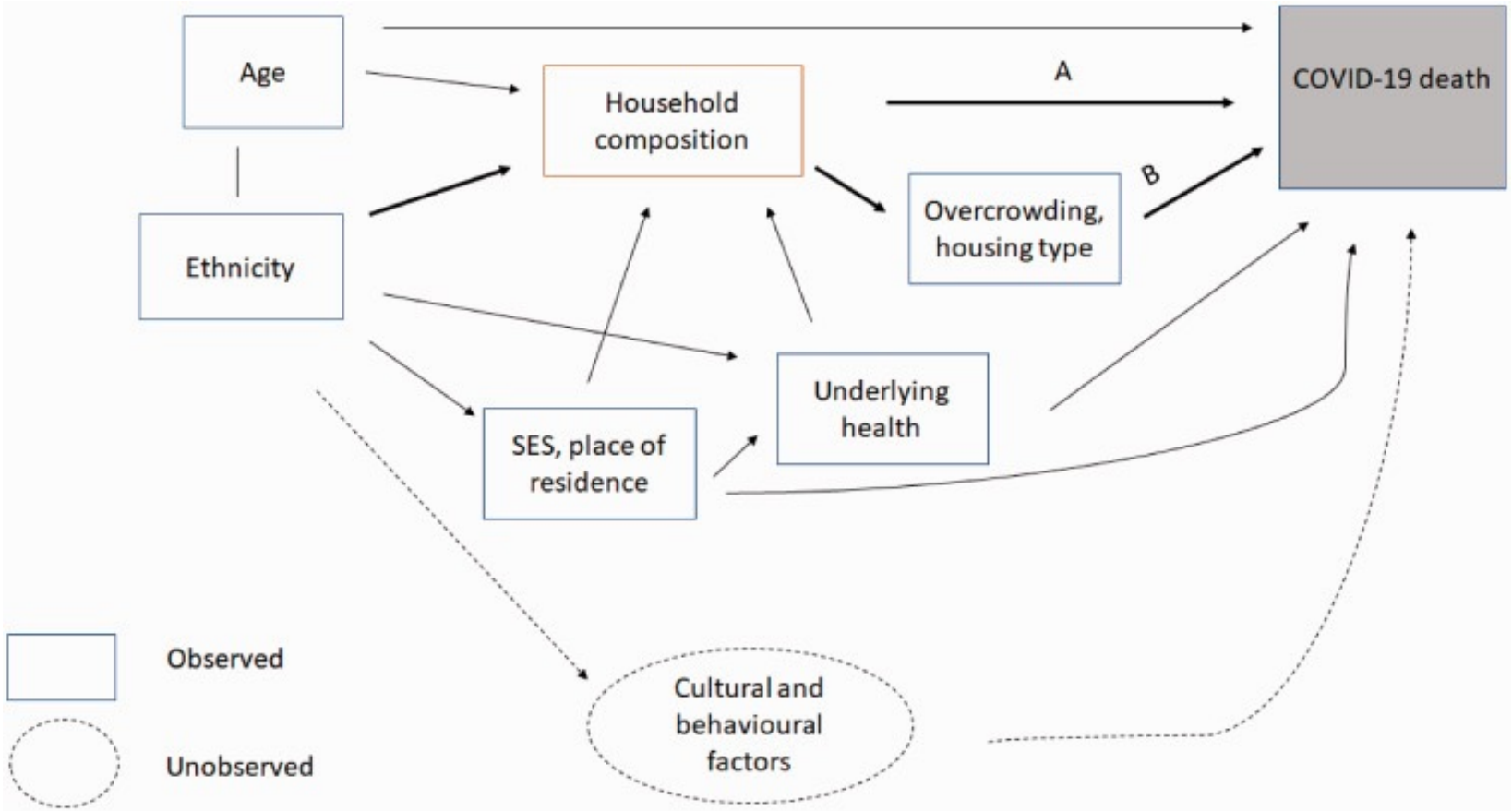


- Causal mediation approach
- Living in a MGH explained 10%-15% of the elevated risk of COVID-19 death among older females from South Asian background
- Very little for South Asian males or people in other ethnic minority groups.

Vahe N et al *J R Soc Med* [Published online 24th March 2021]

Source: ONS linked data

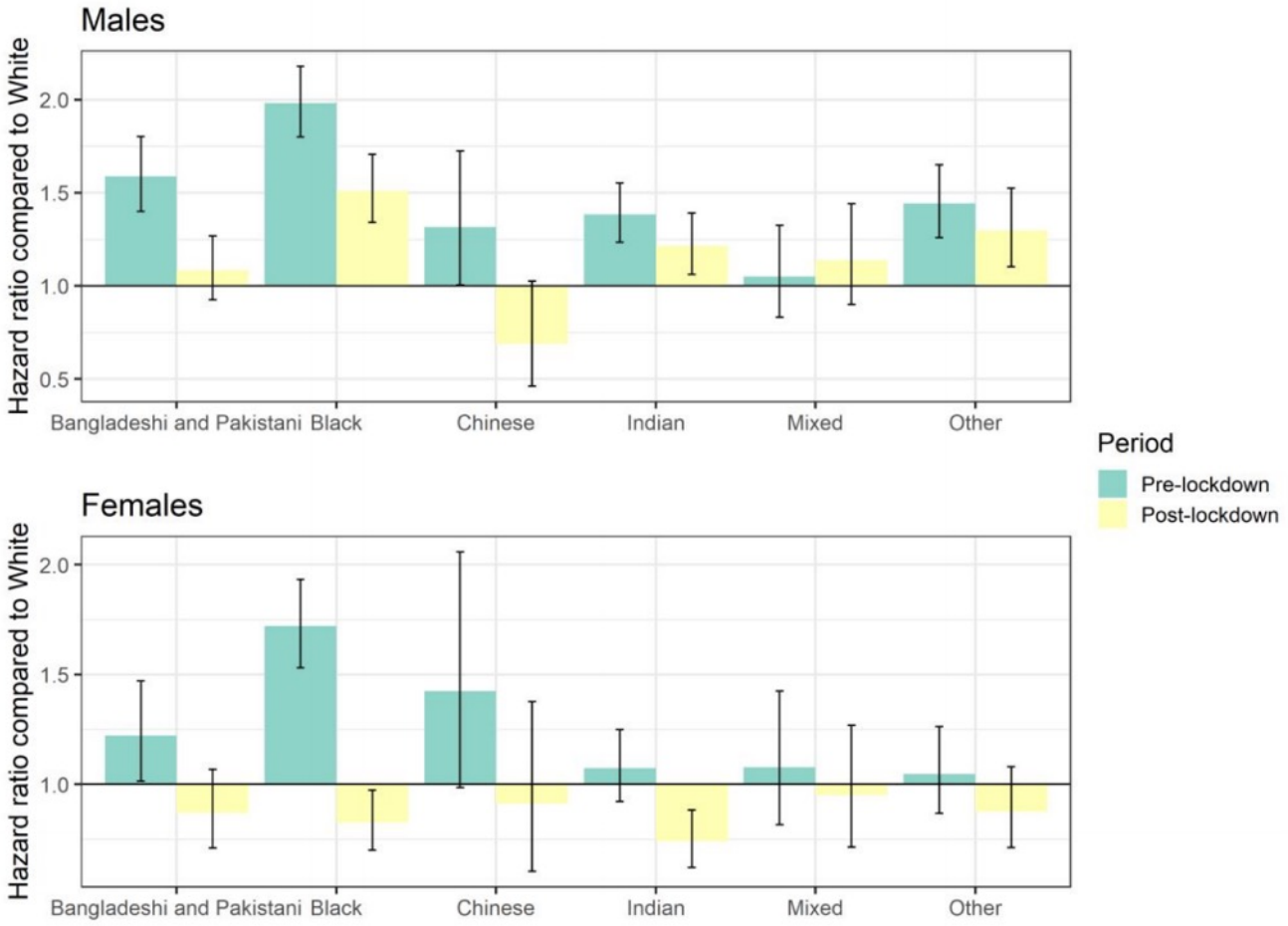
Ethnicity, household composition and COVID-19 mortality: a national linked data study



Directed Acyclic Graphs summarising the relationship between ethnicity, household composition and COVID-19 mortality. Note: When analysing whether household composition directly affects the risk of COVID-19 death, our effect of interest is A. In the mediation analysis, where we estimate the proportion of the ethnic disparity in COVID-19 that is explained by living in a multi-generational household, the effects of interest are A + B.

Vahe N et al *J R Soc Med* [Published online 24th March 2021]

COVID-19 related death for ethnic minority groups compared to the White population, before and after lockdown plus 21 days, stratified by sex

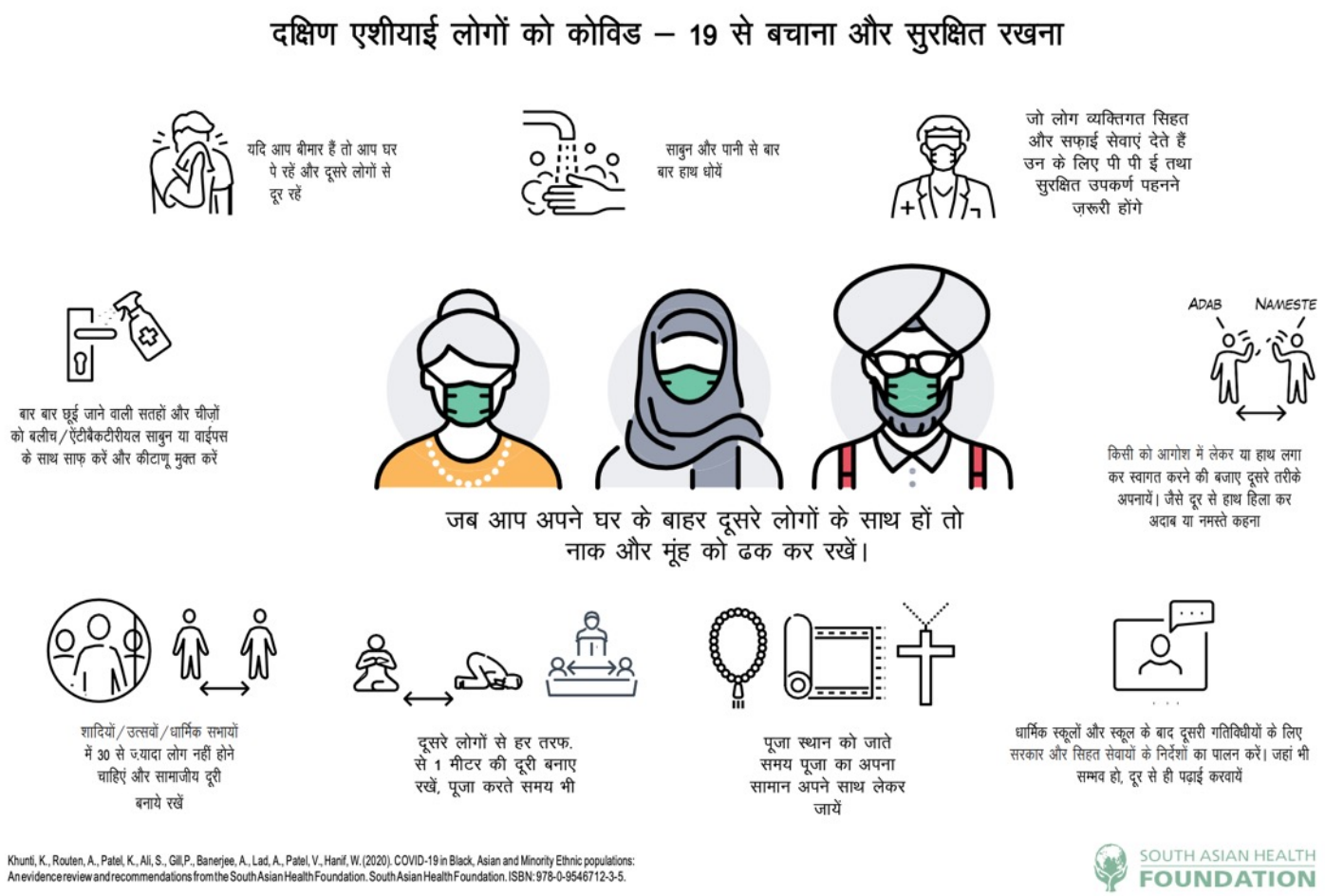


Ayoubkhani D et al. medrxiv 2020

Protection of South Asian communities-cultural recommendations

Khunti, K., Routen, A., Patel, K., Ali, S., Gill,P., Banerjee, A., Lad, A., Patel, V., Hanif, W. (2020). COVID-19 in Black, Asian and Minority Ethnic populations: An evidence review and recommendations from the South Asian Health Foundation. South Asian Health Foundation. ISBN: 978-0-9546712-3-5.

Translated into six languages



Strategies

- Accessible tailored communication in different formats and languages
- Tailored advice to multigenerational households regarding hygiene & occupational risk
- Advise on social distancing, ventilation
- Improve risk factor control of chronic diseases
- Improve vaccinations
- Any other local strategies – care of elderly family members (direct & indirect impact)

Thank you

www.leicesterdiabetescentre.org.uk

www.facebook.com/LeicesterDiabetesCentre

@kamleshkhunti, @LDC_Tweets

University Hospitals of Leicester NHS
NHS Trust

UNIVERSITY OF LEICESTER

Leicester Diabetes Centre

Q&A session

Led by Dr Alison Tavaré, West of England Regional Clinical Lead for COVID Oximetry @home

Please ask any questions using the chat function.

SAHF/AHSN UK-India COVID-19 webinar series

MENTAL WELLBEING AND SUPPORT FOR HEALTHCARE WORKERS

Tuesday 18th May, 8.30-9.30pm (India Standard Time) / 4-5pm (UK BST)

This is the fifth in a series of UK-India COVID-19 webinars from the South Asian Health Foundation, Academic Health Science Network (AHSN Network) and Learn with Nurses, sharing NHS experiences of COVID-19 specifically regarding supporting healthcare workers mental wellbeing needs, with health and care professionals in other countries.

- Resources, tools and strategies for mental wellbeing
- Immediate emotional/mental health response of COVID Pandemic and its management (sharing hospital experience in UK)
- Medium and Long term impact on mental health from COVID pandemic crisis and its sequela and management

REGISTER

Learn with NURSES

The AHSN Network

SOUTH ASIAN HEALTH FOUNDATION

REGISTERED CHARITY NO: 1073178

Further information:

Panellists will include:

- **Dr Sonali Kinra,** Clinical Associate, Primary Care, NHS England and GP

- **Dr Ananta Dave,** Medical Director, Consultant Child & Adolescent Psychiatrist, Lincolnshire Partnership NHS Foundation Trust

- **Dr Harbinder Sandhu,** Assoc Professor, University of Warwick and Consultant Health Psychologist

- **Dr. Dev Vrat Singh,** Clinical Lead in Substance Misuse, Turning Point Suffolk

- **Speaker from India – TBC**

Register:

TO REGISTER FOR THIS SEMINAR CLICK HERE OR GO TO:
https://zoom.us/webinar/register/WN_7xwNR0JJRYiJp-_HAql1iw

If the Zoom webinar has reached capacity, you can also watch a livestream of the webinar on YouTube at: https://www.youtube.com/c/AHSNNetwork/live

The AHSN Network · Learn with NURSES · Centre for BME Health reducing health inequalities · Asian Media Group · NHS University Hospitals Coventry and Warwickshire NHS Trust · NHS University Hospitals Birmingham NHS Foundation Trust · AIIMS New Delhi · King's Health Partners · VOH · BAPIO · Association of Physicians India

www.sahf.org.uk
@SouthAsianHF
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SOUTH ASIAN HEALTH FOUNDATION

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Thank you

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The AHSN Network