

Impact of COVID 19 on health and health care delivery in India in 2020

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Outline

- Pandemics: Brief historical Overview
- Covid-19 Pandemic: Evolution & current status (as on 31/1/2021)
- Impact on health Systems
- Impact on Public Health Services
- Covid-19 and NCDs
- Conclusions

Global Disease Pandemics and their health & economic impacts are not new

Year	Disease	Global/ No. of countries	Health Impacts Deaths No. (/10,000)	Other Impacts
1881	5 th Cholera Pandemic	Global	>1.5 m (9.7)	Attacks on Tsarist Govt & Medical Officials
1918	Spanish Flu	Global	20-100 m (111-555)	Huge GDP loss in the UK, US, Canada, Europe and Australia (3-17%)
1957	Asian Flu	Global	0.7-1.5 m (2.4-5.1)	3% GDP Loss in UK, US, Japan, Canada etc
1968	Hongkong Flu	Global	1 m (2.8)	23-26 billion direct and indirect costs
2003	SARS	37 Countries		
2009	Swine Flu	Global	1.5-5.75 (0.2-0.8)	S. Korea – 1 billion
2012	MERS	22 countries		

Other Pandemics

- 1984 HIV Global
- 2013 Ebola 10 countries
- 2015 Zika 76 countries
- In the last two decades **SIX** pandemics including the current pandemic

Message we get from the above is

- One doesn't know when the next onslaught will be; Preparedness is the foremost and inevitable need;
- Preparedness= Strong health Systems; Invest in health
- Protection of people = Protection of wealth =productivity

Covid-19 Pandemic in India

- **China**, Wuhan: Dec 31, 2019 (later investigations, early December)
- **India**, Thrissur, Kerala. Jan 30, 2020
- Initial 3 cases were contained and
- Indigenous spread from March
- (next three cases occurred on March 2)
- A policy option at this stage: Lockdown & restrict movement
- Could succeed to slow down the epidemic
- But with significant collateral impacts

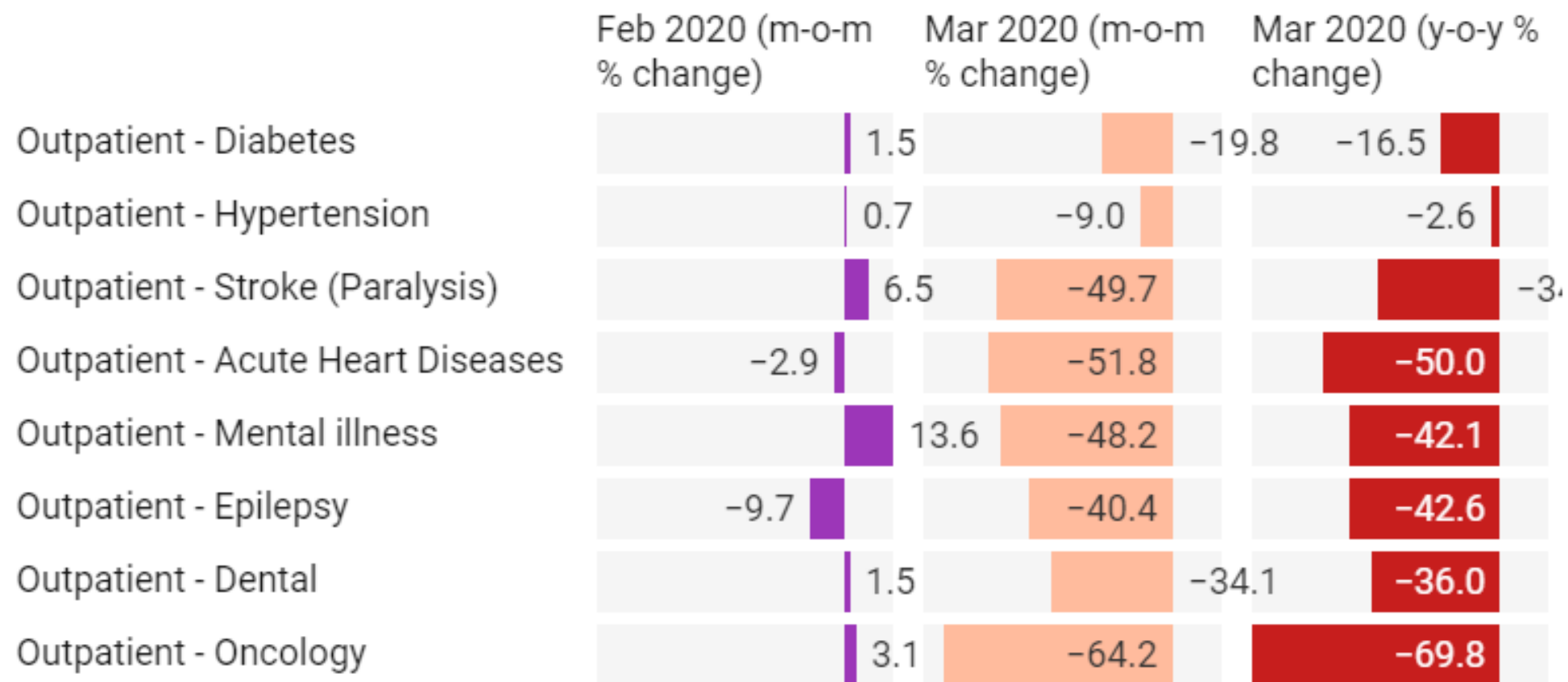
Covid-19 Pandemic in India

- **Lockdown:** March 23, 2020 till the end of May
- Guidance for health care during lockdown
- Gradual relaxation in 4 phases
- Rapid spread once relaxation started
- Peaked in Mid September(Max **97860** cases & **1281** deaths/day)
- **Active cases were 10 L 18 K by 17/9/20**
- Epidemic was urban centric; **at one point 5 cities accounted for 50%**
- Gradual decline thereafter
- Impacts are due to both the virus and pandemic control policies

Status of the pandemic as on 29/1/21

	Global	Per million	India	Per million
Cumulative cases	102.62 m	13166	10.733 m	7734
Cumulative Deaths	2.22 m	284	0.154 m	111
Reported on 30/1	588571	14988	13053	137

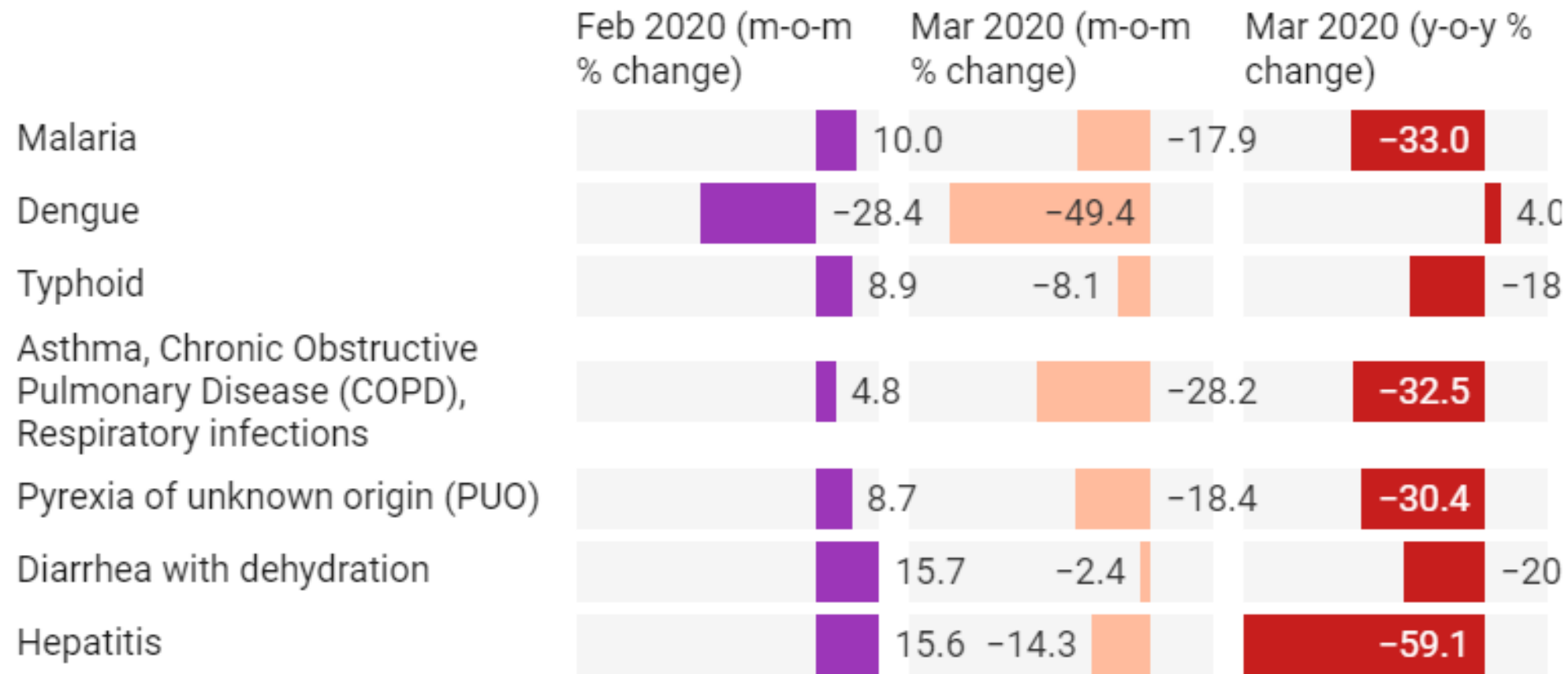
Outpatient treatment of all major non-communicable diseases declined in March



The analysis normalises data from past years to the same number of facilities and districts for which the data is available in March 2020. M-o-m% change refers to month-on-month percent change with respect to the previous month.

Source: National Health Mission Health Management Information System • [Get the data](#)

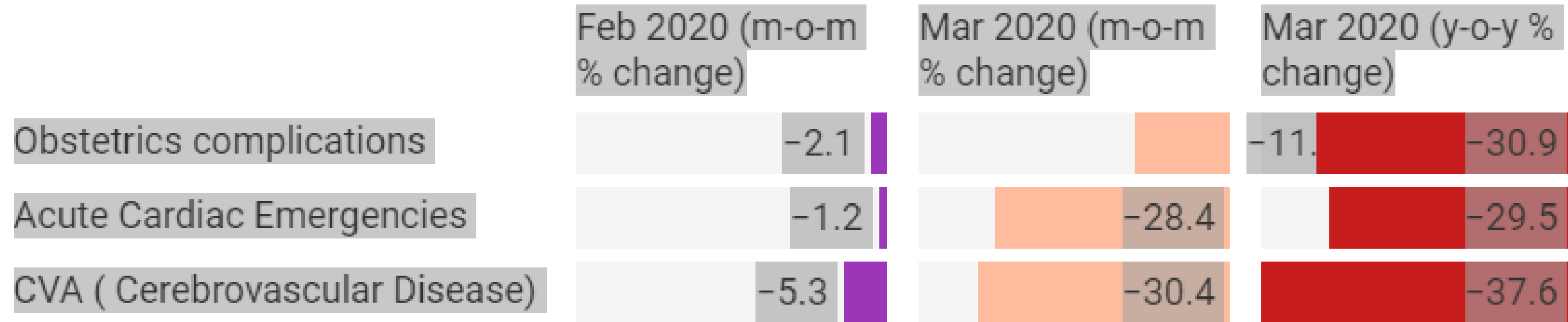
Inpatient treatment of all communicable diseases - not just respiratory diseases - fell



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Fewer emergencies reached institutions

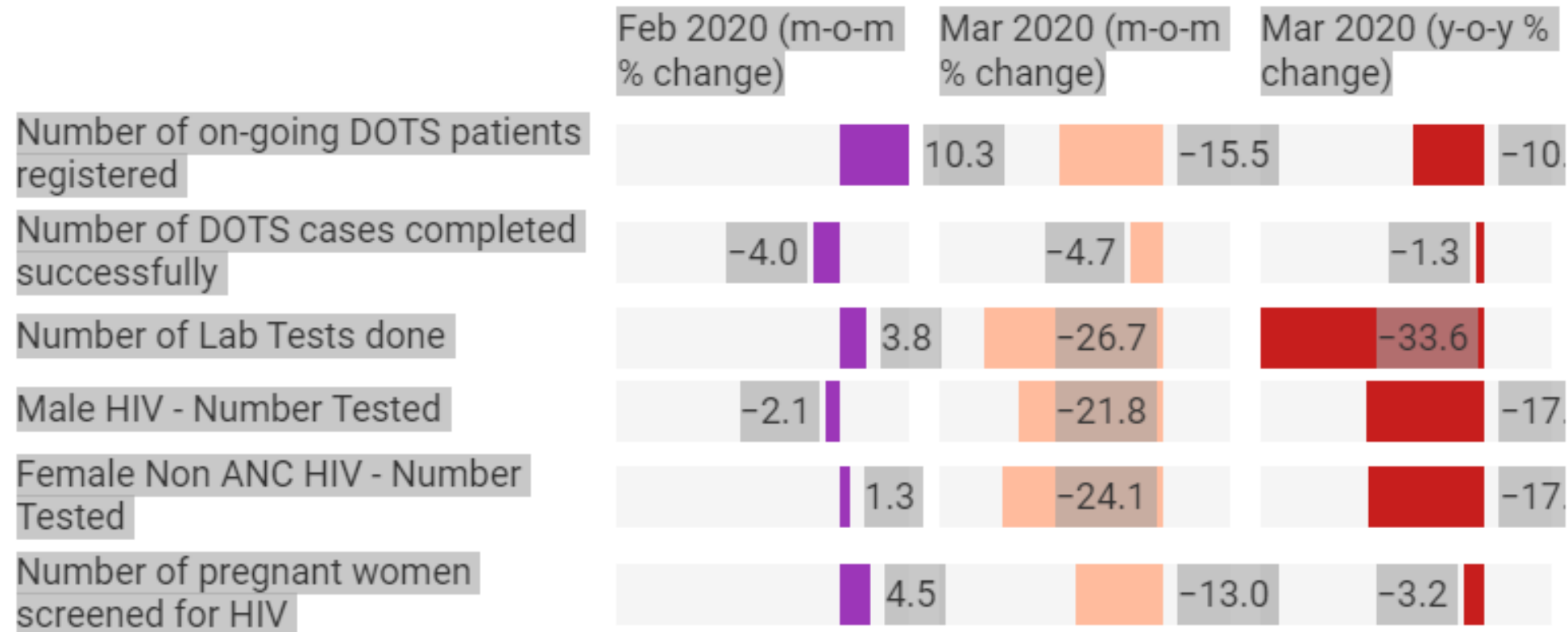


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Impact of Covid-19 on NTEP

- Stiff timeline of 2025 to eliminate TB from India
- Impact on TB care has been immediate: Under-detection of a disease (Health Ministry)
- 70-day lockdown left millions of TB sufferers with reduced access to crucial drugs, doctors and follow-up treatments.
- Registration of new cases between Jan- June, 2020 dropped by >25% compared with corresponding period in 2019
- Under-detection could result in an additional estimated 87,711 TB deaths in 2020
- Irregular access to drugs
- Test for both TB & Covid-19
- Masks may have +ve impact on transmission of TB also.

TB treatment slowed, lab investigations declined, HIV screening fell



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• Created with Datawrapper

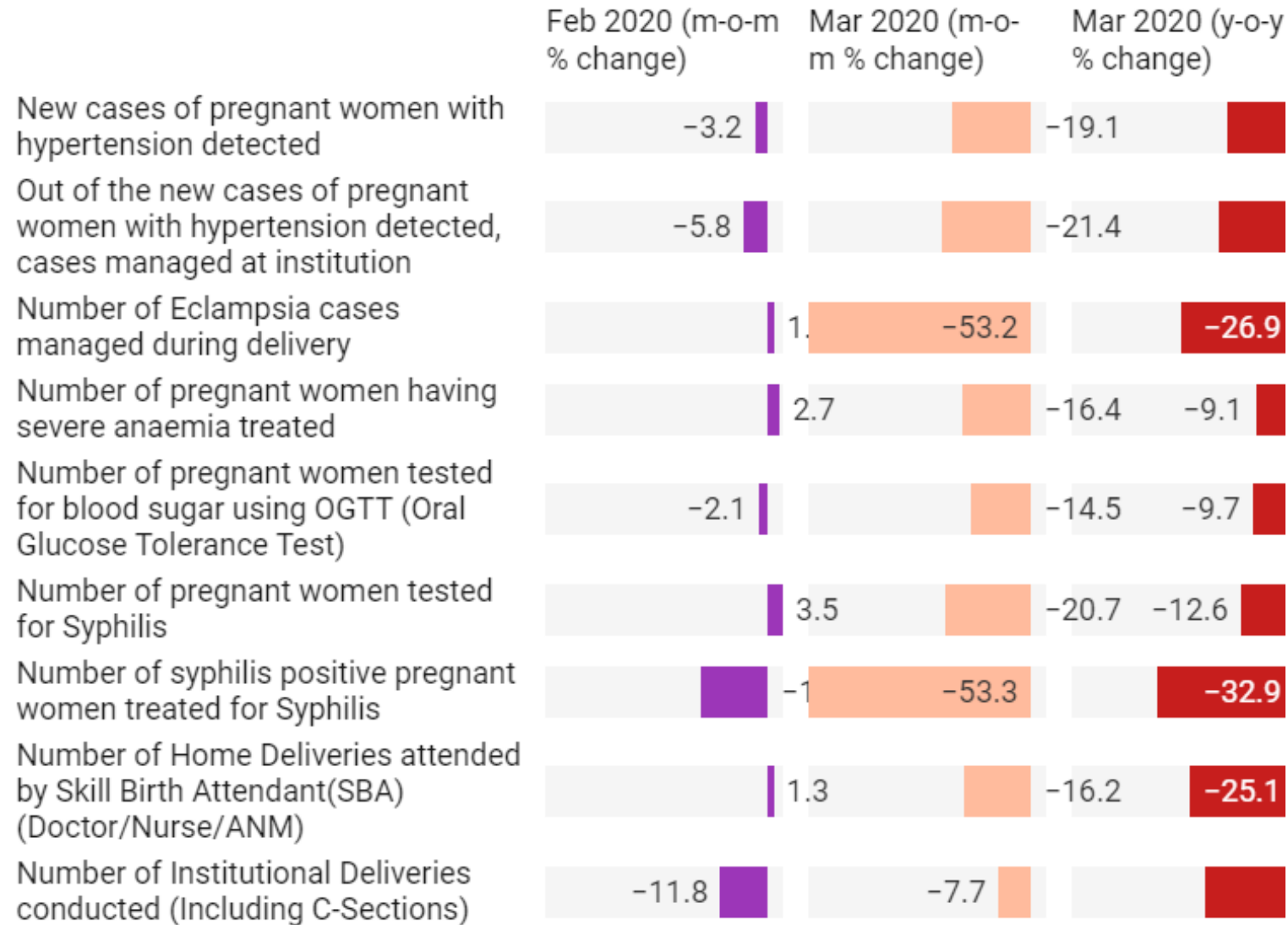
National AIDS Control programme

- 73 countries at risk of ARV stock-outs; access to ARVs curtailed significantly (WHO survey)
- 2020 targets were missed & addl. setbacks due to rapid spread of Covid-19
- Modelling of the pandemic's long-term impact on HIV response:
 - Additional new HIV infections: 123,000 to 293,000
 - Additional AIDS-related deaths 69,000 to 148,000 (2020 – 2022)
- In India, contraceptive access interrupted for >25 million couples (UNAIDS)
- In Goa, 3000 PLHIV on ART had problems to stay on treatment during lockdown. Since their status is still hidden, delivery was difficult.

Covid-19 and MNCH

- Fewer women are accessing antenatal care (ANC) services, and
- Women are arriving at facilities later and with serious complications such as eclampsia
- Delays/decrease in seeking delivery care,
- “There are reports that more women are delivering at home with traditional birth attendants (TBAs)”
- Difficulties in accessing transportation, and facility-based challenges to provision of maternity services, all related to COVID-19.
- Most countries are seeing a decrease in numbers of deliveries in facilities
- There is no indication that anyone is supporting TBAs to adjust their practices during COVID-19.

Maternal health care services have been severely curtailed

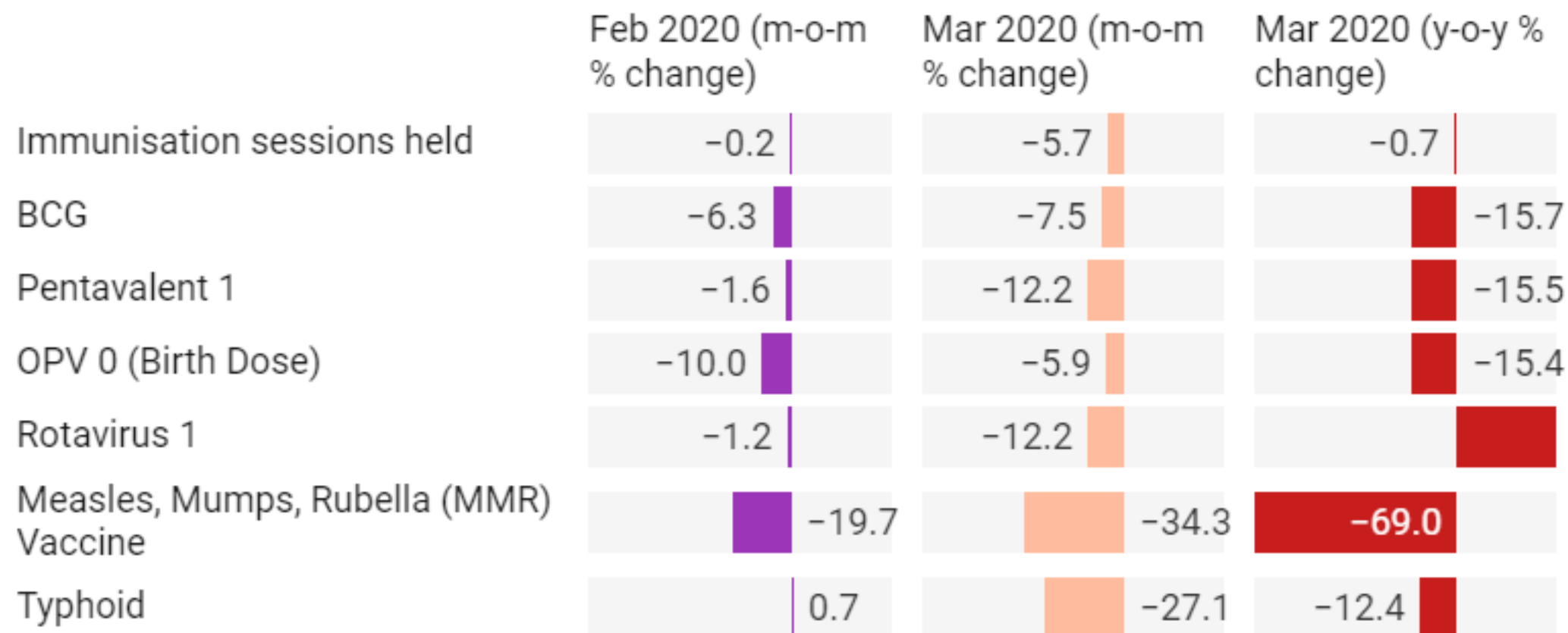


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Impact on immunization

- Disruption in routine immunization due to increased burden on health infrastructure and resources, and transport delays
- Globally 80 million infants missed vaccination & at risk of disease (WHO, GAVI, UNICEF)
- Mass Immunization Campaigns halted due to Covid
- Decreased demand for vaccination because of physical distancing requirements and community reluctance
- Number of unvaccinated children / children with incomplete vaccination added every week : ~ 5.5 lacs
- Babies born in July 2019: Likely to miss the Measles/MMR dose
- Babies born in Jan 2020 and Feb 2020: Likely to miss schedules subsequent DTPPolio doses due in March and April
- 32.4 lac children will be unvaccinated/partially vaccinated (ByApril)
(adopted from IAP)

Child immunisation fell across the board



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Advertisement

Mental Health



1. Pandemic has affected people's mental health majorly
Suicide was the leading cause in over 300 non-coronavirus deaths
(between March 19 and May 2 by researchers @Jindal School of Law)

2. Findings of Mental Health Survey by **Health Parliament** of 461 students:

Disturbed Sleep patterns – 29%

Loss of Interest in performing Tasks – 26%

Reduced motivation to Study 20.7%

Reduced Concentration – 15.3%

Stress ----- 14.9%

Mood Swings ----- 12.6%

With no mental health issue 1.0%

Average prevalence of mental health issues in normal times = 10%

National Blindness Control Programme

- Screening and elective surgeries came to a halt following lockdown
- Average no. of Cataract surgeries/month(2018-19)= 557,568
- Pending surgeries from lockdown till May 13 (51 days)= 947,866

(Source: Reddy JC et al. Indian J Ophthalmol.68(7):1269-76)

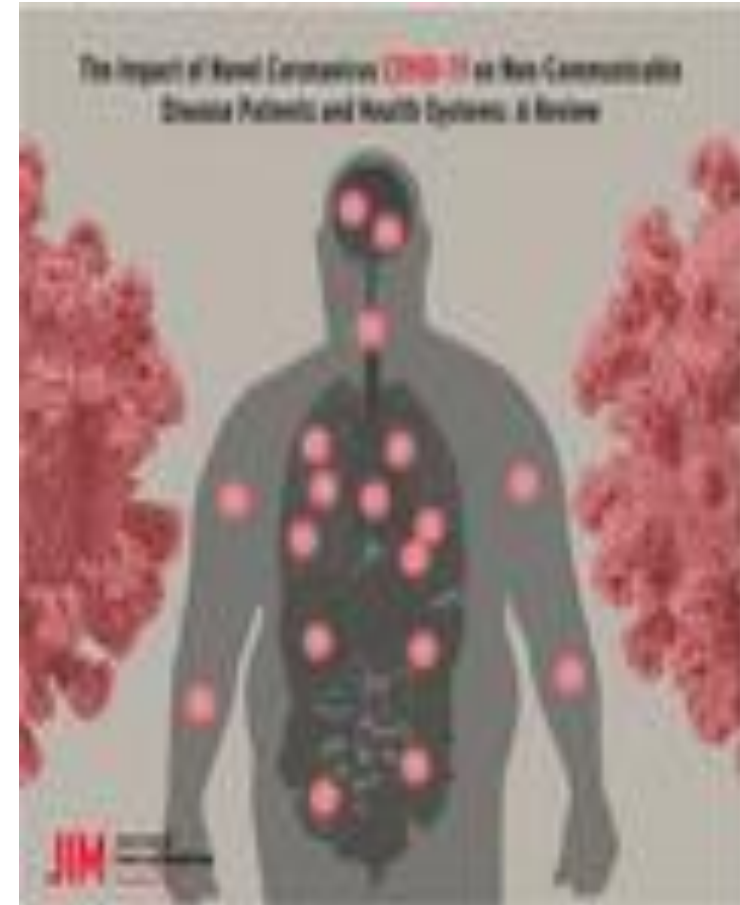
- SARS-CoV-2 infection can present as Viral Conjunctivitis; can increase the risk of exposure to HCW

Beneficial Impacts from Pandemic control measures

- Disguised within this gloom, there were some positive impacts
- Reduction in vehicular traffic resulted in
 - reduction in road traffic accidents and
 - air pollution related morbidity.
- Positive impact of wearing masks on respiratory illnesses (e.g. TB)
- Close of eateries brought down gastrointestinal infections such as hepatitis A and E, Gastroenteritis, typhoid etc

Multisystem involvement of Covid 19

Cardiovascular,
Endocrine Disorders
Renal,
Oncologic,
Neurologic,
Pulmonary
Gastrointestinal,
Haematologic,
Traumatic,
Obstetric/Gynaecologic,
Psychiatric,
Rheumatologic/Immunologic,
Ophthalmologic and
Operative



Impact of Covid-19 on CVDs: Direct impact

- Among the three leading comorbidities increasing **mortality risk**
- **Case fatality higher** with CVD by 10.5% than Cancers/Ch. Pulm. Dis
- **Cardiac Arrhythmias** increase by 16.7%
- Causes **Fulminant Myocarditis** leading to Ac.Heart failure, Cardiogenic Shock and Asymptomatic Myocardial Inflammation
- Increased **Troponin levels** leading to increased **mortality risk**
- **Though ACE2** inhibitors were believed to increase susceptibility and lead to severe disease, it was observed to have no role

Impact of Covid-19 on Curative services to CVDs

- Restricted movement & poor transport result in delays
- Efforts to minimize exposure of HCW results in delayed/decreased Ac. Care (Holding, Testing, IPC etc.)
- Reduced access and delays result missing Tt in “Golden Hour” period leading to increased mortality
- Sterilization Protocols and PPE requirements increase **Door to balloon time** resulting in increased mortality risk
- Elective procedures (e.g.B. Mitral Valvotomy) are rescheduled or Cancelled

Challenges to Care providers:

In Covid Cardiomyopathies present as STEMI; Thrombolytics or PCI?

Diabetes and Endocrine Disorders

- Very high case fatality among Diabetics due to
 - Immuno comprised status
 - ~~Use of ACE2 inhibitors as prophylaxis (?)~~
- Poor/no exercise leading to improper sugar control
- Unhealthy food intake
- Follow up of patients affected

Respiratory/pulmonary diseases

- Lung changes resolve completely following Covid-19, in most
- However, residual disease is observed in some.
 - **Post Covid-19 fibrosis** in some
 - Some without prior Chr. pulm. dis develop **Interstitial Lung Disease**
 - **Permanent pulmonary degradation** in those with prior Chr. Pulm. dis
- Risk of exposure of HC personnel during highrisk interventions
- Poor availability of mechanical ventilators due to redeployment
- Smoking, e-cigarettes & Hookah increase susceptibility as well as spread

Renal Dialysis and Chronic Kidney Disease

- CKD (800/m) and ESRD (150/m) are a huge problem in India
- CKD patients are immunocompromised
 - ===→ Increased SARS-CoV-2 susceptibility & severity
- Many CKD patients on Hemodialysis are adversely impacted due to
- Restricted movement (lockdown, fear of covid) & staff reallocation
 - ===→ delays and decreased availability
 - ===→ Postponement of dialysis
 - ===→ Deterioration & higher mortality

Mortality in patients on dialysis

- Comparison of Mortality in a cohort of 3183 insured dialysis patients (2019-2020) with a historical cohort (2018-19) showed excess mortality:
 - May – June: 64%
 - Jun-July: 22-25%
- (Jain & Dupas, 2020)

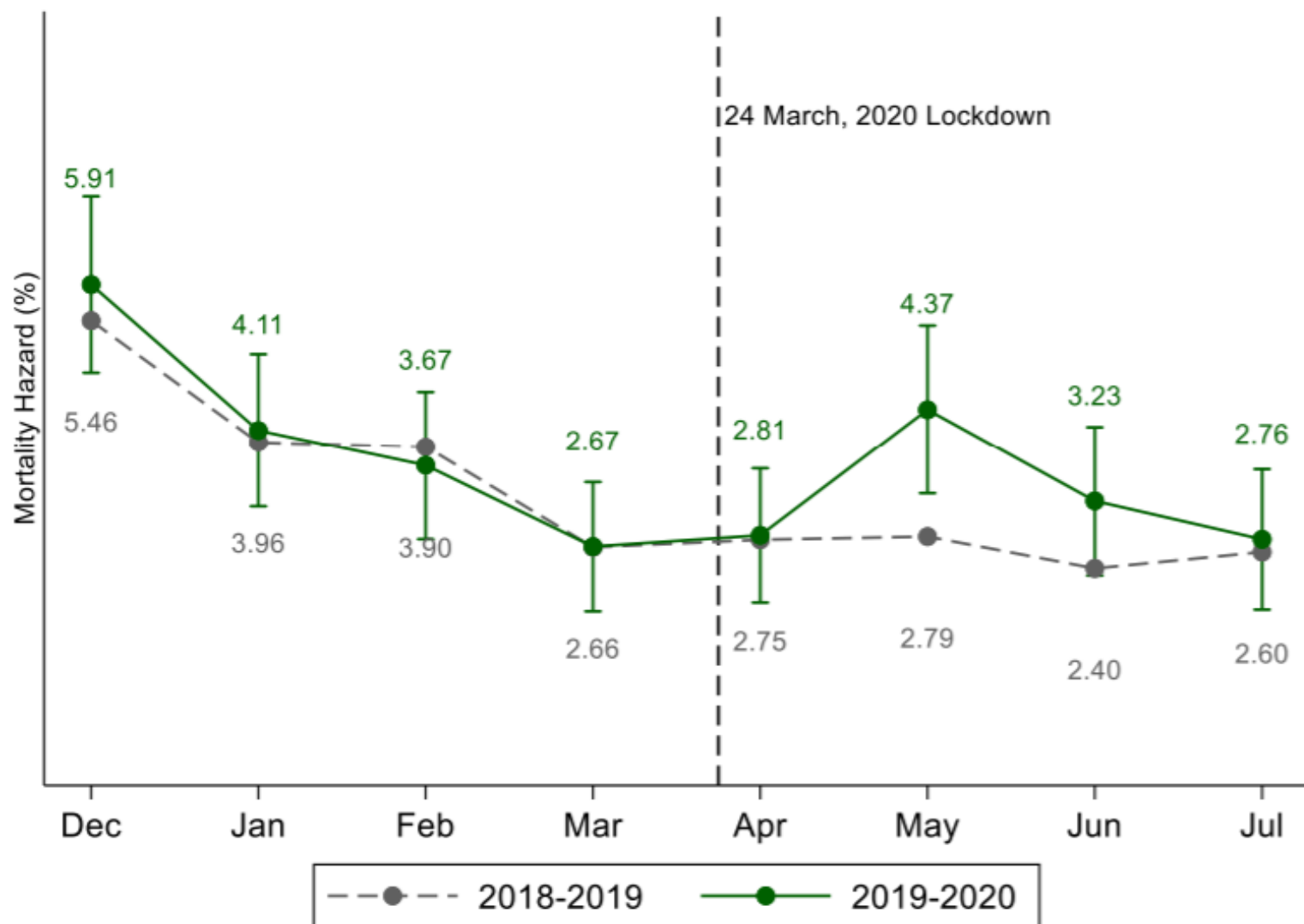


Figure 2: Monthly dialysis mortality in the surveyed and historical cohorts.

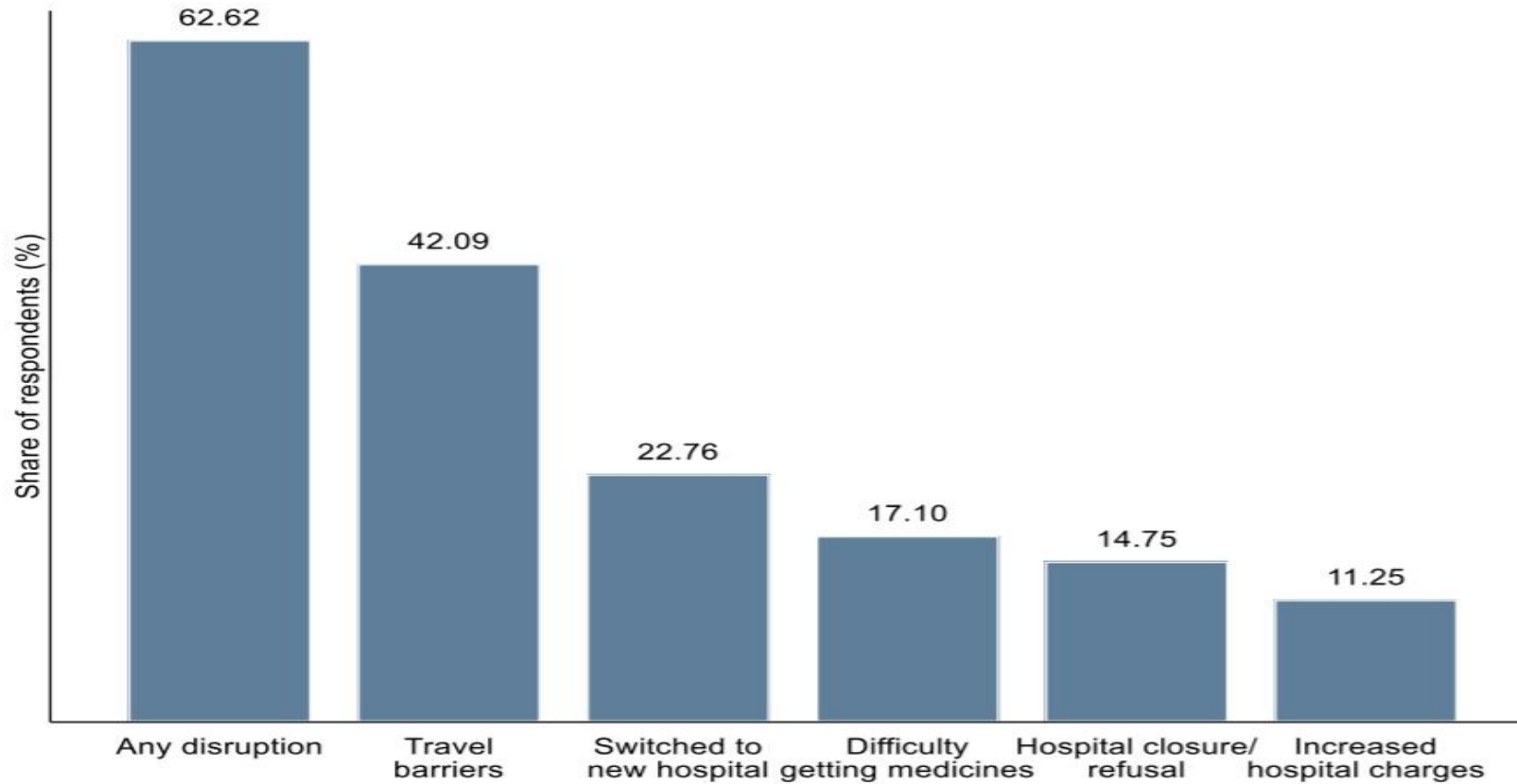


Figure 1: Disruptions to dialysis care during the COVID-19 lockdown. The figure presents the share of patients that reported experiencing disruptions to their dialysis care due to the lockdown at any point between imposition of the lockdown and the first survey conducted in May-June 2020.

COVID Impact On Sexual & Reproductive Health: Unwanted Pregnancies, Unsafe Abortions

- The pandemic affected sexual and reproductive health nationwide.
- Home isolation & fear of contracting the virus appear to have led to
 - reduced access to safe abortion care
 - Increased use of contraceptives for abortion
 - Ubiquitous availability of all kinds of preparations for the asking over the counter. (Ashwini Sethya, the Quint)
- Elective Gynae procedures (e.g. Tube ligation etc) postponed
- Policy on newborns:
 - separation from mother?
 - Feed with Covid appropriate precaution

Neurological diseases

- Covid-19 associated strokes and Transient Ischemia are possibly of thrombotic origin
- Delays diagnosis and treatment of new cases
- Increased risk of susceptibility and severity of Covid-19 in Autoimmune neurological diseases (e.g. Multiple sclerosis) because of long immuno suppressive therapy

Interactions of Covid-19 with Cancers & Haemoglobinopathies

- Some pandemic control policies and fear of contracting SARS-CoV-2 play a role here too =====>
- Disruptions & delays in delivery of care
 - **Transfusions for Haemoglobinopathies**
 - **Therapeutic interventions in cancers**
 - **Secondary Screening for Cancers**
- Blood Banks are impacted owing to restricted movement, poor/limited transport facilities and fear of acquiring Covid-19
- Patients with haemoglobinopathies or those on chemotherapy or bone marrow transplant have higher mortality and need for Mechanical Ventilation (Myelo suppression)

Impact on emergency procedures/Trauma

Provider side

- Long waiting time, left in holding area waiting for test result
- Problems associated side IPC
- Problems associated with anaesthesia, most anaesthetists and critical care specialists on Covid duty, only limited number of surgeries could be done (for a period in the beginning hospitals were closed)
- Poor blood & blood product availability
- Staff Reallocation and Staff quarantining
- Many had to shift to private hospitals where charges were exorbitant

Health system/ health services Factors

Health System related:

- Inadequate infrastructure
- Shortage of beds
- Inadequate Manpower/ Reallocation of staff
(Doctor 0.7/1, Nurse 1.7/2, Pharmacist 0.2/1)
- **Inadequate investment in health**

Health Services related:

- Delay/Cancellation of elective procedures
- Redn. in donations (blood, bone marrow, organs)
- Delays in dx & Tt. of NCDs, Failures in Surveillance, Monitoring and treatment delivery (TB, HIV)
- Postponement of Hemodialysis

Lockout related:

- Mobility Restrictions
- Loss of jobs/subsistence

Health behaviour related factors

- Reduced Physical activity
 - Fear of exposure
 - Limited access to Gym etc
- Unhealthy food choices
- Domestic violence & Child abuse

Others:

- Difficulties in IPC and BMWM
- Frontline Health Worker Burnout
- Impact on Mental Health

To Conclude:

Covid-19 pandemic and policies to control it

- Caused setbacks to the national programmes such as TB & HIV
- Hampered progress towards achieving SDG 3
- resulted in higher non-covid mortality w.r.t. 2019
- Risk of severe complications and death from COVID-19 among people living with NCDs has been enhanced
- Weaknesses in health systems are exposed
- Need for investments is highlighted

Thank you