POPULATION FOUNDATION OF INDIA

15th JRD TATA MEMORIAL ORATION

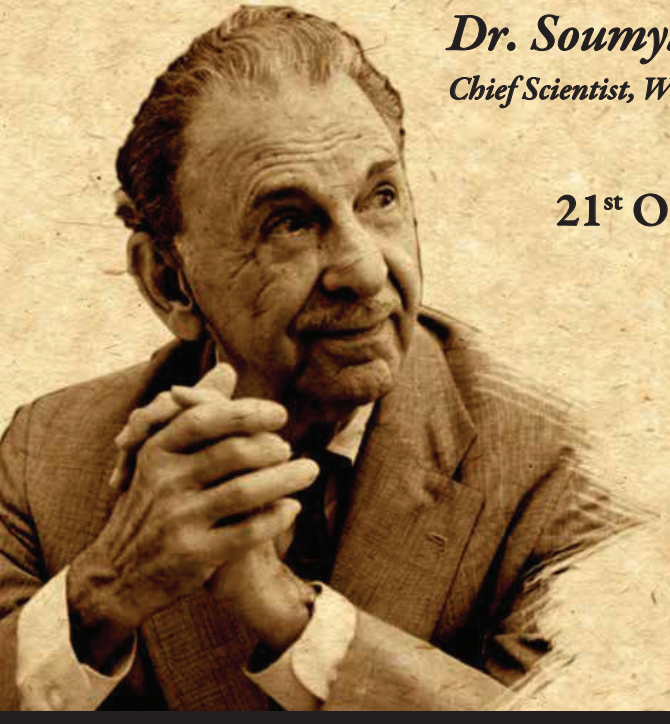
Reimagining Health: Lessons from the Pandemic

by

Dr. Soumya Swaminathan

Chief Scientist, World Health Organization

21st October, 2020



Celebrating 50 Years

The JRD Tata Memorial Oration over the years

1. Democratic Decentralisation and Population Stabilisation Strategies
   by Mr. Ramakrishna Hegde (19th September, 1995)
2. Population and Development Crisis in India
   by Mr. Chandra Shekhar (26th October, 1996)
3. Role of Empowerment of Women in Population Stabilisation
   by Dr. Najma Heptulla (29th November, 1997)
4. Thrust Areas for Population Stabilisation
   by Mr. I.K. Gujral (15th January, 1999)
5. A 'New Woman' for India - A New India for Women
   by Dr. Nafis Sadik (13th December, 1999)
6. National Population Policy 2000 - Role of the National Commission on Population
   by Mr. K.C. Pant (3rd November, 2000)
7. Role and Responsibilities of Panchayats in Population Health and Development
   by Mr. Digvijay Singh (4th December, 2001)
8. Population, Poverty and Sustainable Development
   by Dr. Manmohan Singh (3rd February, 2003)
9. Towards Population Stabilization: Role of Good Governance
   by Mr. Somnath Chatterjee (30th March, 2005)
10. Corporate Social Responsibility and Issues of Population Stabilisation in India
    by Dr. Jamshed J. Irani (22nd July, 2008)
11. Demographic Dividend or Debt?
    by Dr. Nitin Desai (26th March, 2010)
12. Women and Other People
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13. Dignity and Choice for Girls and Women in the Post-2015 Framework
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POPULATION FOUNDATION OF INDIA

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About Population Foundation of India

Population Foundation of India is a national civil society organisation, that promotes and advocates for effective formulation and implementation of gender sensitive population, public health and development strategies and policies. The organisation was founded in 1970 by a group of socially committed industrialists under the leadership of the late JRD Tata and the late Dr. Bharat Ram.

Population Foundation of India addresses population issues within the larger discourse of empowering women and men, so that they are able to take informed decisions related to their fertility, health and well-being. We work with the government, both at the national and state levels, and with other civil society organisations. Our areas of work include family planning and reproductive health, adolescent development and wellbeing, community monitoring of public health services and women's rights, and especially ending violence against women.

Population Foundation of India is guided by an eminent governing board and advisory council comprising distinguished persons from civil society, the government and the private sector.

Our Mission

Advance gender-sensitive, rights-based population and family planning policies and actions for a just, equitable and prosperous society.

Executive Director's Address

Poonam Muttreja

Population Foundation of India

The year 2020 will be remembered in history for the unprecedented challenges it has posed for humanity. However, for us, it is also special as it marks 50 years from the birth of the Population Foundation of India.

In 1970, Mr. JRD Tata laid the foundation for an independent body to work with government, galvanise civil society action and respond to the challenges of population and development. We continue to draw inspiration from JRD's vision, words and wisdom. We strongly believe that if our founding fathers were here today, they would greatly appreciate the difference the organisation has made to the lives of millions of people, particularly girls and women.

Over the years, Population Foundation of India has adapted to the changing needs of the times and found lasting solutions to the challenges society is facing. Today the world grapples with probably the greatest humanitarian and public health crisis in recent history – the COVID-19 pandemic.

As a public health organisation working on empowering women, men and young people, we have been supporting the government in its emergency response to COVID-19. Our efforts have included ensuring that women and young people continue to have access to safe family planning and reproductive health services during the pandemic. We also supported smaller organisations at the grassroots to meet critical needs of marginalised communities. In addition, targeted social and behaviour change communication campaigns have

promoted adoption of COVID-19 appropriate behaviours, addressed stigma, and prevented the spread of misinformation on COVID-19. Population Foundation of India has also generated and disseminated evidence on the differential impact of COVID-19 on vulnerable populations such as women and young people. With our renewed focus on young people and digital technologies, Population Foundation is uniquely poised to meet the challenges of a future, dented by the impact of COVID-19.

The Oration series was instituted in 1990 and invited eminent national and international leaders to speak on critical issues related to population, development and national progress. In 1995, the series was re-named the "JRD Tata Memorial Oration," in memory of our founder Chairman.

We are privileged to have Dr. Soumya Swaminathan, Chief Scientist at the World Health Organization deliver the 15th JRD Tata Memorial Oration on, "Reimagining Health: Lessons from the Pandemic". In these difficult times, we take strength from Dr. Swaminathan's words and inspiration from our fifty years journey, from hardships and challenges faced as well as overcome.

We will continue to play a catalytic role in this challenging environment to strengthen those who are most in need. We remain committed to ensuring that policies and programs empower women and young people, inspire leadership and drive social transformation. As we look ahead, we are confident of the significance of what we have managed to achieve so far, and equally excited about the new goals we have set for ourselves.

21st October, 2020
New Delhi

Poonam Muttreja
Executive Director

Dr. Soumya Swaminathan

A Profile

Dr. Soumya Swaminathan is Chief Scientist at the World Health Organization (WHO). She heads the WHO division created to strengthen the organisation's core scientific work and ensure the quality and consistency of its norms and standards. From October 2017 to March 2019, she was WHO Deputy Director-General for Programmmes.

Before joining the WHO, Dr. Swaminathan was Secretary, Department of Health Research - Ministry of Health and Family Welfare, Government of India, and Director General of Indian Council of Medical Research the apex body in India for the formulation, coordination and promotion of Biomedical research from 2015-2017. From 2009 to 2011, she served as a Coordinator of the UNICEF/UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases in Geneva.

She served on several WHO and global advisory bodies and committees, including the WHO Expert Panel to Review Global Strategy and Plan of Action on Public Health, Innovation and Intellectual Property, the Strategic and Technical Advisory Group of the Global TB Department at WHO, and as Co-Chair of the Lancet Commission on TB.

A paediatrician from India and a globally recognised researcher on tuberculosis and HIV, she brings with her 30 years of experience in clinical care and research and has worked throughout her career to translate research into impactful programmes.

Dr. Swaminathan received her academic training in India, the United Kingdom of Great Britain and Northern Ireland, and the United States of America, and has published more than 250 peer-reviewed publications and book chapters.

Reimagining Health: Lessons from the Pandemic

Dr. Soumya Swaminathan
Chief Scientist, World Health Organization

President and Board of Trustees of Population Foundation of India, Poonam Muttreja, and all staff and colleagues:

First of all, I would like to say how honoured and privileged I am to be invited to deliver this oration in the name of one of the great Indians, JRD Tata, and especially on the occasion of the 50th year of the Population Foundation of India.

We know the principles by which Mr. Tata lived his life and his dedication to serving society through being a businessman. Investing in women and children, investing in education and other social services and the fact that he was way ahead of his time—all these were recognised by the UN Population Fund, of which he was a founding member, with a population award. The Tatas have continued the tradition of social responsibility while keeping an eye on the cutting edge of science and technology and trying to link the two.

Of course, this is an unusual time and we're all connected remotely, but I will try to do justice to the vision of Mr. JRD Tata by addressing the issues that we are faced with today with the COVID-19 pandemic. In particular, as it relates to health systems to women and children's health. And to see what are the lessons we've learned and how can we take that forward, especially as we look at improving our health.

Let us look at how we will achieve Sustainable Development Goal three, which is health for all, the same principle on which WHO was founded 70 years ago.

With respect to the global pandemic situation, this of course changes on a weekly basis, but we can see some trends. Then I'd like to go over what's happening in terms of women and children's health, specifically in India. And how COVID is perhaps affecting that, and then come to what we can do looking ahead.

So you can see on this slide *(Fig 1, below)* the global pandemic is marching on. You can see the total number of cases really increasing week by week. Today (as on 5th October 2020) I think we have almost 300,000 new cases a day, with an average of 5000 to 6000 deaths.

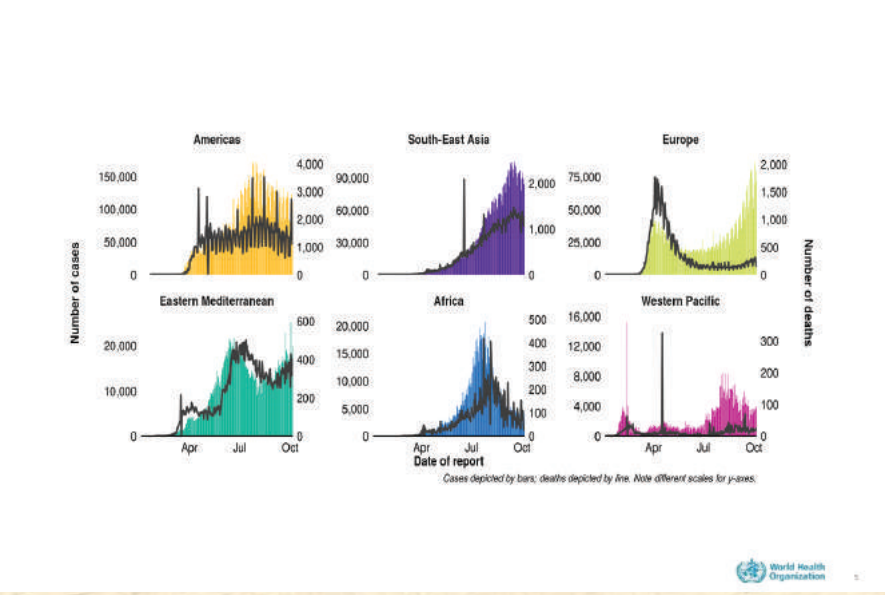

Figure 1

The split you see in the different colours is the WHO regions. You can see the region of the Americas in yellow, which has really had the predominant share of infections. But the purple, which is the South-East Asia region, is not far behind. The black line is the number of deaths, which has more or less stabilized at about 5000 a day. But again, that's far too many. We're losing 5000 people every day. Three countries actually account for 70 percent of the cases. These are India, the USA, and Brazil, with a number of other Latin American countries also in the top 10.

We are beginning to see worrying increases in some of the European countries that actually had the infection controlled--the UK, France, Spain, Russia, Netherlands, Belgium, and so on. The bright side is that there are a few countries around the world that acted early and were able to contain it to a level at which it is practically negligible, with occasional clusters. These are countries in South-East Asia and the Western Pacific regions. If you look at the graph, *(Fig 1, above)* the Western Pacific region is shown in pink. Of course it all started in China, but subsequently, most of the countries there have been able to keep it at fairly low levels, with clusters occurring that then need to be attended to.

Now this is a world map, *(Fig 2, below)* showing the cases reported in the last one week per million population. The darker the colour, the more affected the country. You can see that most of Africa is relatively light in colour except for a couple of countries. That is an enigma that people have been discussing—why Africa, despite all the dire predictions, has been relatively less affected. There are a number of social and environmental reasons, including the demographics and the relatively young population. We must also remember the very early and strict action that many countries took. Also their experience with public health and especially dealing with infectious disease outbreaks. Both the health workforce, as well as the communities, are very familiar with restrictions and actions that need to be taken to contain outbreaks.

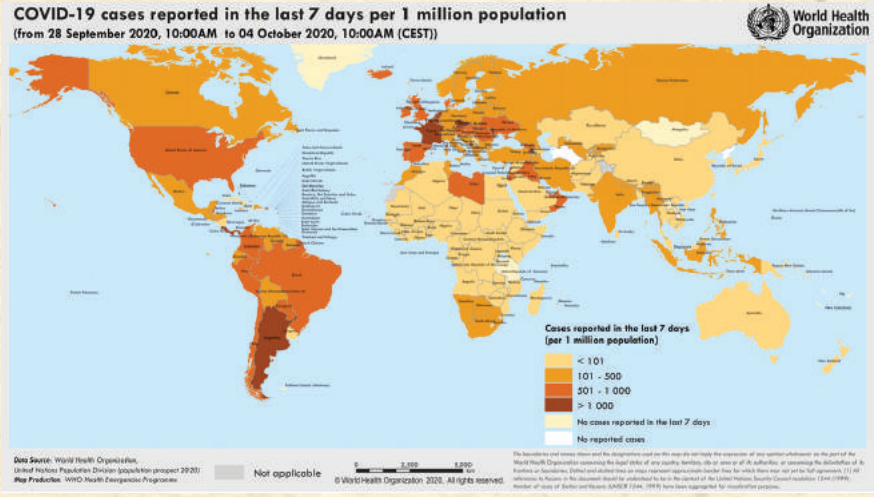

Figure 2

This graph *(Fig 3,below)* shows again the deaths reported in the last seven days per million population. The darker the colour, the higher the impact. Again we can see that South Asia and Africa have been relatively better off in terms of deaths per million.

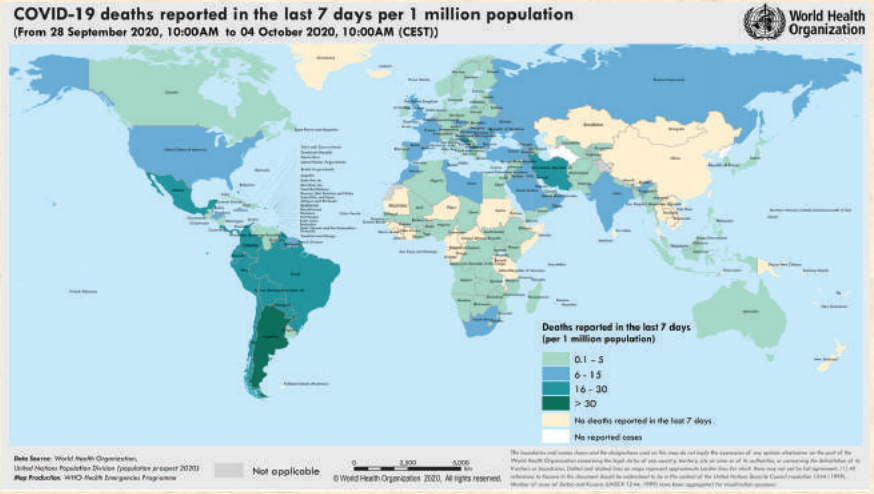

Figure 3

Of the lessons that I have learned over the last nine or 10 months, the most important one is the importance of investing in public health and primary healthcare. We see examples of countries where investments in primary healthcare over the past decade or two have paid off now; and on the contrary, you have high-income countries where they've been overwhelmed and haven't been able to put in place some of the mechanisms that have been needed. Especially things like contact tracing, quarantining and data systems for follow up. The other major lesson for me and a very positive one is the role of science and scientists. The global collaboration that we've had among scientists to take forward advances in knowledge in an accelerated way so that science is continuously informing our response to the pandemic is heartening. Also, that even product research and development have progressed at unprecedented rates. As you know, we now have a number of new diagnostics, including the rapid antigen tests. A number of these have been developed in India, including the ones that have been developed by the Tata Trust. We are of course working on vaccines. We hope that by the early part of 2021 we will have at least a couple of vaccines that have been proven to be safe and effective and that we can then start using in the most vulnerable and high-risk populations.

On Political will and leadership: I'll mention later why they are so important, as well as trust, community engagement, and empowerment.

> "...this pandemic has exposed societal inequalities and inequities,..."

Whether it's the Black Lives Matter movement in the United States or the disproportionate toll on ethnic minorities in the UK. Many countries have seen these inequities exposed. Finally, I want to talk about managing what we now call the Infodemic.

But first let's talk a little bit about maternal and child health, which is Population Foundation of India's core mandate. Maternal mortality, as we know has declined, so we had a lot of gains and progress, especially during the MDG era. We reduced infant mortality. More than 80 percent of births are attended to by skilled health personnel. This varies a little bit between states and big initiatives in the National Health Mission, like the Janani Suraksha Yojana and the Janani Shishu Suraksha Karyakram, which have encouraged women to give birth in health facilities. On the other hand, only a fifth of women receive all the ante-natal check-ups that they are supposed to have. 62 percent of mothers receive postpartum care two days after delivery. And if you look at social groups, especially SC/ST and OBC communities, then it is less than 50% of women who seek antenatal care.

We have made a lot of progress in achieving replacement fertility levels. Several states in India have now achieved the replacement levels of 2.1 but there are still ongoing challenges. There is a high unmet need for family planning. It is estimated that about 30 million married women who wish to delay or avoid pregnancy do not have access to contraceptives. Less than half of Indian women in the reproductive age-group actually use modern contraceptives – particularly youth and adolescents. 31 percent of India's population is aged 15-24 years. They need access to spacing methods of family planning, adequate counselling, and good quality of care. Child marriage and teenage pregnancies remain an issue, according to the NFHS-4.

Nine million girls in the age group of 15-19 years are married. These early marriages are characterised by immediate child bearing. Teenage pregnancies have a lasting impact on intergenerational vulnerability as well as malnutrition. One of the reasons for having such a high rate of low birth weight in India is because of mothers being too young and malnourished themselves.We still have a lot of unintended pregnancies that end in abortion. Studies by the Guttmacher Institute showed that of the 15 million abortions that occurred in India in 2015, 73 percent were through medical abortion, 16 percent in private facilities, and only 6 percent in public health facilities and five percent through traditional unsafe methods.[i]

Unsafe abortions also contribute to maternal mortality. There is an unmet need for improved access to and availability of contraceptive services as well as safe abortions. COVID-19 is having an impact on maternal and child mortality. A recent modelling study showed that because of the reduction in coverage of essential services the prevalence of wasting in children could be increased by 10 to 50 percent—and that there could also be 60 percent additional maternal deaths because interventions like the administration of utero tonics, antibiotics, anti-convulsants and clean birth environments are no longer available.[ii]

This is very worrying; so of course is the impact on education. The pandemic has created the largest disruption of the education system in history, affecting 1.6 billion children across more than 190 countries and all continents. 94 percent of the world's student population have been affected and this number is in fact almost 100 percent in low and low-middle income countries. This year the school year and college year has been a complete washout for many young people. This is a terrible situation for them, particularly those from the lower income groups within countries as well as those living in low- and middle-income countries, because in the higher income groups there has been some access at least to online education, whereas this has not been available for a large majority of the world's children.

The COVID 19 pandemic has also affected access to nutritious food. We know a huge number of children depend on school meals, and during the school closures for the past six months they have been deprived. 368 million children are missing out on school meals globally.

We have talked about abortion and the impact that COVID-19 is having, partly because of some of the pharmaceutical product supply chains having been affected, especially from China in the early days of the pandemic. In countries that have laws restricting abortion, women would travel to neighbouring states or cities or even other countries to have an abortion. However, this is not happening now. The impact is that there is a ten-fold

decline in contraceptive use,with many unwanted pregnancies that could occur as a result.

Another very worrying observation is the global surge in domestic violence, leading the UN Secretary-General, Antonio Guterres, to appeal to governments to prevent a horrifying global surge in domestic violence.

> "...In India a third of women said that they experienced domestic violence and very few – less than one percent – actually sought help from police."

Unfortunately, the fact is that many women believe that a husband is justified in beating his wife. We've seen that the National Commission for Women has registered several cases after the lockdown began, but it's quite possible that the hidden cases are far higher because women would not have had access to come forward to report these cases.

What can we do about the gendered impacts of COVID-19? One of the things we're saying is that before governments can include violence against women in the package of essential services.

So that these services are always running even when there is an emergency and having these hotlines and shelters or other specialised services support women who may need them. We need to identify and share information on support services, including opening hours and contact details, establish referral linkages, find out what survivors of violence need and how best to reach

them safely. It is these women who can actually tell us what kind of services they need.

Health workers of course play an important role of offering first-line support, providing medical treatment and connecting survivors to support systems.

We've also seen the gender impact in terms of women who have lost their work and their livelihoods. More women than men work in the informal economy and therefore their incomes fell by more than 60 percent during the first month of the pandemic. The projections are that about 100 million people are going to be pushed into extreme poverty and of these, more women are going to be pushed into extreme poverty than men because of the impact on the informal sector.

> "...In India 87 million women and girls were already living in extreme poverty and this is expected to increase to about 100 million by 2021."

WHO published an advocacy brief a few months ago that really emphasizes the importance of gender analysis and gender-responsive public health policies. One of the major issues is the lack of availability of sex- and age-disaggregated data, which doesn't allow us to look at things from a gender-disaggregated point of view. We also don't have data on violence against women and children from many countries. Access to sexual and reproductive health services has gone down and there was increased stigma and discrimination that could affect responses. Therefore, we put out this brief basically asking our Member States to do all of the below following:

- Collect data
- Report and analyse it disaggregated by sex and age
- Include responses to violence against women as an essential service
- Maintain access to sexual reproductive health services

- Make sure that frontline workers and social workers, most of whom are women, have access to training but also access to protective equipment and psychosocial support
- Remove all financial barriers to make COVID diagnosis, and testing and treatment free at the point of care
- Ensure that services are non-discriminatory.

> "We must make sure that whatever is being put in place in terms of emergency responses does not further promote discriminatory practices."

How can we maintain essential health services? We carried out a pulse survey on the continuity of health services during the pandemic and found that 80 percent of countries had defined an essential health service package and a core set of services. We found that a large majority of countries, even though they had these packages defined and had committed to maintain some of these services, when you looked at the additional funding that was needed to protect those essential services in low-income countries in particular, these were very badly affected compared to the high income countries. But all countries across the board have disruptions and the reasons were both on the demand and supply side.

On the demand side, patients could not go for outpatient care or for inpatient care because of transport disruption, but also because they were afraid of going to health centres and picking up infections. On the supply side, health service staff were redeployed to COVID, a lot of the workforce got sick or did not report to duty and therefore there was a closure of many programmes. If one looks at what services were disrupted either partially or completely across 25 different essential health services, one can see that right on top is routine immunisation.

Over 70 percent of countries reported some partial or complete disruption of immunisation services, as well as a number of others, including non-communicable disease diagnosis and treatment, cancer diagnosis and treatment, family planning, contraception, antenatal care, malaria and TB case detection, treatment facility-based births, and urgent blood transfusions, as well as emergency surgery. This has had a huge impact, especially in lower-income countries.

Some of the approaches that can be used are triaging to identify the priorities we want to have for people coming into the clinic. Some countries have done this with telemedicine, replacing in-person consultations, task shifting, novel supply chains and dispensing so that drugs are supplied at home, community outreach to redirect patients to alternative health facilities and so on. Then we have a document that basically gives some guidance on how to maintain essential health services.

Financial protection of course is the other side of universal health coverage. On the one hand, you have your essential services that need to be provided and on the other side, there is financial protection. This can be guaranteed only if there is some kind of health coverage scheme, either like Ayushman Bharat, which covers a large proportion of India's population—about half the poorer segments of society. Or you have private health insurance, which very few people in India actually have access to.

I'd like to now mention out-of-pocket payments, which cause a large number of people – 100 million or so – to fall into extreme poverty every year and 800 million people globally spend more than 10 percent of their household budget on health care. This is one of the goals and one of the things that WHO has been promoting to ensure financial protection as well as effective coverage of health services. These two elements will produce a healthier population. There was a recent paper published in the Economic & Political Weekly by Muralidharan and colleagues from IIT, Chennai, looking at what has happened to out-of-pocket-expenditure in India between 2014-18. If government health expenditure increases then what happens?

What they found is that between 2014 and 2018 the cost of care, particularly in-patient care and private facilities, has risen significantly by more than Rs. 4000, which has been driving patients even from the higher income groups to seek expenditure from public institutions. In the case of out-of-pocket expenditure in public facilities, that has actually fallen. This graph *(Fig 4, below)* shows data for all of India; the bar in black is for Tamil Nadu. We see the share of public facilities people were accessing in 2014 and again in 2018. There is a dramatic increase, particularly in Tamil Nadu compared with the all-India average. Perhaps because of the quality of services that are now being delivered through public outpatient facilities and also because inpatient care actually became more expensive in private facilities. Whereas in the public health care facilities that you see on this graph, the out-of-pocket expenditure for inpatient care has come down all over India, both in the Empowered Action Group (EAG) and non-EAG states. Whereas when you contrast it with private health care facilities you see the out-of-pocket expenditure has increased during the same time period.

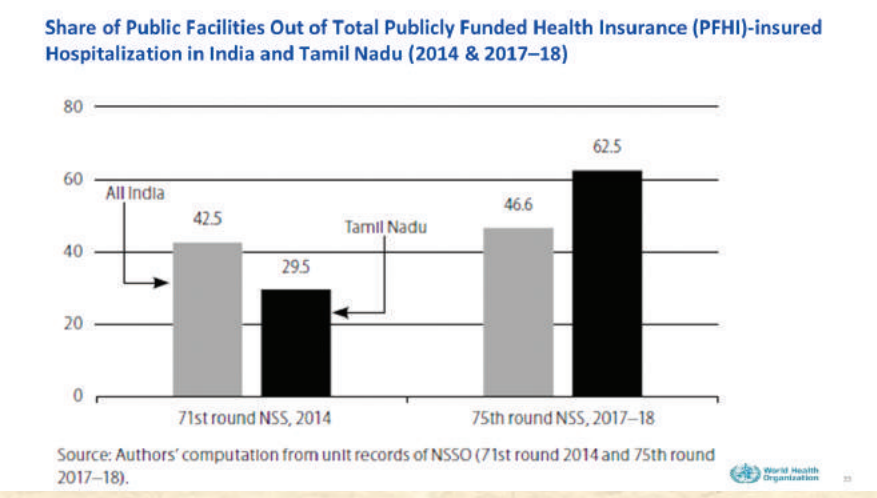

Figure 4

An important point is how we measure universal coverage by these services, how do we know that it's of good quality?

A recent paper in The Lancet from the Institute for Health Metrics and Evaluation group in Seattle looked at the trajectories and what will happen between 2018 and 2023 in terms of increasing Universal Health coverage and comparing it to what the WHO had projected as our goal. That goal was one billion more people accessing universal health coverage in this five-year period. Now we define service coverage as a spectrum of services ranging from health promotion and prevention all the way through treatment, rehabilitation and palliation. This model actually showed that there would be an additional three to four hundred million people who have accessed effective coverage, well short of the one billion.[iv]

You can see different regions of the world and now how things are changing *(Fig 5, below)*. The effective coverage index looks at the provision of these services and how effective they are in terms of health outcomes. We see that between 2018 and 2023, in South Asia, for example, the index goes from 46 to 48 and Sub-Saharan Africa from 44 to 46. You can see on the right most corner that still 3.1 billion people worldwide would not be covered if we continue to do what we're doing.

Projected UHC effective coverage performance in 2023

	UHC effective coverage index (95% UIs)		Population equivalents with UHC effective coverage (95% UI)*		
	2018	2023	Added from 2018–23	Covered in 2023	Not covered in 2023
Global	59·8 (58·3 to 61·3)	61·7 (60·1 to 63·3)	388·9 (358·6 to 421·3)	5·0 billion (4·8 to 5·1)	3·1 billion (3·0 to 3·2)
Central Europe, eastern Europe, and central Asia	63·2 (61·0 to 65·5)	65·2 (62·7 to 67·6)	9·1 (7·5 to 10·9)	273·0 (262·5 to 282·8)	145·5 (135·7 to 156·1)
High income	85·8 (84·3 to 87·1)	87·1 (85·5 to 88·5)	31·6 (28·8 to 34·3)	958·3 (940·7 to 972·8)	141·5 (127·0 to 159·1)
Latin America and Caribbean	63·2 (61·1 to 65·1)	65·6 (63·3 to 67·8)	33·6 (30·8 to 36·5)	398·5 (384·7 to 412·0)	209·0 (195·6 to 222·8)
North Africa and Middle East	60·0 (57·9 to 61·9)	61·9 (59·6 to 64·0)	43·0 (39·8 to 45·9)	402·3 (387·6 to 416·1)	247·8 (233·9 to 262·5)
South Asia	46·0 (42·6 to 49·2)	48·4 (44·6 to 51·9)	88·9 (73·5 to 102·8)	909·4 (837·2 to 974·0)	968·1 (903·5 to 1040·3)
Southeast Asia, east Asia, and Oceania	64·2 (60·7 to 67·6)	66·9 (63·0 to 70·5)	88·2 (74·4 to 102·8)	1·5 billion (1·4 to 1·5)	726·3 (647·9 to 811·6)
Sub-Saharan Africa	43·9 (41·4 to 46·5)	46·2 (43·3 to 49·1)	94·5 (83·6 to 104·8)	555·6 (521·1 to 590·1)	647·1 (612·7 to 681·7)

Population equivalents based on taking the UHC effective coverage index as a fraction and multiplying these values by total population for a given location-year to approximate populations covered with UHC effective coverage. UHC=universal health coverage. GBD=Global Burden of Diseases, Injuries, and Risk Factors Study. 95% UI=95% uncertainty interval. *Reported in millions unless otherwise indicated.

World Health Organization

Figure 5

What we can do better?

We first need to measure effective coverage. Effective coverage is not just process indicators; one has to measure the need to use and quality and combine that into a single metric, because it actually measures the health gains that you're supposed to get from providing a certain coverage. For example, take oral rehydration salts (ORS) for childhood diarrhoea. You may have ORS available in health facilities so if you measured that you might think that you're doing relatively well. But is it being correctly deployed and given to the children who need it and does that translate into reducing deaths due to diarrhoea? If you measure the mortality incidence ratio of a particular disease you know whether the interventions are actually having the desired impact.

> "Moving away from just measuring process or inputs and actually measuring outcomes is where we need to get to."

The issue of course is that many countries do not have the data systems to be able to accurately measure both mortality and the incidence of certain diseases. This is something that India needs to invest in—our vital registration system. While birth registration is very good, registration of deaths and particularly the medical cause of death falls far short, at somewhere around 20 percent, so there is a long way to go. 80 percent of deaths in India do not have a proper documented cause of death and so it becomes very difficult to analyse both the burden of disease, the changes over time and where policies need to focus and resources need to be placed. So this is an area that we need to invest in. We need to train people, including doctors, to use technology to make this happen. Talking of digital technologies, this is a time when many countries have actually moved into using platforms to provide telemedicine, for example, to get over the problem that people could not meet physically and platforms like the echo platforms, which have been used in many states

in India, to train healthcare workers. Also, the e-sanjeevini platform that's been set up by the Government of India, which is enabling telemedicine appointments to happen.

It's been done in many places around the world. We know that we now have a national digital health blueprint and a roadmap. We want to move towards electronic and portable health records. It is also very important to think about not only data governance principles, which are important, but also new ways of collecting, using, and sharing data. It is about using data to make local, contextualised decisions. Presently the system is set up in a way that all the data feeds up and then goes into a black box; or policy makers are using it at the highest levels but the people who are delivering services are not really getting any feedback on their performance, things that they can do better and things that are actually going well.

We also need to think about working with the private sector. It plays a very big role in technology. But what are those technologies that are considered public health goods? At the Arvind Eye Hospital in Puducherry, for example, they did an experiment with shared medical appointments. We know that specialists in India are scarce. Any specialisation you look at, the moment you go into rural areas, there is a scarcity of specialists. What they did was instead of a one-on-one appointment, they actually brought together 10 or 15 patient with the same disease. In this case it was glaucoma, which is a disease where the pressure in the eye builds up. The doctor then does an examination of these patients and a discussion of their problem with those 10-15 people sitting in the same room ensues. This results in benefits for both patients as well as providers and seemed to result in better health outcomes as well as higher productivity and reduced costs, saving a lot of time for doctors. So if we could combine virtual – that's telemedicine – with shared medical appointments we could try a completely new paradigm, particularly for managing people who have chronic diseases who otherwise may have to come to the doctor every 1-3 months. This way they can communicate with the doctor, who can ask questions, and there are 10 other people listening. At a diabetes clinic, for example, each one is learning from the interaction.

There is also a lot of peer learning that goes on, so we need to think about leapfrogging and advancing some of these things and accelerating them.

We talk about health system resilience a lot and its ability to prepare, manage, and learn from shocks like the one we've all just experienced. We look at shock in four stages. There is, of course, the initial preparedness, which is what helps you to withstand it. There's a shock onset and alert. There's the impact and management and then there's the recovery and learning. There are many strategies for enhancing resilience, which relate to better governance to financing making sure that you can suddenly upsurge in financing, having proper information systems and flows, resources and service delivery. One needs to prepare in advance for a resilient health system. But leadership and political will have played an important role in this pandemic. We've been looking at case studies. We communicate with our Member States on a weekly basis, where they share their experiences. As a result, we have 194 Ministries of Health. Often it is the ministers themselves who participate and everyone has learned from each other. Some of the lower middle-income countries have had lessons that could have been learnt by countries that may be more well-off. If you look at Vietnam, for example, what they did was to lead a very early and strong response. They activated a response system. There was government leadership, mobilisation of resources and a whole-of-society approach. They managed to use their primary health care system and community health workers to go after clusters of cases so the first few cases were identified, their contacts were traced and they were isolated and quarantined. In the first six months they had no fatalities due to COVID and so it was an incredible response. Even today they have a few cases but it's under control. Similarly, Thailand was one of the first countries to react because they get a lot of travel from China. Three days after China reported the gene sequence of the novel coronavirus, Thailand did the same. They did a risk assessment and they did triage, they told people who do not need to come to the health centre to stay away and those who needed to come for emergency services. They were able to provide extra surge capacity so they thought through what needed to be done and they were able to implement it.

A few words now about COVID and nutrition. We know that diverse food supply is an essential part of the health and nutrition response. They are very closely linked and disruptions in trade affect food systems. We know that there are traditionally food insecure hotspots. As you can see most of them are in Sub-Saharan Africa, others in the eastern Mediterranean region, and particularly those countries that have been having conflict and war. And then some countries in Latin America. We need to start taking a systems approach to nutrition and integrating it into the socio-economic response. There is a portion of India that is trying to do exactly this, but we need to further integrate social protection systems, food systems and health systems inorder to really have an impact on the nutrition of individuals and families. Without really looking at the three as whole, we are not going to be able to solve the basic structural issues as to why certain families, certain children, or certain villages remain chronically undernourished. Now there could be a global food emergency as well because of the disruptions that we've had in trade and so on.

There are things that we can do to ensure these services:

- Designating services, such as food production, marketing and
- distribution, as essential services
- Ensuring that we protect those workers
- Keeping trade corridors open
- Ensuring that they are part of our social protection programmes.

In India this has been done but needs to be extended and expanded to protect the most vulnerable population groups. Tailor nutrition-sensitive social protection programs, either in kind or cash or vouchers or through the PDS and integrate data platforms. The data on nutrition is fragmented. Some of it goes through the Anganwadi centres and sits in the Ministry of Women and Child Development and the other part of it comes into the Health Department. This now needs to change and there needs to be one integrated data system. This is a report that just came out a few months ago, again with dire warnings of worsening food security and the increase in the number of people who might actually be hungry.[v]

What are some of the unique challenges that we have faced? We've come up with this term called "infodemic". It's about having too much information, which includes false or misleading information, mostly in the digital sphere, particularly on social media platforms. What does it do? It leads to confusion, risk taking, harmful behaviours, and ultimately mistrust in governments and public health response. Our Director-General very early on said "fake news" spreads faster and more easily than this virus and is just as dangerous.

> "...We are fighting not just an epidemic but also an infodemic."

What we did do? Of course, we tried to reach out through webinars through all the expert groups we have, our networks of collaborating institutions where we were able to amplify some of the clear and credible messages we developed. Hundreds of risk communication materials, including things like myth-busters and video, animation, infographics. We have developed training courses. We've had more than four million people actually take those training courses in different languages. We worked with social media companies, including Facebook, Twitter, and WhatsApp to do a couple of things. First to make sure that they directed users to credible information. So, if somebody types in something in the search, they should be directed to their government sources in their own country or to WHO or to the CDC and so on. Where you know you can get credible information. The second is that we started pointing out to them if we saw certain worrying or false or dangerous messages and they would immediately take it down or post an alert on that. And third, we started doing innovations like having these chatbots and things in different languages again where people could actually chat and ask their questions and get credible answers, based on WHO guidance.

In the last eight months we have done an incredible amount of work with many tech companies, many of them actually doing pro bono work as well as putting out advertisements on behalf of WHO.

But infodemic management is not straightforward; it is really linked to people's beliefs and behaviours. It is the way they act and what actually changes. What lever do you actually pull in order to change people's behaviour? It's not just a question of providing information. Therefore we've set up this behavioural insights group to give us insights into how to bring about behaviour change. I know that the Population Foundation of India has also done a lot of work on this. They have excellent outreach and communication programmes. I've watched a number of their films, which are basically advocacy films with strong messages. But when you watch them, you wouldn't think so. They are well done. I think that's the way that we need to communicate with people. Not by just giving more facts, but by subconsciously reaching them. This is something that my good friend Dr. Mohan Agashe, well-known psychiatrist, actor and film director always talks about. He says you have to be a smuggler of ideas, because when it comes through a story or film that affects you emotionally, then the messages are heard and retained much better, than if I were to read five facts or if someone were to instruct me to do this or do that.

This is very true for mental illness and mental health. But it's also true for a number of other things that actually affect personal behaviour. We are seeing polarised debates today on whether to wear masks or not. Something that is just a question of pure common sense and science is getting politicised and polarised. Every issue is being debated in these non-constructive ways. We need to turn to messaging that will help us communicate the right messages to people. I think I would like to end with the fact that COVID-19 has underscored for us the importance of investing in preventive healthcare and primary healthcare.

Countries that invested in primary healthcare in the past found themselves in a much better position to deal with the pandemic.

> "...Within India again, states that have invested in primary health care, and have a public health cadre and public health department have been able to respond better."

The other important point I'd like to make is that we often think about health as health service delivery. We need to start thinking a little upstream. The risk factors and the social and environmental determinants of health, things like the quality of water, availability of sanitation, quality of air, indoor and outdoor air pollution, road safety, mental health, housing and shelter that is available. All of these have big impacts on our health; in fact, they affect our lifespan much more than having access to a health facility. So, it is important to invest in these. It is much more difficult as they lie outside the health sector. So, it is a question of all governments really looking at the impact of their policies on health.

Using telemedicine, digital health to provide health care and to improve the access to health is, I think, a no-brainer. We need to make sure we're using technology in the right way; technology cannot solve all our problems, but it can help. It can certainly assist our frontline health workers who are our main strength. We have more than one million ASHAs, 1.4 million Anganwadi Workers and a similar number of ANMs. These are the people who do the bulk of the work and we depend on them a lot. We need to invest in them. We need to make sure that they have the tools they need. That they have regular training and mentoring, that they are protected and of course well paid and looked after so that they can in turn do their work properly. We need to invest in institutional mechanisms and capacities. I can't underscore this enough.

> "...Strong institutions, whether there are regulatory bodies, whether they are research institutions or whether they are the public health institutions."

By strong institutions, I'm talking about the people in those institutions. So, it is critical to invest in human resource capacity building. Particularly we can see areas where there are gaps, and we need to invest in for the long term. Countries that have done that have reaped the benefits.

Health literacy is very important. We've seen so much of fear, psychosis, stigma, discrimination, and belief in these false rumours that go around on social media.

> "...Health literacy has to be built up over a period of time, and this is where listening to scientists and public health experts becomes very important."

I've talked about Universal Health Coverage. India is on the path to investing a lot in that. We need to speed it up, but it's not just a question of financial resources, though very important, but also human resources and in engaging and empowering communities. A health system cannot be only on the supply side. It has to keep in mind how to involve the citizens, the people that it is trying to serve and have them involved in developing the services that we are bringing them.

And finally of course this is Population Foundation of India, and with Poonam being such a champion we have to keep equity, human rights, gender issues, and social justice in mind. These need to underpin everything that we do. For a lot of the indicators we look at, there are differentials when you look

between the socio-economic groups and therefore we need to design the programmes that will lift and affect those who are currently at the bottom of the pyramid.

With that, I would like to again thank you for having invited me and given me this wonderful opportunity to honour the memory of Mr. JRD Tata by delivering this oration, particularly at such a momentous time as the 50th anniversary of Population Foundation of India. I wish Population Foundation of India another 50 glorious years. We have a lot of work to do in many of the areas that you work in. I consider myself lucky to be associated with you all. Thank you very much.

Namaste.

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