

EFI Bulletin

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EFI Bulletin

Bulletin of Epidemiology Foundation of India



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President's Corner



The revival of the Bulletin is the most satisfying event to most of us. Prof. Sahai and myself have a strong association of about four decades since early eighties when we worked together at AIIMS, New Delhi, for CTC on health and nutrition aspects of the important national MCH program ICDS. The members may rest assured that EFI Bulletin would not only progress with consistency but in a couple of years' time shall attain the level of a peer-reviewed journal.

We must have experienced and realized that in the meantime I have been regularly circulating some of the relevant news and updates through the Google-group to keep pace with the progress of health and nutrition programs of GoI, as well sharing of selected publications of international importance.

The first national conference of EFI at AIIMS, Rishikesh in December 2020, though belated due to COVID-19 and being organized in a hybrid mode was grand success. A detailed report is included in this Bulletin.

The next national event is scheduled in October 2021, at AIIMS, Jodhpur. I am quite optimistic that soon in a few months the present scenario would change in favor of holding an in person meet.

Umesh Kapil

Secretary's Message

EFI now with its existence and recognition of two years is ready to earn credentials in favor of the members. At this juncture adding newer dimensions is desirable to indicate our operational utility to the population. We must identify and consolidate epidemiological aspects of our efforts through various established associations like IAPSM, IPHA, ISMS and many more in India as well IEA. Soon EFI governing body is expected to meet and review the routine agenda items, but we also may announce some awards being instituted with support of our own members. I am happy that the membership drive had registered a record success in previous years and hopefully should cross over 2000 mark by this year-end. The success of EFICON2020 had driven our interest to immediately set the venue for EFICON2021 inviting you all to another academic feast at AIIMS, Jodhpur.



Vinod K Srivastava

From the Editor



Periodic publications of larger, associations, foundations, organizations, federations or societies are well established vital-organs and means of disseminating information on activities to its members as well sharing academic and innovative updates. Epidemiology Foundation of India (EFI) during its infancy had brought out a Bulletin in late 2019 with efforts by Col. Dr. Rajesh Kunwar and Dr Pradeep Aggarwal. Despite our best intentions the COVID-19 pandemic intervened to affect its continuance during 2020.

However, since the dawn of 2021, being a lead founder of EFI, Prof. VK Srivastava expressed his concerns and advised me to take up the responsibility of the revival of the Bulletin at the earliest. Encouraged further with the blind support received from the President-EFI Prof. Umesh Kapil and the assurance by Web-Coordinator, Dr Pradeep, I decided to venture into this challenging task fully ignoring my chronological age and hesitations.

We together favored publishing it on quarterly basis ensuring continued communications with our esteemed members to provoke their thoughts and invite peer-reviewed reactions. In turn it shall help to keep track of fast-moving influx of information importantly during the

ongoing pandemic. Sharing at least the authenticated gist of volumes of updates every day is essential. All around explosion of educated but sophisticated guess and predictions due to advent of medical and health informatics requires an audited check by experts. Informatics is also hitting the vibrant scientific concepts of population or field epidemiology. Whereas, the keen observation analytics on individuals in clinical epidemiology trigger to lead research questions of interest to clinical experimentations and trials; conclusions drawn only upon the basis of directly dealing with health and diseases of human groups in population is essential. For the purpose EFI has a huge resource of wide-spectrum experts to help control that extra influx of misgivings caused due to circulation of certain perceptions that are yet to be properly addressed and validated.

To begin with at least for a couple of years the structured list of contents as outlined for this issue would be followed with minor improvements suggested time to time. But a regular editorial column should commence in next issues along with the organization of an editorial board. I am very grateful to Professors' Dr Abhaya Indrayan, Dr FU Ahmed, Dr JS Thakur, Dr Bina Ravi and Dr Pradeep Aggarwal for their specific contributions per my request with a very thin timeline. I invite each member to actively participate and contribute ideas to gradually enhance the levels of the contents of the Bulletin.

Ajit Sahai

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Aims of EFI

To identify and promote areas of cooperation and understanding among researchers and like-minded organizations, individuals, scientific networks and other Governmental and Non-Governmental, National & International agencies which are contributing towards realizing the objectives of the Foundation.

Benefit of becoming a member of EFI

- Networking with renowned Epidemiology experts worldwide and partnership with Professional organizations in field of Epidemiology.
- Receiving announcements of EFI activities.
- Eligibility to receive travel scholarship / support for attending EFI sponsored courses / meeting.
- Reduced registration fees for attending EFI Training Courses, CME, Regional meeting and Annual Conference.
- Joint membership of International Epidemiological Association (IEA)

Types of members

- Life Memberships
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IEA joint memberships with EFI

Special rates for joint membership for regular member is 25 USD and for ECE is 10 USD do visit <http://www.ieaweb.org/> for more details.

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Herd Immunity and Reproduction Number Abhaya Indrayan

Immunity is a concept applicable to individuals, but the concept of herd immunity applies to the populations. Soon after Corona pandemic has risen on horizon, this term has taken prominence, not just with health professionals, but also with the public at large. Social media, electronic media and print media played a major role in arousing the inquisitiveness and, in some cases, even took initiative to explain this concept. The concept acquired importance, as everybody was curious to know when the pandemic will subside. People were able to relate secular decline in incidence to herd immunity and appreciated that a certain percentage of population has to acquire immunity to deny the opportunity for infection to spread and thereby impede the progress of the epidemic. Herd immunity is the indirect protection to the susceptible individuals.

In the face of all the hype built around it, the professionals started discussing the actual meaning of the term. I observed that the term herd immunity is used by different people to mean three very different concepts:

1. The proportion of persons immune to the infection at a particular point in time. If 62% of people are immune today in an area either because of exposure or because of vaccination, the herd immunity in that area is 62% at that point in time. This pertains to the level of immunity in the population and expressed in terms of percentage.
2. The minimum threshold of immune population required to stifle the transmission of infection such that not many susceptibles are available around an infectious person for passing it to the others. It is generally believed that herd immunity for polio is 80% and for measles is 95%. This, in a way, describes the desired extent of immunization to control the transmission of the disease. This implies that new

infections may continue to occur but they will gradually decline. This requires consideration of the reproduction number as discussed in this note.

3. The level at which the population is protected from invasion of new infections. For example, if 96% of population is immune for an infection, no new infection can occur and only those who are already infected need treatment for complete elimination of the disease.

In view of such widely varying interpretations, I thought of approaching a group of specialists who can enlighten me. For this purpose, there was nothing better than the Google group of the Epidemiology Foundation of India (EFI) with nearly 1500 members. I posted my concern to this group and several experts responded. I am grateful to these experts. A careful study of these responses revealed that there is a wide variation in understanding of the concept of herd immunity and there is no consensus. This underscored the need to explore the concept in depth. The President of EFI and the Editor of this Bulletin approached me to prepare a document for the benefit of our members. For this, I discussed the concept of herd immunity with some other experts and looked at the literature. The following is what I could understand regarding herd immunity. This note may be helpful in developing a consensus amongst ourselves.

The concept of herd immunity cannot be fully understood without an explanation of the reproduction numbers.

Reproduction Numbers

The reproduction number is the average number of persons infected by one index case during the entire infectious period. This number depends on the number of susceptible persons who came in contact, the duration of the contact, the infectivity of the pathogen, and the infectious period. Infectivity (or infectiousness) of a pathogen depends on how quickly and how far it can travel and what quantity is required to infect a contact. The contact rate depends on the density of the population around the index case and how much do they mingle with one-another. The level of susceptibility of the

contacts depends on the level of innate immunity in different segments of the population such as in different age groups. For example, in the case of SARS-CoV-2 viruses, the present evidence suggests that it is a droplet infection that can travel up to 2 meters, can stay on hands and other surfaces for up to several hours (perhaps days), and possibly a small dose of pathogen is enough to infect others. Thus, this virus is highly infectious, and will have a high reproduction number in a vulnerable population. The infectious period is how long an infected person can shed the virus to infect others. This is generally surmised 5 to 14 days for Coronavirus. Important consideration that some of us tend to ignore is the percentage of susceptibles around the index case. At the beginning of the epidemic of a new pathogen such as Coronavirus, everybody is considered susceptible. This gives rise to basic reproduction number denoted by R_0 . According to Al Raei 2, the basic reproduction number of Coronavirus is between 1.0 and 2.8. Many believe that it is higher. R_0 is difficult to estimate with precision because of data limitation. Basic reproduction number varies from population to population because of the difference in the factors just cited. In addition, it is generally believed for Corona, especially in the Indian context, that some of us have innate immunity due to genetics, our constant exposure to other viruses, or due to healthy diet constituents. Our population structure with nearly 40% of age less than 18 years, who are not as susceptible, may also be a contributor. Thus, everybody is not necessarily susceptible even at the beginning of the new infection and our basic reproduction number for Coronavirus is lower than some other populations.

As the pandemic progresses, people become aware and non-pharmacological interventions such as sanitization; facemasks, social distancing, and hand washing in the case of Coronavirus are adopted on a large scale. Some people become immune due to prior infection and some get vaccinated as the vaccine becomes available and a vaccination programme is rolled. Thus, the number of susceptibles around an infected person declines and the reproduction number reduces. The reproduction number at time t is denoted by R_t and it is necessarily less than R_0 . Some people call it effective

reproduction number and denote by R_e but this name does not highlight that it varies from time to time because of the interventions. Thus, there are at least two kinds of reproduction number and that is the reason that the title of this section uses it in plural.

Herd Immunity

Out of the three alternatives I proposed in the beginning, keep focus on the second and consider the other two as distractors. Herd immunity is not the percentage of immune persons in a population but is a binary status (yes or no) that says that the herd immunity has reached or not reached. A population is considered to have reached the herd immunity level when the reproduction number starts to become less than 1. This really means that one infected person is able to infect less than one person on average – the pathogen spread fails to maintain and thus the number of infected persons declines in the course of time. Note that here we are concerned with R_t and not R_0 . However, at the beginning of the epidemic, when everybody is susceptible, herd immunity will reach when the proportion immune exceeds $(1 - 1/R_0)$ 3. As per this formula, in the case of Coronavirus, if the basic reproduction number is 2.5, the herd immunity will reach when at least 60% of the erstwhile susceptibles become immune. This immunity can be reached either by prior infection or by vaccination.

If the vaccinations are evenly distributed across all susceptibles and the population is homogeneously mixed, a coverage of 60% will be enough to generate herd immunity in this case. This assumes that there is no innate immunity and no acquired immunity due to exposure. More importantly, this assumes that the vaccine efficacy is 100%. (This efficacy is against infection and different from the efficacy against disease, severe disease, or death.) A vaccine with efficacy of 100% is rarely possible and serious questions are raised when this is less, particularly when it is nearly 70%. Coverage of 60% population with 70% efficacy vaccine will imply a protection of 42% population. When the efficacy is low, the vaccine coverage should be at least $V = (1 - 1/R_0)/E$ where E is the efficacy³. For our Corona example, with $R_0 = 2.5$ and $E = 0.70$, this gives $V = 0.86$. This says that 86% of the susceptibles

should be vaccinated to reach the herd immunity. If $R_0 = 4$ and $E = 0.70$, V becomes 1.07 and then even the complete vaccination of the entire population of susceptibles with this vaccine will not be enough to generate herd immunity. The transmission will continue even with 100% coverage by this vaccine unless many have innate immunity, have developed immunity due to prior exposure, or use non-pharmacological interventions.

For a vaccination programme, it is important to distinguish between those infected and those who manifest the disease. In the case of Coronavirus, the disease has been named COVID-19 (Corona Virus Disease 2019). (I am using a slightly different acronym than what is used by WHO and others.) It is generally observed that the infection can occur in people of any age and gender but the disease (and deaths) occurs more frequently in those who are of old age and have some comorbidity. Thus, the first target for Corona vaccination is this group that would control the disease and deaths. Note that the target in this case is disease and not the infection.

As more and more are vaccinated, the reproduction number R_t will progressively decline with time and the disease will be in control. Innate immunity or acquired immunity can also provide substantial help.

References:

1. World Health Organization. Coronavirus disease (COVID-19): Herd immunity, lockdowns and COVID-19. Newsroom, Q & A, 31 December 2020. <https://www.who.int/news-room/q-a-detail/herd-immunity-lockdowns-and-covid-19> - last accessed 25 March 2021.
2. Al-Raei M. The basic reproduction number of the new coronavirus pandemic with mortality for India, the Syrian Arab Republic, the United States, Yemen, China, France, Nigeria and Russia with different rate of cases. Clin Epidemiol Glob Health. 2021 Jan-Mar;9:147-149. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7438206/>
3. Fine P, Eames K, Heymann DL. "Herd Immunity": A Rough Guide. Clinical Infectious Diseases 2011;52:911-916. <https://academic.oup.com/cid/article/52/7/911/299077>

Communicable Diseases:

COVID19 Vaccination Program - a Public Health Challenge

FU Ahmed

Abstract:

In an unprecedented effort by the global community, scientists developed the COVID-19 vaccine in one year's record time. There are many operation hurdles to bring the vaccine from the laboratory to the community. However, with scientists and public health experts' combined efforts and the National Regulatory Authority (CDSCO) prompt authorization, the Ministry of Health launched the COVID-19 vaccination program in India on the 16th. January 2021. Initially, there were glitches, but gradually it is easing up. Future success will depend on the public health expert's ingenuity to devise a strategy like "Ring Immunization", which can cut short the transmission chain and vaccine wastage instead of aiming to achieve the elusive "Herd Immunity" by vaccination.

Keywords:

"Covishield"- gene-based and "Covaxin"- a protein-based vaccine Central Drugs Standard Control Organization (CDSCO) Drug and cosmetic Rules 1940 and the Drugs and clinical Trial Rules of India. "COVISHIELD", "COVAXIN" and "Restricted use in Emergency Situation". Vaccine Intelligence Network (Co-WIN), "Vaccinee"; Adverse Event Following Immunization "Ring Vaccination."

Introduction:

To combat the COVID 19 pandemic, the World Health Organization, European Commission, "Global Alliance for Vaccine and Immunization (GAVI)" and the "Coalition for Epidemic Preparedness Innovation (CEPI) and different countries, including India, jointly launched the international platform "COVAX" to develop a vaccine. It coordinated with the world's leading research and pharmaceutical companies and developed several safe and effective vaccines

against COVID 19 in an unprecedented time frame of one year.

The vaccines developed are based on two distinct designs - protein-based and gene-based. In a conventional protein-based method, a stimulating antigen that includes attenuated or inactivated vaccines is introduced in the body to produce immunity. Polio, flu and subunit vaccine-like particle - Hepatitis B and human papillomavirus vaccine belong to this category. Genetic instructions like mRNA are introduced in a gene-based vaccine so that the host's cell produces the antigen that closely mimics natural infection and can build both humoral and cellular immunity. In Covid 19, the antigen of interest is the spike protein.¹ Two vaccines - "Covishield," a gene-based, and "Covaxin," a protein-based vaccine - completed mandatory clinical trials following the stringent Central Drug Standard Control Organization (CDSCO) guidelines for vaccine development under Drug and Cosmetic Rules 1940 and the Drugs and clinical Trial Rules of India, based on the latest available scientific evidence in vaccine research and development in the world.²

India's Vaccination Program: After scrutinizing the scientific evidence generated during the trial, CDSCO issued a "restricted use licence" without marketing authorization for "Covishield" developed in collaboration with Oxford University and Astra Zeneca Laboratory by the Serum Institute of India Pvt, Ltd (SIPL) and "Covaxin" developed by Bharat Biotech. (COVID-19)". COVAXIN was also given "permission for the sale or distribution".³ CDSCO issued a license for use under the clause "Restricted use in Emergency Situations." "Restricted use in Emergency Situations," which includes administering vaccines in defined, prioritized groups under clinical trial mode. It differs from clinical trial as in this mode vaccination outcome "will not be examined against any other intervention".⁴ The permission contains the mandatory clause of informing the contents of the manufacturing company's fact sheet to each recipient before vaccination. [3] It also includes monitoring "for any adverse event under this clinical trial mode and supported for medical care under the existing public health program"⁴.

Following the availability of a safe and effective vaccine, the health care delivery system must develop a vaccination program. The program should address two crucial issues of

- i. Universal availability and accessibility of vaccines even to vulnerable groups of hard-to-reach and unreached areas at an affordable cost.
- ii. Population-level acceptability, resulting in continued high vaccine uptake.

Accordingly, the Ministry of Health & Family welfare (MOHF&W) Government of India (GOI) developed the supply logistic strategy by upgrading the existing cold chain system. Vaccine beneficiary groups were selected using epidemiological data on the vulnerability of infection. The first group includes healthcare and frontline workers. The second group to receive COVID 19 vaccine will be persons over 60 years of age (as of January 1, 2022) and persons between 45 and 59 years with comorbid conditions. This group will be eligible for vaccinations from March 1, 2021. MOHF&W also developed a Vaccine Intelligence Network (Co-WIN) system -MCOVID-19 for registration of "vaccinee" and to track the enlisted beneficiaries on a real-time basis for the second dose and "Adverse Event Following Immunization" reporting.⁵

To alleviate the apprehensions and ensure its acceptance and encourage uptake of vaccines, MOHFW formulated the Covid-19 vaccine communication strategy. It outlines the communication program that supports the rollout of the COVID-19 vaccine in India by disseminating accurate and transparent information about the vaccine(s).⁶

Challenges:

Despite the best effort to successfully launch the COVID 19 Vaccination program, vaccination uptake among healthcare providers was minimal due to "vaccine hesitancy". To date, there are no documented studies on vaccine hesitancy in India. But the reporting in electronic and mass media on the news of fast-tracking the approval of a putative COVID 19 vaccine by the president of USA and Indian

politician's use of vaccination program as an electioneering manifesto made the vaccination program a significant topic in the political and social debate in India. We observed a sense of vaccine apprehension during interactions with different healthcare providers at various focus group discussions. Researchers around the world often describe a connection between political beliefs and attitudes to vaccines. They report that "during an emerging crisis like COVID 19 pandemic when there is considerable scientific uncertainty and non-availability of specific evidence-based public health interventions, the politicians—rather than experts become the public face of crisis management.⁸ Politicizing public health intervention during a pandemic is a common occurrence, especially during electioneering. With the drop in COVID 19 cases during the vaccination program's launch and prevailing misconception among the public, the vaccine uptake was poor initially. With the growing number of cases and less reporting of adverse reactions following vaccination, there is a gradual improvement in vaccination uptake. But the pricing of vaccination in private outlets has a dampening effect, among underprivileged members of society, especially in urban conglomerates with poor government health infrastructure. The epidemiological pattern of clustering in the recent upsurge in COVID 19 outbreak, the well-established strategy of "Ring vaccination" may be considered. It is an effective Public health option of Cluster immunity in hot spots rather than aiming for attaining the elusive "Herd Immunity" in containing the transmission of COVID 19. The Ring Vaccination strategy has advantages; - better vaccine uptake, minimal wastage, and better acceptance among the vulnerable. The recently authorized gene-based Jansen COVID 19 Vaccine by the USA's FDA seems to be the most suitable vaccine for "Ring vaccination".⁹ In its absence of any other alternative safe and effective vaccine, currently available vaccines may be used.

Reference:

1. Jennifer Abbasi, COVID-19 and mRNA Vaccines—First Large Test for a New Approach. JAMA Published online September 3, 2020. Accessed From: <https://jamanetwork.com/> by faruqueuddin ahmed on 09/14/2020.

2. Regulatory guidelines for development of Vaccine 21.09.2020 & Notice for Vaccine Guidelines dated September 21 2020. <https://cdsco.gov.in/opencms/opencms/en/Notifications/Public-Notices/> Accessed on February 25, 2021.
3. "Fact sheet for vaccine recipient approved for restricted use in emergency situation of chadox1 ncov- 19 coronavirus vaccine (recombinant) covishield™ in prevention of covid-19 disease in individuals 18 years of age and older". https://cdsco.gov.in/opencms/export/sites/CDSCO_WEB/en/Factsheetof-ChAdSerum.pdf. Accessed on February 25, 2021.
4. "Fact sheet for vaccine recipients and caregivers restricted use of Covaxin tm under clinical trial mode the Bharat biotech covid-19 vaccine (covaxin tm) to prevent coronavirus disease 2019 (covid-19)" https://cdsco.gov.in/opencms/export/sites/CDSCO_WEB/en/FactSheet_Whole-virion-inactivated-corona-virus-vaccine-_Bharat-Biotech-.pdf. Accessed on February 25, 2021.
5. "COVID-19 Vaccine" Operational Guideline, Ministry of Health & Family Welfare Government of India (updated till 20th. December 2020), <https://www.mohfw.gov.in/pdf/COVID19VaccineOG111Chapter16.pdf>, accessed on February 25, 2021.
6. Covid-19 vaccine communication strategy, Ministry of Health and Family welfare <https://www.mohfw.gov.in/pdf/Covid19CommunicationStrategy2020.pdf>. Accessed on 19th. February 2021.
7. Kennedy J. Populist politics and vaccine hesitancy in Western Europe: an analysis of national-level data. Eur J Public Health 2019; 29: 512–16.
8. Adam J. Kucharski, Rosalind M. Eggo, Conall H. Watson, Anton Camacho, et al, "Effectiveness of Ring Vaccination as Control Strategy for Ebola Virus Disease" Emerging Infectious Diseases • www.cdc.gov/eid • Vol. 22, No. 1, January 2016. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4696719/pdf/15-1410.pdf> accessed on March 21, 2021.
9. Jansen's Covid19 Vaccine EUA letter of Authorization <https://www.fda.gov/media/146303/download> (accessed on March 21 2021).

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Non-Communicable Diseases

Strengthening and Mainstreaming Health Promotion through “*Khelo, Hasso aur Hasao, Badho aur Badhao*” in Prevention and Control of NCDs in India: The Global Health and Wellness Initiative of World NCD Federation

JS Thakur, Rajbir Kaur, Sukriti Singh

As per Global Burden of Diseases study, India is facing health transition with an escalating burden of non-communicable diseases with major NCDs leading to 4 million deaths in 2016. (1) As evident from NFHS 4, nearly 38-48% individuals have been exposed to one or the other major risk factors of non-communicable diseases. (2) It is a well-known evidence that about 70-80% of NCDs (Diabetes, Heart Diseases, Cancer, Chronic Lung diseases) are preventable. (3) The present measures of NCD control lack the focus on implementation of disease prevention strategies. (4) The school, workplace and community settings are important in various government policies to provide enabling environment to school children and workplaces, so as to instill healthy habits among individuals at an early stage, health promotion at workplaces and healthier communities. Recent initiatives of Government of India including Poshan Abhiyan, Fit India, Eat Right India, National Mental Health Program, National Program on Prevention and Control of CVDs, Diabetes, Cancer, Stroke (NPCDCS), National Multisectoral Action Plan etc. are those covering the specific risk factors or social determinants. However, the present approach to provide health promotion services to individuals is scattered and segmented i.e. not all the programs targeting NCDs include the component of Health Promotion targeting five major risk factors of the major NCDs (Diabetes, Heart Diseases, Cancer, Chronic Lung diseases). The possible effect of this approach is often the lack of integration, convergence and efficient multisectoral collaboration, acting as barrier to achieving outlined targets.

The Global Health and Wellness Initiative by World NCD Federation with theme Play, Laugh and Grow is the strategic convergence of already existing government schemes and programs to establish a stage for a collective action towards NCD prevention and control. The Indian version of this initiative is themed as “Khelo, Hasso aur Hasao, Badho aur Badhao, India”. Component of health promotion holds a significant place in prevention and control of non-communicable diseases among 3 pillars identified by WHO. This requires a multisectoral action and collaboration from different stakeholders and public as societal responsibility. The initiative is a health promotion strategy aimed to target the social determinants and five major modifiable risk factors of NCDs, thus reducing the burden of NCDs due to avoidable risk factors.

As indicated in the theme, the component of “Khelo” intends to focus on promoting the physical activity and consumption of healthy diet. The “Hasso aur Hasao” component is dedicated to bringing happiness and alleviation of mental stress via healthcare facilities, at workplaces and propagation of strategies to promote non-pharmacological self-management of stress. The component of “Badho aur Badhao” means to promote health by multisectoral ‘whole of society, whole of the government’ approach. The campaign in India will help building a strong wellness component under Health and Wellness Centers programme under Ayushman Bharat (AB-HWCs) as it mainly comprises of care package of 12 services.

It will focus on complementing and supplementing AB-HWCs, strengthen comprehensive primary health care and will help in integration of various initiatives by Government of India as mentioned above. The campaign will be implemented through different stakeholders, including national health mission, all the medical colleges through their Departments of Community Medicine and Civil society organization. It is important to understand the gist of initiative which will make it a fun to promote health but have a great depth and seriousness for preventing NCDs. During the COVID19 pandemic, the provision of

services to the patients suffering from non-communicable diseases suffered a lot and many were deprived of the necessary services due to lockdowns, shifted focus of the health delivery services and shortage of human resources. The campaign will also promote Jan Andolan and vaccine hesitancy. The Hoshiarpur Ambala model of health promoting district with focus on integration, convergence and multisectoral participation will become the basic model for this campaign⁴

This initiative will be a holistic package dealing with strengthening health promotion, addressing five major risk factors of non-communicable diseases and may help in realizing SDGs by 2030.

References:

1. Arokiasamy P. India's escalating burden of non-communicable diseases [Internet]. Vol. 6, The Lancet Global Health. Elsevier Ltd; 2018 [cited 2021 Mar 31]. p. e1262–3. Available from: www.thelancet.com/lancetgh
2. India-Key Indicators India-Key Indicators [Internet]. Mumbai; 2016 [cited 2021 Mar 31]. Available from: <http://www.rchiips.org/nfhshttp://www.iipsindia.org>
3. Boutayeb A, Boutayeb S. The burden of non communicable diseases in developing countries. Int J Equity Health [Internet]. 2005 Jan 14 [cited 2021 Mar 26];4:2. Available from: [/pmc/articles/PMC546417/](http://pmc/articles/PMC546417/)
4. Thakur J, Jaswal N, Grover A, Kaur R, Jeet G, Bharti B, et al. Effectiveness of district health promotion model (Hoshiarpur Ambala model): An implementation experience from two districts from Northern part of India. Int J Noncommunicable Dis 2016;1:122-130.



EFICON-2020 Report

Annual Conference of Epidemiology Foundation of India

Theme: 'Evidence Based Public Health'

All India Institute of Medical Sciences, Rishikesh

National annual conference of Epidemiology Foundation of India with theme "Evidence-Based Public Health (EBPH)" was organized from 18th- 20th December 2020 at All India Institute of Medical Sciences Rishikesh under the patronship of Prof Ravi Kant, Director & CEO All India Institute of Medical Sciences, Rishikesh.

Organizing Committee was headed by Prof. Bina Ravi as Organizing Secretary and Chairman Reception Committee by Prof. Manoj Gupta (Dean Academics) along with President EFI Prof. Umesh Kapil and & Secretary EFI Prof VK Srivastava. The Scientific Committee was chaired by Prof. CM Pandey and Dr. Pradeep Aggarwal was Joint organizing secretary of EFICON-2020.

This conference brought together 434 participants from pan India and few participated from overseas. A total of 183 scientific abstracts were submitted. The conference had nine scientific evidence-based plenary sessions along with free paper session that comprised of 12 oral and 8 poster presentation sessions for sharing evidence-based research by participants as part of the scientific agenda.

Two Pre-conference workshops were organized on 18th Dec 2020; the first on "Developing skills in antimicrobial resistance. The eminent resource faculties were Dr. Pratima Gupta, Prof. & Head, Department of Microbiology, AIIMS, Rishikesh (Workshop Coordinator), Dr. Arti Kapil, Professor, AIIMS New Delhi, Dr. Kamini Walia, Senior scientist, ICMR New Delhi, Dr. Neelam Taneja, Professor, PGIMER Chandigarh,

and Dr. Apurba Sankar Sastry, Associate Professor, JIPMER Pondicherry. Dr Mahendra Singh (Assistant Professor, Department of Community & Family Medicine, AIIMS Rishikesh) has acted as a faculty moderator.

Another Pre-Conference Workshop was organized on “Critical appraisal of epidemiological studies” that was conducted in hybrid mode by Dr. PVM Lakshmi (Professor of Epidemiology, DCM & SPH, PGIMER, Chandigarh) as workshop coordinator along with Dr. Jaya Prasad Tripathy (Assistant Professor, DCM & FM, AIIMS Nagpur) and Dr. Ashok Srivastava (Professor, Department of Community Medicine, HIMS, Dehradun). Dr. Yogesh Bahurupi (Assistant Professor, Department of Community & Family Medicine, AIIMS Rishikesh) has acted as a faculty moderator of the pre-conference workshop and formally inaugurated the workshop with the chairperson and speakers.

DAY 1

On the 19th of Dec 2020, six interactive sessions were organized on various topics. The first plenary session was on “Leveraging India’s Food Based Safety Nets to Address Malnutrition” with World Food Programme as intellectual contributing partners. Dr. V.K. Srivastava (Principal, Prasad Institute of Medical Sciences, Lucknow), Dr. Sunil D Kandpal (Prof. And Head Dept. Of Community Medicine, RMLS, Lucknow), Dr. Salman Shah (Dept. Of Community Medicine, JNMC, Aligarh, Uttar Pradesh) were the moderators and chairpersons of this Session.



The participants and speakers in the conference were eminent names from various public health organizations including Dr. Purnima Menon, Senior Research Fellow, International Food Policy Research Institute, Dr. Rajan Sankar, Tata

Trusts, Dr. Shariqua Yunus, Nutrition Specialist and Head of Unit – Nutrition and School Feeding World Food Programme. Experts from both government and non – government sectors provided valuable insights on topics like Micronutrient deficiency, Food fortification, Take Home Ration. Also, the factors associated with stunting like maternal conditions, diet, and sanitation among others were discussed.

The second session was on “Ensuring Vitamin A supplementation during the COVID-19 Pandemic” with Vitamin Angels as intellectual contributing partners. The purpose of the session was to highlight the importance of strengthening the Vitamin A supplementation program in India and to discuss the current scenario of Vitamin A availability, distribution, and strategies to enhance its remote access. Dr. Sheila Vir, from Public Health Nutrition and Development Centre, New Delhi was the moderator and chairperson of this session. Eminent speakers such as Dr. N. Arlappa, Scientist F, National Institute of Nutrition, ICMR, Dr. Samaresh Bhattacharjee, the Medical Officer and Advisor of Child in Need Institute (CINI), Mr. R. K. Paul, the Founder cum Secretary, Amyaa NGO, Arunachal Pradesh, and Ms. Ruchika Chugh Sachdeva, the Vice President-Nutrition, Vitamin Angels presented on various topics during the session.

The next two sessions conducted were on the topic “Strategies and status of Covid-19 Pandemic” and “Evidence-Based Public Health Decision Making”.

In the third session, current strategies and status of the COVID-19 pandemic have highlighted the Role of the National Cold Chain and Vaccine Management Resource Centre, and its response in the COVID-19 pandemic was discussed by speakers from, NIHFW, New Delhi, AIIMS, New Delhi, and Dr. Chandrakant Lahariya, NPO – UHC, WHO, India.

The fourth plenary session was intended for academicians and researchers including graduate, post-graduate, and doctorate students to gain knowledge of evidence-based public health decision-making. There were several attendees on the virtual platform. Also, the sessions were live telecasted on YouTube to

cater larger audience. Facts about pandemic and COVID- 19, actions are taken for public health and improvement of public health actions with some strong global evidence were highlighted and also strengthening maternal and child health care among the tribal community (PVTGs) in Odisha were emphasized by Dr. Ashoo Grover.

The next session deliberated was on the recent Evidence in Maternal and Child healthcare. The session included discussions and presentations on Initiatives in Adolescent health in Sri Lanka, Evidence-based maternal and child health care services in India, and Mohalla Clinic in NCT of Delhi: A Model for Cost-effective delivery of Primary Health Care.

The last Session on 19th December 2020 was on “Recent Research Evidence to National Health Programmes”.

DAY 2

The 2nd day of the conference (20th Dec 2020) started with a planetary session on Evidence-Based Digital Health. It was a great pleasure to introduce the respected chairpersons for this session. Our first chairperson was Prof Hari Shanker Joshi, Head of Dept of Community Medicine, AIIMS, Gorakhpur. The second chairperson was Prof Sonu Goel, Dept of Community Medicine, PGIMER, Chandigarh. The third chairperson for the session was Dr. Anmol Gupta, Head of the Dept of Community Medicine, IGMC Shimla. And the fourth chairperson was Dr. Ashok Bharadwaj, Head of the Dept. of Community Medicine, RGMC, Himachal Pradesh.

The first eminent speaker for the session was Dr. FU Ahmed, who is Pro - Vice-Chancellor at Khajabandanawz University, Kalaburagi, and delivered his lecture on the topic “Epidemiological too for Containment of outbreaks of emerging disease”. The second speaker was Dr. Pankaj Bhardwaj, AIIMS, Jodhpur. He delivered a lecture on the topic “Assessment of E-Health Program with HTA Perspective: Need of the hour”. Thirdly Dr. Ekta Gupta from ILBS, New Delhi presented the topic “Bloodborne viruses and health care workers safety: evidence-based NSI management”. And

the fourth speaker Dr. Binod Patro from AIIMS, Bhubaneswar, spoke on the topic “Digital Divide in Health Management System in India”. He explained about the Health Management Information System (HMIS), which is the foundation of public health. Afterward, a planetary session was organized on Non-Communicable diseases with the purpose to highlight the importance of various Non-Communicable Diseases in India in the current scenario. During the session, Dr. Umesh Kapil, ILBS, New Delhi shared his views on “Public Health Approach for Prevention and Control Of Non – Alcoholic Fatty Liver Disease (NAFLD)”.

The last session was organized to discuss the epidemiology and trends of the COVID-19 pandemic and provide an insight into the recent developments so far achieved in regards to COVID-19 vaccination titled COVID-19.

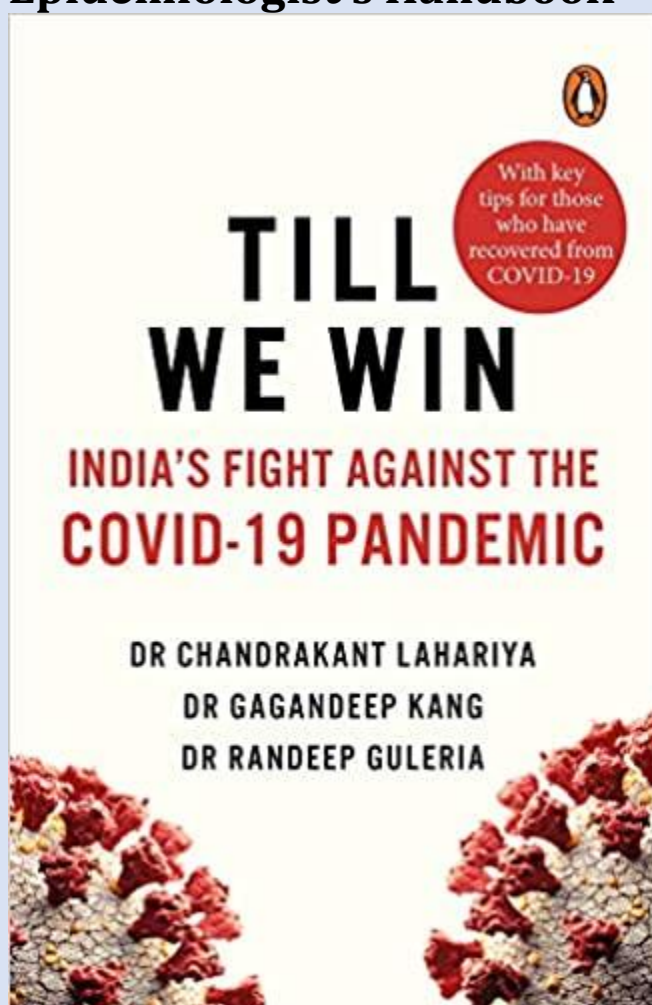


A virtual governing council meeting was held appraising the organizing team and the EFI oration was delivered by Prof. Ravi Kant, Director, and CEO, AIIMS Rishikesh.

The valedictory session was chaired by our Guest of honor Dr RK Srivastava Former Chairman Board of Governors, MCI and Director General of Health Services (DGHS), MoH&FW GoI. Dr. Mahendra Singh, (Assistant Professor, Department of Community Medicine, AIIMS, Rishikesh), was awarded as Young Researcher. Dr. Yogesh Bahurupi (Assistant Professor, Department of Community Medicine, AIIMS, Rishikesh) was awarded a certificate of appreciation as an Emerging Epidemiologist. Dr. Pradeep Aggarwal (Associate Professor, Department of Community Medicine, AIIMS, Rishikesh) was awarded as an Emerging Public Health expert.

EFICON 2020 SESSION RECORDING			
	HALLS	DATE	VIDEO LINKS
1	HALL - A	18.12.2020	https://youtu.be/gjacPKU258U
2	HALL - B	18.12.2020	https://youtu.be/Xliw2LDk3Hw
3	HALL - A	19.12.2020	https://youtu.be/dso4ON2LLp8
4	HALL - B	19.12.2020	https://youtu.be/YqhU7nKSti8
5	HALL - C	19.12.2020	https://youtu.be/PDUtj8mtnEA
6	HALL - D	19.12.2020	https://youtu.be/3oTeKmfD5As
7	PLANERY HALL	19.12.2020	https://youtu.be/Kq7YFN6AoSE
8	HALL - A	20.12.2020	https://youtu.be/0YF1vJ5X1QY
9	HALL - B	20.12.2020	https://youtu.be/1w0k7D4isCs
10	HALL - C	20.12.2020	https://youtu.be/rTyOgc7GFKs
11	HALL - D	20.12.2020	https://youtu.be/mtaWVmjTBqo
12	PLANERY HALL	20.12.2020	https://youtu.be/P95hAQCHaxI

Epidemiologist's Handbook



Published by: Penguin Random House India; 2020; pp 352

Pandemic is a word with Greek roots, which means 'All People' (Pan= All; Demos= People). Thus, a disease is termed a pandemic, when it has potential to affect all people. In such a situation, health experts including epidemiologists, need to act swiftly and with limited information that is available. During the

current pandemic, epidemiologists came to the forefront and attention. They responded to the challenge and guided India's response to the COVID-19 pandemic.

In this backdrop, recently released book titled 'Till We Win: India's Fight Against the COVID-19 pandemic' is quite inspiring. Dr Chandrakant Lahariya, who is an epidemiologist by training and a leading public health expert has authored this book with two other eminent Indian experts, Dr Gagandeep Kang (A leading virologist and Professor at Christian Medical College, Vellore) and Dr Randeep Guleria (a pulmonologist and Director of All India Institute of Medical Sciences, New Delhi). This trio of authors- epidemiologist, clinician and virologist- makes this an interesting read.

The book is indeed well written and aims at a wide range of audience including policy makers, health experts and general public. It discusses a bit about viruses and why pandemics happen. It provides information on SARS CoV2 and COVID-19, which would be of interest to everyone. The health sector response to the pandemic during the period early January 2020 until October 2020 has been covered in section-2. There are detailed deliberations on therapies, vaccines and health systems strengthening. It provides essential information on how to stay safe during the pandemic and also answers important questions in non-technical terms making it suitable for all readers. The book delves into various aspects of public health and provides valuable suggestions on how to strengthen India's health system.

The book was listed as a national bestseller in 'the Asian Age' bestseller for nonfiction, in the first week of release itself. A book review by a renowned public health researcher, Dr Anant Bhan, in The Indian Express remarked, "it is a balanced account of India's pandemic response and must be read by everyone."

The book is actually a must read for everyone interested in epidemiology in general and COVID-19 pandemic in specific. It is a good resource for doctors, public health experts, graduate and post graduate students of medical and nursing colleges of India, for whom, it should work like a handbook.

I am going to read the book, one more time. That's the quality of content in the book, very informative, insightful and useful.

Reviewer: Dr Meera Dhuria
Joint Director, Epidemiology Division
National Centre for Disease Control, DGHS,
MoHFW, GoI

News and Events

Courses

Basic Course in Biomedical Research by National Institute of Epidemiology

An Online Course for Medical Postgraduates and Teachers in Medical Institutions in India
As mandated by the National Medical Commission.

The course will explain the fundamental concepts of research methodology in health. It will be delivered through video lectures and reading materials. Certification will be done based on lecture wise assignments and a final proctored exam.


Cycle 4 enrollment is now open (enroll before 31 May 2021). Enroll now.

NleCer 101: Health Research Fundamentals, is a basic level course in health research methods. It will explain fundamental concepts in epidemiology and bio-statistics related to

research methods. This course will provide an overview of steps and principles for designing bio-medical and health research studies among human participants.

NleCer 102: Ethics Review of Health Research
The course is technically supported by the World Health Organization (WHO), India. The course will provide the fundamentals of ethical issues in biomedical research involving human participants and provide updates on research ethics guidelines in India.
This is a self-paced course. The participants can go through the learning materials and submit the self-assessment quiz anytime between 1 April and 31 July 2021.

Epidemic Intelligence Service (EIS) programme run by National Centre for Disease Control



NATIONAL CENTRE FOR DISEASE CONTROL
(DIRECTORATE GENERAL OF HEALTH SERVICES)
MINISTRY OF HEALTH & FAMILY WELFARE, GOVT. OF INDIA
22-Sham Nath Marg, Delhi- 110054. Tel: 011-23989072


Inviting Applications For 2-Year India Epidemic Intelligence Service (EIS) Programme

NCDC, in collaboration with the CDC, USA is runs the **India EIS Programme**, aimed at preparing public health professionals in field epidemiology and skills in leadership at district, state and national levels.

Applications are invited for the enrolment in India EIS Programme tentatively commencing in July 2021. Please visit <http://www.ncdc.gov.in> for more information & prescribed application form.

Last Date for receiving applications - 15th March 2021.

IAPSMCON 2021



IAPSMCON
48th Annual Conference of
Indian Association of
Preventive and
Social Medicine (IAPSM)
2021 VIRTUAL

Theme: "Public Health in 21st Century: Current Challenges and Future Opportunities"

Date: 19th - 21st March 2021
Venue: PGIMER, Chandigarh

Preconference workshops: 18th March 2021

Organized by:
Department of Community Medicine and
School of Public Health,
PGIMER, Chandigarh

EFICON 2021

FIRST ANNOUNCEMENT




Community Medicine and Family Medicine
&
School of Public Health
All India Institute of Medical Sciences, Jodhpur

EFICON-2021

Second Annual National Conference
Epidemiology Foundation of India

Theme
Transforming Global Health:
Integrating Medical, Social and Behavioral Interventions

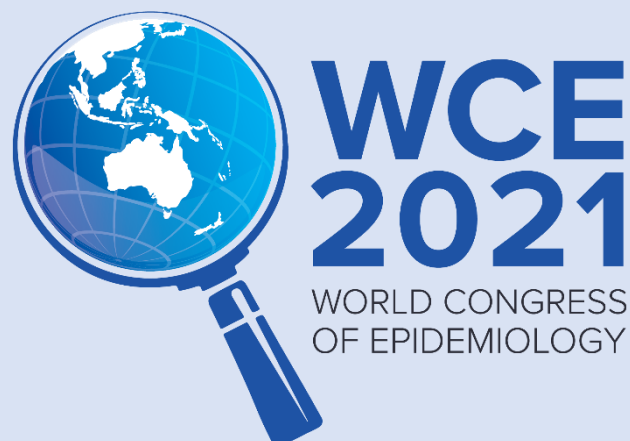
29-30 October 2021

Pre - conference: October 28, 2021

Registrations open on March 1, 2021
Visit for more details: <https://efi.org.in/eficon-2021/>
Or scan the QR Code mentioned below



WORLD CONGRESS OF EPIDEMIOLOGY 2021



The World Congress of Epidemiology (WCE) is held every 3 years by the International Association of Epidemiology (IEA). This year it will be held from 3-6th September 2021 virtually from Melbourne, Australia

1st Bangladesh Congress on Epidemiology and Public Health, 2021

IPHACON 2021

Jawaharlal Institute of Postgraduate Medical Education and Research (JIPMER)
An Institution of National Importance under Ministry of Health & Family Welfare, Govt. of India.
&
IPHA-Pondicherry State Branch




1st Announcement
65th IPHACON 2021

Theme
'Public Health: More than ever, Now!'

Date
24th to 26th Sept 2021
23rd Sept 2021 (Pre-Conference Workshop)

Venue
JIPMER International School of Public Health, Puducherry

Organised by
Department of Preventive & Social Medicine
JIPMER, Puducherry
&
IPHA - Pondicherry State Branch

1st Bangladesh Congress on Epidemiology and Public Health, 2021
(Online Conference)
Application of Epidemiological Methods in Response to Public Health Emergencies

30 – 31 March, 2021

Themes
Emerging & Re-emerging Infectious Disease
Covid-19 Pandemic and Role of Field Epidemiology
Disease Surveillance & Emergency Response
Non-communicable Disease (NCD)
Immunization
One Health

Online Registration (Free)

Submit Your Abstract
Registration closing: 10th March, 2021
Abstract Submission closing: 25th February 2021
Link : <https://fetpbangladesh.org>

Organizing Partners
Institute of Epidemiology, Disease Control & Research
DGHS, Mohakhali, Dhaka, Bangladesh
www.idcr.gov.bd
Epidemiological Association of Bangladesh (EPAB)
Centers For Disease Control and Prevention, Atlanta, USA
www.cdc.gov

