T- 13020/02/2013- CC&V
Government of India
Ministry of Health & Family Welfare
Immunization Division

Nirman Bhawan, New Delhi
Dated: 12th February, 2019

To,

All NTAGI members/Participants
(As per list enclosed)

Subject: Minutes of the meeting of National Technical Advisory Group on Immunization (NTAGI), held on 17th December, 2018 under the Chairpersonship of Secretary (Health & Family Welfare) at Nirman Bhawan, New Delhi.

Sir/Madam,

Please find enclosed herewith the minutes of the meeting of National Technical Advisory Group on Immunization (NTAGI), held on 17th December, 2018 at Nirman Bhawan, New Delhi, under the Chairpersonship of Secretary (Health & Family Welfare), for kind perusal.

Yours faithfully,

Enclosure: as above

(Dr Pradeep Haldar)
Deputy Commissioner (Imm)
011- 23062126

Copy to:

1. PPS to Secretary (H&FW), MoHFW
2. PPS to DGHS, MoHFW
3. PPS to Secretary (Department of Health Research), MoHFW
4. PPS to Secretary (Department of Bio-technology), MoS&T
5. PPS to AS&MD (NHM), MoHFW
6. PPS to JS (RCH), MoHFW
7. Office copy

THE NATIONAL TECHNICAL ADVISORY GROUP ON IMMUNIZATION (NTAGI) MEETING

11 AM-2 PM, Monday, December 17, 2018,

Nirman Bhawan, New Delhi

Minutes of the Meeting of the National Technical Advisory Group on Immunization (NTAGI)

The National Technical Advisory Group on Immunization (NTAGI) meeting was held on Monday, December 17, 2018, at Nirman Bhawan, New Delhi under the chairpersonship of Smt. Preeti Sudan, Secretary, Ministry of Health and Family Welfare (MoHFW) and co-chairpersonship of Dr Renu Swarup, Secretary, Department of Biotechnology (DBT) and Prof Balram Bhargav, Secretary, Department of Health Research (DHR) & Director General-ICMR. The list of the attendees is annexed. The Chair welcomed the members and the invited attendees to the meeting.

Conflict of Interest and Confidentiality: The Chair requested the NTAGI members/invited attendees to duly fill and sign the confidentiality agreement, declare the conflict of interests, if any, and share the same with the NTAGI Secretariat. No conflict of interest was noted.

The Joint Secretary-RCH welcomed new NTAGI members and the co-Chairs. Following a round of introduction, the meeting was called to order. The following items were discussed:

Agenda Item 1: Action arising from previous NTAGI meeting held on December 19, 2017

The Joint Secretary-RCH presented an update on the action taken on key agenda items of the previous NTAGI meeting, held on December 19, 2017 as follows:

HPV Vaccine: The members and invited attendees of the meeting were apprised that the judgment of Supreme Court on HPV vaccines is pending and as per the decision of NTAGI 2017 meeting, the inclusion of specific HPV vaccines in the programme is subject to the outcome of the pending Supreme Court judgment.

Standing Working Groups: The Standing Working Group (SWG) on Vaccine Preventable Diseases (VPD) Surveillance and the SWG on Immunization & Vaccine Research and Capacity Building (IVRCB) have been formed and have had one meeting each in 2018.

NTAGI Annual Work Plan 2018: As per the NTAGI work plan, STSC met four times and NTAGI has met once as there were not enough agenda items for 2 NTAGI meetings.

All the members noted the action taken on the last NTAGI meeting and confirmed the minutes.

The co-Chairs presented the STSC discussions and recommendations in following order:

Agenda Item 2: Update on Typhoid Disease Surveillance and Typhoid Conjugate Vaccine (TCV)

In previous meeting, the NTAGI endorsed STSC recommendations for a national typhoid surveillance to see the epidemiology and burden of typhoid disease in community and hospital-based settings by THSTI & CMC Vellore and a demonstration study to see the feasibility of introducing typhoid conjugate vaccine by ICMR-NICED & WHO. In the 16th STSC meeting held on July 6, 2018 the STSC recommended inclusion of *a rural arm in the form of two rural study sites to national typhoid surveillance (NTS) system with financial support from DHR and in collaboration with ICMR.*

Inclusion of rural arm in NTS is being done by ICMR through DHR Model Rural Health Research Unit (MRHRU). TCV demonstration study in Navi Mumbai led by the ICMR-NICED & WHO is ongoing. This was for information only.

Agenda Item 3: Update on Cholera Disease Burden & Vaccine

A status update on the study to understand the best age at which oral cholera vaccine (OCV) could be introduced in endemic areas of West Bengal through public health care delivery system of Kolkata Municipal Corporation by ICMR-NICED was presented in the 16th STSC meeting held on July 6, 2018. The STSC recommended that *as there is no substantial indigenous evidence showing cholera vaccine implementation in endemic areas, ICMR-NICED should conduct the proposed study which will serve as a pilot study for generating evidence for decision making.*

It was informed that ICMR- NICED Kolkata has approached Gavi for vaccine support for pilot introduction of OCV. The co-Chair informed that DBT through a vaccine advisory group, is exploring possibilities to support indigenous manufacturers for development of vaccines which also includes vaccines against typhoid and cholera. In the next STSC meeting, members will be updated on this subject.

Agenda Item 4: Update on inactivated JE vaccines in India

The issue of interchangeability between three JE vaccines i.e. Live attenuated JE vaccine (SA-14-14-2, Chengdu, China), Jeev (Biological E) and JenVaC (Bharat Biotech) was considered in the 17th STSC meeting held on July 30, 2018. Based on the evidence presented to the committee following recommendations were made:

- *Available data suggests that it may be possible to use Live attenuated JE vaccine (SA-14-14-2) interchangeably with Jeev & JenVaC. However, further studies on larger population is required. Furthermore, data on interchangeability between Jeev and JenVaC needs to be generated.*
- *Jeev is already being used routine immunization program. JenVaC may be used in the campaign for children 1-15 years. An Expert group on JE should examine the data and take a decision on number of doses etc. based on robustness of data.*
- *In case of shortfall of live JE vaccine, series in Routine Immunization (RI) may be completed by killed vaccines on compassionate grounds and*
- *Generate data on safety and immunogenicity of both killed vaccines in the age groups of 9-12 months and 50-65 years.*

As per the recommendations of the STSC, an expert group under the chairpersonship of Dr M K Bhan was constituted which met on December 12, 2018.The expert group has solicited detailed information regarding immunogenicity data from both the manufacturers. The expert group is examining the data of the JE vaccines to give an advice on number of JE vaccine doses required to be administered and vaccination schedule to be adopted by the universal immunization program. Proceedings of the expert group were noted.

During the meeting the Chair, directed the NTAGI secretariat to give one-week time to both the manufacturers to submit the requested data and the expert working group to submit its final report by January 31, 2019, which was agreed by co-Chairs.

In sequel to the discussions following challenges were highlighted:

Interchangeability of JE Vaccines

The live attenuated JE vaccine (SA-14-14-2) can be administered interchangeably with Jeev as well as JenVaC vaccine in interest of the immunization program. However, there is a need to generate data on the interchangeability between Jeev and JenVaC vaccines.

Interchangeability of vaccines has emerged as a huge challenge for the immunization program. Concerns were raised regarding the interchangeability of the vaccines, as interstate migration is very common phenomenon in the country and due to which some individuals are likely to receive next dose of different vaccine product.

It was also expressed that the issue of interchangeability is not only of completion of the primary series of vaccination but also of replacing a vaccine product in an area where another product was being used earlier with different dose recommendation.

Community Based Studies

It was emphasized to conduct community-based studies by independent agencies to see effectiveness of the vaccines, as in the community, people are exposed to different infections and at the same time, they receive different antigens, and have different level of antibody titers. The Chair welcomed this suggestion and emphasized on estimating the JE disease prevalence other than AES. Further, the Chair, stressed that efficacy, effectiveness and need for scaling up vaccines in larger areas need to be studied.

In view of above facts, the NTAGI made following recommendations:

- As the two killed JE vaccines vary in the dose schedule, the expert working group of STSC on JE vaccine to examine and submit its final report on the number of doses to be administered of the JE vaccine type and the recommended schedule to be adopted by the Universal Immunization Program (UIP) by January 31, 2019.
- There is a need to have ongoing community-based research to see the efficacy, effectiveness of vaccines and the programmatic need for scaling up vaccines in larger population.
- Sub-Committee needs to formulate a process to generate evidence towards interchangeability for the available licensed JE vaccines, under coordination of DBT-ICMR-MoHFW.

Agenda Item 5: Status update on indigenous Rotavirus Vaccines in India

The 18th STSC meeting which was held on October 11, 2018, discussed rotavirus vaccine efficacy, safety, interchangeability and challenges faced in its implementation. Based on the presented evidence, the STSC had made following recommendations:

- *There is a lack of sufficient evidence to say that there are significant differences in efficacy of the two indigenous vaccines,*
- *Complete data of challenges identified during Program Implementation Review (PIR) of both the indigenous Rotavirus vaccines should be submitted to the STSC,*
- *Independent study to compare wastage and program delivery of both the vaccines need to be done, followed by costing analysis and*
- *Study to see interchangeability of two indigenous Rotavirus vaccines should be expedited.*

In the meeting it was informed that the results of the two PIRs (Rotavac and Rotasiil) and wastage study for both vaccines were circulated among the STSC members for comments. Members had shared their comments before the NTAGI meeting. The comments will be examined and recommendations on the same would be communicated to the Chair shortly. This was for information only.

During the meeting following concerns were raised:

Efficacy and Programmatic issues of Rotavirus Vaccines

As desired by the STSC, the programmatic aspects of the two indigenously manufactured Rotavirus vaccines currently used in UIP was submitted to the STSC. However, STSC could not present the decision in the meeting. STSC was requested to expedite the same and share at the earliest.

All members agreed that there are no issues related to efficacy of the two Rotavirus vaccines. Some members noted some programmatic aspects- One member stated that based on the PIR and wastage study report, Rotasiil has issues related to cold chain space and administration while it has lower wastage rate. Another member added that the other product is required to be transported at -20^{o}C up to district level and has higher wastage rate.

Interchangeability of Rotavirus vaccines

The co-Chair informed that the Subject Expert Committee (SEC) at CDSCO advised to change the Rotavirus vaccines interchangeability study design from non-inferiority study design to equivalence design and investigators at ICMR-NICED have made a request to DCGI to reconsider the submitted study protocol as non-inferiority study. The Chair directed the DCGI to consider the request made by investigators.

As there is limited evidence on interchangeability of vaccines, WHO was requested to provide support on the experiences of other countries where issue of interchangeability was faced by the program. Issue of interchangeability is not only for JE and Rotavirus vaccines but is expected to become standard problem for other new vaccines including PCV.

One of the members, informed that globally, manufacturers are not supposed to do interchangeability study and they are not in position to do such study. These types of studies are actually done by national governments or academia. It was also noted that different manufactures recommend different doses and different schedule which also makes interchangeability a challenge.

Another member stated that generally in vaccines which have undergone the phase-I, II and III trials and introduced into the market, it could be assumed that when appropriately used (cold chain, route of administration, dosage, and within shelf-life maintained) the antigen, which elicits opsonizing or lytic (complement dependent) antibody for bacteria or neutralizing antibody for viruses, are preserved. These antigens are called 'protective antigens'. Vaccines for a given pathogen could be used interchangeably if they are licensed. In case of emergency situations, either of these licensed vaccines could be used as booster doses if any particular vaccine is unavailable.

It was stated by some members that demonstration of interchangeability of vaccine is not a requirement for manufacturers, rather a programmatic need for UIP. It was mentioned that interchangeability studies and programmatic aspects of vaccines may not be a priority for the research institutions. Therefore, there is a need for developing a mechanism for funding and conducting such research activities jointly under the aegis of ICMR and DBT. These research studies may be granted to medical colleges or academic or research institutions.

The co-Chair stated that interchangeability of different rotavirus vaccines will not raise safety issue but it may have different level of immunogenicity. All members unanimously agreed that in general interchangeability will be safe. However, for each vaccine type it should be looked specifically. Further, all members agreed that currently considered vaccines (JE and Rotavirus) are safe when vaccination series is completed by the vaccine of another manufacturer.

The Chair directed that DCGI, CDSCO should have a standard operating procedure for all vaccine manufactures during licensure/application process which should consider the issue of

vaccine interchangeability related program needs. Further, the Chair directed that once the report of JE expert group and the recommendations on Rotavirus vaccine use in the program are made, the same may be communicated to NTAGI.

In view of above facts, the NTAGI made following recommendations:

- Interchangeability of vaccine may not have issues regarding safety as far as adverse events following immunization (AEFIs) are concerned. However, there may be variation in immunogenicity (higher or lower). There are no issues on efficacy of the two indigenously manufactured rotavirus vaccines. The STSC should examine the available evidence on program implementation review reports of both the vaccines, vaccine wastage study reports and the comments received from the members and provide its recommendations on rotavirus vaccines at the earliest.
- A Standard Operating Procedure (SOP) has to be developed by DCGI, CDSCO for all vaccine manufacturers which should include interchangeability and immunization program needs**.** The country office of World Health Organization was requested to provide evidence on international experiences on interchangeability of vaccines, especially JE, rotavirus, pneumococcal conjugate vaccine, in the program.
- An initiative needs to be taken by ICMR-DBT to consider a joint funding mechanism for research projects/activities in the direction of immunization and vaccines aligned to the program needs.

Agenda Item 6: Status update on leprosy disease burden and Potential introduction of Leprosy Vaccines in National Leprosy Elimination Program of India

In the 19th STSC meeting which was held on November 15, 2018, burden of leprosy disease and associated disability in India, evidence on safety and efficacy on leprosy Vaccines for potential use of the vaccines as immunotherapeutic & Immunoprophylactic agent for leprosy cases and contacts under the National leprosy Eradication Programme (NLEP), cost effectiveness of the vaccines in comparison to other vaccines proposed in public health programmes and other prophylactic interventions to control spread of leprosy, and best strategy to introduce leprosy vaccine in NLEP were discussed. The STSC had made following recommendations:

- *A leprosy working group with 2-3 STSC members with external experts (independent members) will be constituted by the co-Chairs to do detailed analysis of available evidences.*
- *The NTAGI Secretariat should collate questions to be addressed by the working group and circulate for inputs by all STSC members.*

Leprosy working group has been formed under the chairpersonship of Dr Muliyil. It will communicate its finding prior to next STSC meeting. A study to see cost effectiveness in terms of programmatic implementation of the vaccine is being carried out in 4 districts of Gujarat. It was for information only.

Agenda item 7: Calendar of year 2019 NTAGI, STSC, Standing Working Groups Meetings

An annual calendar of 4 STSC meetings, 2 NTAGI meetings, 4 SWG on VPD surveillance meetings, 2 SWG on immunization & vaccine research and capacity building meetings, 2 SAGE meetings, 1 SEARO-ITAG meeting and 1 Global NITAG Network meeting was approved. It was for information only.

The Chair and co-Chairs thanked all the participants for their invaluable contribution and concluded the meeting.

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THE NATIONAL TECHNICAL ADVISORY GROUP ON IMMUNIZATION (NTAGI) MEETING

11 AM-2 PM, Monday, December 17, 2018,

Nirman Bhawan, New Delhi

Agenda

	Chair: Smt. Preeti Sudan, Secretary MoHFW ***Co-Chairs: Dr Renu Swarup, Secretary DBT and Prof Balram Bhargava, Secretary DHR & DG-ICMR***	
11:00AM- 11:10 AM	Registration and General Business	
11:10 AM- 11:20 AM	Welcome and action taken report on the minutes of previous meeting of NTAGI held on December 19, 2017	JS (RCH)
11:20 AM- 12:10 PM	STSC Discussion and Recommendations Status update on indigenous Rotavirus Vaccines in India Update on inactivated JE vaccines in India Update on Typhoid disease surveillance and Typhoid Conjugate Vaccine Update on Cholera disease burden & Vaccine Status update on leprosy disease burden and Potential introduction of Leprosy Vaccines in National Leprosy Elimination Program of India	Co-Chairs
12:10 PM- 12:40 PM	Discussion	
12:40 PM- 12:50 AM	Recommendations	Chair and Co-Chairs
12:50 PM- 12:55 PM	Calendar 2019: NTAGI, STSC and Standing Working Groups Meetings	NTAGI Secretariat
12:55 PM 01:00 PM	Closing Remarks	Chair
01:00 PM 02:00 PM	***Lunch***	

THE NATIONAL TECHNICAL ADVISORY GROUP ON IMMUNIZATION (NTAGI) MEETING

11 AM-2 PM, Monday, December 17, 2018,

Nirman Bhawan, New Delhi

Annexure

List of Attendees

	Name	Designation
Chair		
1	Smt. Preeti Sudan	Secretary, Dept. of Health & Family Welfare
Co-Chairs		
2	Dr Renu Swarup	Secretary, Dept. of Biotechnology
3	Prof Balram Bhargav	Secretary, Dept. of Health Research & DG-ICMR
Core Members, Ex-officio		
4	Dr S Venkatesh	Director General of Health Services
5	Shri Manoj Jhalani	Additional Secretary & Mission Director, NHM
6	Dr Sujeet Kumar Singh	Director, National Centre for Disease Control
7	Dr A K Panda	Director, National Institute of Immunology
Core Members, Independent Experts		
8	Prof Surinder Jaswal	TISS, Mumbai
9	Prof F U Ahmed	Integral University, Lucknow
10	Dr Dileep Kumar Das	Professor, Burdwan Medical College, West Bengal
11	Prof Rakesh Aggarwal	Professor Gastroenterology, SGPGI, Lucknow
12	Prof Satinder Aneja	Professor and Head, Dept. of Pediatrics, School of Medical Sciences
13	Prof Indrani Gupta	Professor, Institute for Economic Growth, Delhi
14	Dr Y K Gupta	Professor, AIIMS, New Delhi
15	Dr G Sridharan	Consultant Virologist, Vellore
16	Dr Mathew Varghese	Head of the Dept, Orthopedics, St. Stephan's Hospital, New Delhi
17	Prof Neerja Bhatla	Professor, Dept of Obstetrics & Gynecology, AIIMS, New Delhi
Liaison Members, MoHFW Representatives		
18	Ms Vandana Gurnani	Joint Secretary, RCH
19	Dr Pradeep Haldar	DC (Immunization)
20	Dr S Eswara Reddy	DCGI, CDSCO
Representatives from International Partners		
21	Dr Henk Bekedam	Country Representative, WHO
Members Represented by Others		
22	Dr Gagan Gupta	UNICEF India (for Dr Yasmin Ali Haque)
23	Dr Sangeeta Yadav	Joint Secretary Liaison, IAP (for Dr Santosh T Soans)
24	Dr Saritha R L	Director Health Services (for Addl. Chief Secretary, Health, Kerala)
Special Invitees		
25	Dr Alka Sharma	Adviser / Scientist 'G', Department of Biotechnology, New Delhi
26	Dr R R Gangakhedkar	Scientist 'G' and Head, ECD, ICMR, New Delhi
27	Dr Jyoti Logani	Scientist 'E', Department of Biotechnology, New Delhi
28	Dr Veena Dhawan	Assistant Immunization, MoHFW, New Delhi
29	Dr Nivedita Gupta	Scientist E, ICMR, New Delhi
30	Dr Pankaj Bhatnagar	WHO Country Office
31	Dr Rija Andriamihantaniria	UNICEF India

32	Dr Digant D Shastri	President Elect 2019, IAP
33	Dr Yashika Negi	Lead Consultant, Immunization, MoHFW
NTAGI Secretariat		
34	Dr Dinesh Paul	Advisor, NTAGI Secretariat
35	Dr Awnish Kumar Singh	Research Analyst, NTAGI Secretariat
Members Apologized		
36	Dr Parvaiz Koul	Professor, Sher-i-Kashmir Institute of Medical Sciences, Srinagar
37	Dr D T Mourya	Director, National Institute of Virology, Pune
38	Dr Gagandeep Kang	Executive Director, THSTI
39	Dr J Muliyil	Professor, CMC Vellore
40	Dr Arun Kumar Agarwal	Professor, PGI, Chandigarh
41	Dr M D Gupte	National Institute of Virology, Pune
42	Dr M K Bhan	Former Secretary DBT
43	Dr M K Agarwal	DC (UIP), MoHFW
44	Prof K Srinath Reddy	Public Health Foundation of India
45	Dr Pradeep Kumar Vyas	Principal Secretary, (Public Health Department), Maharashtra
46	Mr Roop Ram Jowel	Addl. Chief Secretary (Health), Haryana
47	Mr Samir Kumar Sinha	Principal Secretary (H&FW), Assam
48	Dr Ravi Wankhedkar	National President, IMA