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STRENGTHENING ADOLESCENT TT/Td IMMUNIZATION

A REVIEW OF EXISTING AND POTENTIAL PLATFORMS ACROSS FOUR STATES IN INDIA

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BACKGROUND

In August 2018, as per recommendation of National Technical Advisory Group on Immunization (NTAGI), Government of India decided to replace Tetanus toxoid (TT) vaccine provided at 10 years (TT10) and 16 years (TT16) under the Universal Immunization Programme (UIP) schedule with Tetanus and adult diphtheria (Td) vaccine. More than 100 countries have already switched from TT to Td vaccine.

As per National Polio Surveillance Programme's (NPSP) laboratory-supported vaccine-preventable diseases surveillance data, most cases of diphtheria occur in the age group of 5 years or above (77% and 69% respectively in 2017 and 2018).[1] Approximately 2/3rds of these cases are unvaccinated. An analysis of the 2016 diphtheria outbreak in Kerala shows that nearly 79% of cases occur ed in persons more than ten years old.[2] Investigating analysis of diphtheria outbreak in Delhi, Haryana and Uttar Pradesh in September 2018 (undertaken by Maharishi Valmiki Infectious Disease Hospital, Delhi) shows that 74% cases (103 out of 139 cases) occurred in children older than five years.

The diphtheria outbreaks in the country indicate the prevalence of pockets of low coverage of primary vaccinations and DPT booster, or low immunity to diphtheria following the primary series of DPT infant immunization. Therefore, the booster doses of diphtheria toxoid-containing vaccine are needed for pregnant women and young adolescents.

India has the largest cohort of adolescents in the world, yielding great dividends for future generations. Immunization is one of the most beneficial and cost effective disease prevention measures that can be provided for adolescents. For optimal wellbeing of this age group, immunization coverage of adolescents at the age of 10 and 16 years with Td is crucial.

In FY 2017-18, the national coverage of TT vaccine was at 55.1% and 51.7% for TT10 and TT16 respectively, as per HMIS data[3]. Additionally, the state-wide coverage of TT at both 10 and 16 years varies significantly. The TT10 coverage ranges from 13.3% in Arunachal Pradesh to 95.4% each in Tamil Nadu and Chhattisgarh. Similarly, TT16 coverage varied from 7.2% in Delhi to 87.2% in Chhattisgarh.[4]

Recently, Government of India planned to replace TT vaccine with Td adolescent vaccine. To gain the maximum benefit of Td vaccine and to prevent Diphtheria occurrence among higher age groups, its utmost important to increase the coverage among adolescents. In order to increase the coverage of Td vaccine,

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1 WHO, VPD surveillance data 2017 & 2018, obtained from Immunization Division, MoHFW, GoI.

2 Sangal, Lucky, Sudhir Joshi, Shalini Anandan, Veeraraghavan Balaji, Jaichand Johnson, Asish Satapathy, Pradeep Haldar et al. "Resurgence of diphtheria in North Kerala, India, 2016: laboratory supported case-based surveillance outcomes." *Frontiers in public health* 5 (2017): 218.

3 HMIS portal, accessed on 10th March, 2019

4 HMIS portal, accessed on 10th March 2019

robust and efficient planning, implementation, monitoring and reporting of these services are of utmost importance. Presently, there are multiple programmes running across states in India, which capture the adolescent age group of 10-19 years. However, the mandate of these programmes is guided by limitations, leaving out a large proportion of this age group (e.g. programmes targeted exclusively towards adolescent girls, or school-going adolescents (leaving out of school adolescents), and the provision of counselling services for adolescents (omitting other preventive services) etc.

In light of these gaps, Immunization Technical Support Unit has been entrusted by Ministry of Health and Family Welfare (MoHFW) to review the adolescent immunization programme, and to assess other public health programmes which can be utilized as a platform to increase the coverage of TT/Td vaccination amongst adolescents.

OBJECTIVE

The review aims to identify programmes of the health and allied departments in states for improving coverage of Td vaccine at 10 years and 16 years.

The specific objectives include:

- Understand the current status of adolescent immunization;
- Explore different public health programmes with scope of integrating adolescent immunization;
- Identify the best strategies/platforms which can boost adolescent immunization coverage (in-school and out of school) and;
- Suggest a strategic Td immunization improvement plan

METHODOLOGY

To understand the current situation, a situational analysis was carried out in four states of the country. Based on TT16 coverage, states were divided into four groups: 1) 0%-24.9%, 2) 25%-49.9%, 3) 50%-74.9%, 4) 75%-100%.

Table 1: State wise coverage of TT10 and TT16 from HMIS 2017-18

State	TT10	TT16
Assam	32.0%	22.0%
Madhya Pradesh	56.8%	56.6%
Tamil Nadu	95.4%	86.7%
Uttar Pradesh	45.4%	48.4%

A random selection of four states was made from each of these groups, namely, Assam, Madhya Pradesh, Tamil Nadu, and Uttar Pradesh (Table 1). One district in each of the state was selected keeping operational purposes and time in mind. The districts selected for the review included Kamrup Metropolitan (Assam), Vidisha (Madhya Pradesh), Barabanki (Uttar Pradesh) and Kancheepuram (Tamil Nadu).

The situational analysis was carried out in each state at three levels: State, District and Block. At the state level, information collection was undertaken through a checklist for national/state health programs namely; Universal Immunization Programme (UIP), *Rashtriya Bal Swasthya Karyakram (*RBSK), Rashtriya Kishor Swasthya Karyakram (RKSK), Integrated Child Development Services (ICDS) and School Health Programme (SHP).

Four teams comprising of 4/5 investigators carried out the review in identified districts. Qualitative methodology was used for soliciting information from a host of stakeholders who manage various government programs across levels; and key functionaries from private schools. The research team canvassed a pre-designed open –ended interview schedule and conducted face to face in- depth interviews.

For obtaining optimal information on the subject, an actor mapping exercise was undertaken, which included a range of officials from the health department, education department, tribal department (where applicable) for each state to be interviewed using pre designed checklists (Table 2):

Table 2: Officials interviewed at the state, district block (rural and urban areas)

Level	**Officials interviewed**
State	SEPIO, Nodal officer: RBSK, RKSK, WCD, Tribal department, in-charge School Health Programme, Education department
District	District Immunization Officer, District RBSK nodal officer, District RBSK coordinator, District Social Welfare Officer, District Program Officer (ICDS), District Education Officer (primary, middle and higher secondary)
Block	MOIC, Block RBSK coordinator, School health in-charge, ANM, AWW, ASHA, Block RBSK team, School teacher
Urban	Urban PHC MO, ANM, ASHA, AWW, Urban RBSK Team, Private School in-charge

Findings from the Review

Before the introduction of RBSK (in 2013), adolescent immunization was being conducted by school health programmes (SHP). However, SHP interventions phased-out with the introduction of RBSK, leading to a decline in adolescent immunization coverage. Currently in India, adolescent immunization is primarily supported under the UIP and ICDS. The situation in urban areas, particularly in private schools needs focused attention to achieve the desired coverage.

STATUS OF ADOLESCENT IMMUNIZATION UNDER UNIVERSAL IMMUNIZATION PROGRAMME

Currently, the immunization of adolescent girls and boys is being carried out on an ad-hoc basis. The due list does not contain information related to adolescents due for vaccination. While the routine immunization sessions continue to tap on adolescents (through VHND/UHND), their proportion is significantly low, and the process of immunization has been found inconsistent across the states (reported through Monthly Progress Report (MPR) and uploaded in HMIS).

The inclusion of adolescent beneficiaries for calculation of TT requirement is also variable. During one of interactions with a frontline worker (FLW in Madhya Pradesh), it was shared that the immunization coverage was more among adolescent girls, as compared to adolescent boys. One plausible explanation, cited by the FLW and backed by secondary research is that certain initiatives in the states are specifically targeted towards adolescent girls. In addition, it was observed that the monthly and quarterly RI reviews (taking place at state, district and block level) does not take adolescent immunization into account.

While exploring the possibility of listing all adolescents due for TT/Td vaccine, it came to the light that, the enumeration of all adolescents is being done in the area by ANMs/VHNs and ASHAs/AWWs during their yearly family survey. Thus, the tracking of adolescents for Td vaccination can be done from these two surveys.

No specific IEC material advocating for adolescent immunization during RI was found to be used across the four districts.

In Madhya Pradesh, a one-time school campaign was undertaken to cover adolescents in class 5th and class 8th between September to December 2018. The number of adolescents vaccinated by TT10 and TT16, had been reported in HMIS portal by the ANM. A noteworthy observation here is that the RCH portal did not have a section for entries of TT10 and TT16.

In urban areas of Tamil Nadu, each PHC enlists the school under its population area. The Urban Health Nurse visits each school (government and government aided) and gets the line-list of all eligible children from the school. Subsequently, schools are visited for immunization. No records of out of school/ drop-out children were found in the state/district/block, as the administration at each level presumed there were none.

POTENTIAL PLATFORMS FOR ADOLESCENT IMMUNIZATION

(A) Rashtriya Bal Swasthya Karyakram (RBSK)

The RBSK aims to identify and undertake early intervention for children from birth to 18 years to cover (i) defects at birth, (ii) diseases in children, (iii) deficiency conditions, and (iv) developmental delays including disability in children. Children below 6 weeks are screened through ASHAs during their home visits, 6 weeks to 6 years at AWC and 6 years to 18 years in school by RBSK teams. Non-school going children are covered/screened at the AWC. The programme however is currently not mandated to provide immunization services.

To undertake screening of students in schools, the programme has a provision of two mobile teams comprising of four members in each (i.e. two doctors (AYUSH/allopath) - one male, one female, one ANM/staff nurse, and one pharmacist/lab technician/ophthalmic assistant). A mobile health team is assigned for each block in a district.

The RBSK teams screen children from class 1st to class 12th in all the government and government aided schools once in a year (not covering over 120 screenings/day with a target of 2200 screenings in a month). The RBSK micro-plan was available in standard formats in all the states, though its preparation mechanism varied.

Monitoring mechanism for the RBSK visits was found missing across states. As observed on field, data reporting is undertaken manually from the block level.

In rural areas in Tamil Nadu, RBSK and health department has collaborated to utilize the opportunity of RBSK school visits for immunization of adolescents for TT10 and TT16. This intervention is undertaken with the support of the Village Health Nurse (VHN)/Community Health Nurse (CHN) and School Health Nurse (SHN). The RSBK team visits are scheduled in the month of April-May and comprise of an additional VHN (representing the area), covering government, government aided and private schools. The immunized adolescents are reported under HMIS through MPR of the VHN. This however, is a practice unique to Tamil Nadu, not observed by the other reviewed states.

Lack of coordination between the schools and health department, and lack of information with regard to the RBSK team's visit among parents was also observed.

Programme Strengths

- Covers government and government-aided school through well prepared micro-plans
- Provision of (Auxiliary Nurse Midwife (ANM)/Staff Nurse (SN) in mobile health team and mobility support
- Daily expected load of children (~120/day) is in coherence with ANM injection load/ day (<150/day)
- Sound recording and reporting mechanism
- Quarterly review mechanism (at state, district and block level) with representation of key departments (health, education and ICDS)

Programme Limitations

- Different departments for RBSK and Immunization program (lack of coordination)
- Shortage of manpower, especially the ANMs/SNs
- Each school visited only once a year, micro plan does not capture strategy for absentee/missed students
- No details on out-of-school children and children in private and religious schools
- Existing ANM's role limited to conduct anthropometric measurements only
- Fear of vaccination in schools might lead to high number of absentees on the day of RBSK team visit which might adversely affect screening
- Limited knowledge among parents, teachers, and children

(B) School Health Program (SHP)

Age appropriate vaccination formed part of the interventions enlisted under the SHP guidelines. However, its operationalization cannot be validated due to the phase out of SHP with the onset of RBSK. There is no separate scheme on SHP.

(C) Rashtriya Kishor Swasthya Karyakram (RKSK)

RKSK functioning was not uniformly present in all reviewed states. While the programme was found functional in a few districts, the integration of Td vaccination of adolescents within its programmatic portfolio was not found feasible.

As part of the programme, one Adolescent Friendly Health Clinic has been provisioned in every district hospital, CHC and medical colleges, to provide counselling services to adolescents aiming to improve nutrition, reproductive and sexual health, enhance mental health, prevent injuries and violence, and prevent substance misuse. Adolescent Health Day and Adolescent Friendly Health Clinics can be utilized as a platform to promote TT/Td vaccination

In Uttar Pradesh, peer educators have emerged as a role model to reach out to the adolescent population for advocacy & awareness related to health. This potential group may be utilised as a platform for providing support/ sensitizing community on adolescent immunization.

In rural areas of Tamil Nadu, RKSK targets both in school and out of school children at Adolescent Friendly Health Clinics, functional at community health centers, medical colleges and district hospitals. Adolescents may approach for immunization services on any day of the week (especially Saturdays, dedicated for delivering immunization services at PHCs).

Programme Strengths

- Peer Educator is an efficient model to reach out to the adolescent population - a potential platform for providing support/sensitizing community on adolescent immunization

Programme Limitations

- Limitations for a pan-India convergence of TT/Td immunization
- Lack of a robust tracking mechanism, no defined targets, adolescents approach AFHCs as and when needed
- Focus on adolescent girls, adolescent boys usually not captured

(D) Integrated Child Development Service (ICDS)

The ICDS Scheme provides supplementary nutrition, immunization and pre-school education to children age 0-6 years, pregnant and lactating mothers, women age 15-44 years, and adolescent girls up to the age of 18 years.

Under ICDS, the AWW conducts household survey annually/half-yearly to enlist all family members, including adolescents (school-going as well as out-of-school), and provides an opportunity to track and vaccinate them.

Programme Strengths

- Detailed line-list of adolescents available for both in and out of school

- Most Village Health and Nutrition Days (VHNDs) and RI sessions conducted at Anganwadi Centres (AWCs) and AWW support mobilization activities for RI

Programme Limitations

- Detailed line-list of adolescents available for both in and out of school
- Most VHNDS and RI sessions conducted at AWCs and AWW support mobilization activities for RI

(E) Department of Education

There are no specific health programmes for adolescents led by the Department of Education, Government of India. However, the UDISE software has the provision of (class-wise) number of children enrolled in schools (urban / rural and public / private), which may be used for planning sessions and logistics.

In Assam, the Non-Residential Training Centre (NRTC) is a platform where out-of-school children are registered and trained by education volunteers. This platform has a line-list of all out-of-school children within the district, which is updated periodically, every year.

Programme Strengths

- Enrolment data of children from urban/rural/ private/public sector schools available
- Education MIS (EMIS) captures data for out-of-school children

Programme Limitations

- DISE data quality questionable – in MP, it has led to issues in planning during MR campaign
- Limited knowledge among teachers and school authorities

(F) Department of Tribal Affairs

Tribal population comprises of 83.2% of total population within states like Madhya Pradesh, Maharashtra, Orissa, Gujrat, Rajasthan, Jharkhand, Chhattisgarh, Andhra Pradesh, West Bengal, and Karnataka; a substantial proprtion of which comprises of adolescents, in need of immunization.

In Madhya Pradesh, an online system by the name of MP Task is being developed to track individual tribal children as well as adults. Similar opportunities may be explored for other states with a significant tribal population.

Programme Strengths

- List of all tribal schools in the state is available
- Good platform to integrate health services with educational services for adolescents

Programme Limitations

- Lack of coordination between health and tribal department in streamlining the adolescent immunization
- Primary focus on education services only, health services has to be integrated

(G) National Deworming Day

National Deworming Day (NDD) is a bi-annual event conducted to deworm all preschool and school-age children (enrolled and non-enrolled), between the ages of 1-19 years through the platform of schools and AWCs in all the four assessed states. The primary aim of this programme is to improve the overall health, nutritional status, access to education and quality of life of children. This platform may be explored for integration of Td vaccination.

Programme Strengths

- Popular within the school education system
- Community is already mobilized for the deworming program

Programme Limitations

- Inclusion of Td immunization format might dilute achievement of NDD as the former intervention (Td administration) is an injectable while the latter (albendazole) is administered orally
- Occurrence of adverse event in any of the program will affect the coverage of other programs

(H) Measles-Rubella Campaign

India is signatory to South-East Asia Regional Committee goal to eliminate measles and control rubella/CRS (congenital rubella syndrome) by 2020. The Ministry of Health and Family Welfare launched the Measles –Rubella (MR) campaign in February 2017 in a phased manner, covering children between 9 months to below 15 years. The goal of the campaign was to boost efforts to enhance population immunity to both measles and rubella and arrest deaths from measles and disabilities like CRS occurring from rubella infection in early

pregnancy. The MR campaign was completed in all the four assessed states with good coverage (Assam: 98%, Tamil Nadu: 96.3%, Uttar Pradesh: 99.1%; and in Madhya Pradesh: 98% based on provisional report: Source: State Report).

Programme Strengths

- Micro-planning includs mapping of schools and preparation of due lists, with special focus on high-risk areas / migrant populations
- Strong coordination between Health, Education and Women and Child Development departments and development partners
- Special taskforces (STFI and DTFI) for effective review
- Use of a diverse range of IEC material and IPC interventions
- Effective communication strategy to cover private schools, madrasas etc.

Programme Limitations

- Rollout of intervention in campaign mode has limitations of sustainability
- Require intensive resources and logistics
- Unlike MR, the Td shots are given intra-muscular to adolescents, which may cause more pain, and therefore may lead to higher hesitancy and apprehension from adolescents.
- Updation of urban micro-plans, especially in high risk areas with large number of migrant families was a challenging task for RI

Strategic Recommendations and Conclusion

SNAPSHOT OF POTENTIAL SOLUTIONS

Incorporate Immunization as part of the RBSK portfolio in Govt. and Govt. aided school

- RBSK staff nurse/ANM TOR to be modified to accommodate provision of immunization services (after proper RI training)
- Linking an additional trained ANM (of same catchment area) to each RBSK team for immunization services

Strengthen the RI to improve Td 10 & Td 16 coverage in out-of-school adolescents

- VHNDs to cover out-of-school or missed adolescents
- Inclusion of data elements for age 10 and 16 in head count survey and due list

Td Immunization Week once every year to cover drop outs, pvt. and religious schools, etc.

- Focused vaccination sessions for private and religious schools, etc with proper communication strategies in place
- Focus on high risk areas / populations for development due list and micro-plans

Based on multi-stakeholder interactions across four states, the following three strategies are recommended to optimize adolescent immunization on Td 10 and Td 16 vaccine. Each strategy is guided by a set of pragmatic interventions enlisted through matrices drawn below. These suggestive recommendations fall within the purview of both the urban and rural immunization landscape, and may be tailored to befit state specific priorities.

Potential Solution 1

Incorporate Immunization as part of the Rashtriya Bal Swasthya Karyakram (RBSK) portfolio in government and government-added schools

RBSK was found to be the most suitable platform to tap adolescents for administration of Td10 and Td16 vaccine across all four states as detailed under sub-points below.

Greater investment on platform facilitators to improve coverage in schools (especially government and government aided)

Since the oneness of the success of TT/Td 10 and TT/Td 16 rollout and acceptance depends on frontline workforce like the ANM, there is a need to ensure their greater engagement within the programme. Currently, the staff nurse / ANM's responsibilities pertaining to immunization are limited and have a much broader scope for refinement through their Terms of Reference (ToR); especially with regard to the incorporation of responsibilities pertaining to routine immunization, TT/Td10 and TT/Td16 vaccination. In efforts towards strengthening immunization within the existing RBSK portfolio, the role of the staff nurse /ANM assigned as part of the RBSK mobile team can be changed / revised to include immunization for the school children aged 10 years (class 5) and 16 years (class 11).

A second strategic recommendation to maximize the opportunity to cover in-school adolescents is to link an additional trained ANM (one who belongs to the sub-center of the area) to each RBSK team, exclusively dedicated to provide immunization services for Td to adolescents (class 5^{th} and 11^{th}). This support may be extended by the ANM on any day barring VHND or RI days.

Since the RBSK mandates screening of a maximum of 120 students per day for rollout of interventions under the programme, the teams are often required to revisit schools with strength exceeding 120 students on subsequent days. This further provides an opportunity for the ANM / staff nurse to cover any missed adolescents for Td vaccination and even bring out-of-school students for vaccination to the school site.

Revise Td10 and Td16 administration plan in schools to maximize coverage and counter the barrier of dropouts

Adolescent dropout poses a key barrier to adolescent immunization in schools. With data highlighting over 57% girls drop out of school by class 11th (Source – Children in India 2018, Ministry of Statistics and Programme implementation), the government may be confronted with the challenge of covering adolescents for Td16 vaccine. If efforts to counter this barrier, the administration of Td 16 may be recommended for class 10th students (besides class 5th for Td10) instead of class 11th, to maximize its coverage in schools.

Activities	Incorporating immunization within the RBSK portfolio
MICROPLANNING	• Incorporate components on adolescent immunization to RBSK's exiting micro-plan; for which RBSK plan needs to be updated based on immunization session requirements • Revise ToR of ANM/SN of the RBSK team to include immunization for school children age 10 and 15/16 after proper immunization training OR Link one additional ANMs (ideally one who belongs to the area's sub-center) with each of the RBSK teams, exclusively dedicated to provide immunization services for Td to adolescents in schools; The services of the designated ANM may be utilized on any day barring RI/VNN days • Leverage partnerships with agencies with wide on-field presence (like NPSP / WHO) to map and strengthen existing RI micro-plans to support Td10 and Td16 rollout • Include vaccine distribution plan and supervisory plan to the RBSK micro-plan • Ensure staff recruitment as per the RBSK plans is complete with all staff in position
HOUSEHOLD SURVEY	• Include adolescent age group of 10 and 16 years as part of the head count survey of AWW and ASHA including both school-going and out-of-school children • Undertake line listing of all 10 and 16-year-old adolescents in schools twice a year • Additional focus on coverage of adolescent boys may be made through this survey by AWW • Include data elements related to school going and out of school adolescents to further facilitate Td coverage and monitoring among this age group (age 10 and 16)
VACCINE DISTRIBUTION	• Develop vaccine distribution RBSK plan via nearest cold chain point - through RBSK vehicle and through alternate vaccine delivery (AVD) system for VHNDs and RI sessions • Incorporate Td 10 and Td 16 vaccine supply in RBSK and RI micro plans • The micro-plans need to give clear guidance on where the ANM will receive the TD10 and Td16 supplies during VHND/RI session

IMPLEMENTATION	• Cover Government and Government aided schools • Plan school visit in the beginning of the school year or between September-December to ensure maximum attendance; the RBSK plan needs to be updated accordingly • Assign responsibility of planning RBSK activities for immunization (using micro-plans mentioned above) to medical officers or block supervisors • Administration of Td to adolescents of Class 5 and 10 (instead of Class 11 as around 57% girls drop out of school by class 11) VHNDs used to cover out-of-school or missed adolescents for Td10 and Td16 at AWCs, PHCs, CHCs, DHs and MCs • When the coverage reaches more than 60% include the private schools also under RBSK platform or developed under a separate plan for the additional ANM to cover private schools (on any day except RI/ VHN days.)
RECORDING & REPORTING	• Include recording and reporting of Td10 and Td16 under RBSK reporting and also through HMIS • Recording of immunization services in schools needs to be done under school report cards • Schools to maintain the information of immunized adolescents in their health records and under UDISE • ANM RCH register should have column to record information on TT 10, TT 16 to include information in MPR
MONITORING SUPERVISION	• Strengthen the existing RBSK / Universal Immunization Programme monitoring formats (both concurrent and supervisory) with the inclusion of critical indicators on Td10 and Td 16 for adolescents for effective tracking of Td services in schools • Suggestive indicators to be included in RBSK formats: 1) Percentage of RBSK sessions with immunization of adolescents on Td10 and Td16, 2) Td vaccine availability during RBSK session in schools, 3) Total coverage of Td in schools • Advocate review of Td10 and Td16 coverage as a priority agenda during district / state level reviews
COMMUNICATION	• Sensitize schools and RBSK teams on the importance of the Td at 10 and 16 years • Develop a handout / leaflet on Td10 and Td 16 for school teachers and adolescents • Utilize platforms like Parent Teacher Meetings and WhatsApp groups to disseminate positive messaging on Td for adolescents • Bolster community awareness initiatives on Td10 and Td16 • Showcase Td IEC in RBSK mobile vans with clear messaging on the benefits of vaccine for adolescents age 10 and 16 • Utilize the RKSK platform for awareness generation on Td10 and Td16. This intervention will be facilitated through peer educators, and through opportunities like the adolescent health days • Disseminate immunization messaging through ASHA / AWW

AEFI	◉ Incorporate AEFI protocols based on learnings from measles-rubella campaign ◉ Ensure AEFI kit is available at all session sites ◉ Ensure availability of referral transportation to AEFI handling centers (RBSK vehicle may be assigned for this task or an additional vehicle may be put on duty) ◉ Ensure the availability of a private space for administering Td vaccine in schools. The vaccine administration should not be done in presence of other students ◉ Develop media protocol handout with FAQs on AEFI concerning Td for 10 and 16-year-old adolescents; Orient RBSK teams ◉ Organize state / district / block level orientations on AEFI reporting protocols for nodal officials and key media representatives
COVERING OTHER SCHOOLS	◉ Include private schools as part of the RBSK mandate ◉ Boost advocacy efforts with private schools on promotion of informed consent for Td vaccination ◉ Initiate greater engagement with parents through parent teacher association (PTA) meetings and dissemination of positive messaging on Td vaccine through mobile texts and WhatsApp messages to counter parental resistance and create a lobby of vaccine advocates among caregivers of school going adolescents ◉ Organize (state / district / block level) sensitization workshops on Td10 and Td16 for key influencers including teachers, religious & political leaders and local media with the support of mobile RBSK teams ◉ Organize Td vaccination sessions for class 5th and 10th in private schools with the support of the additional ANM

Potential Solution 2

Strengthen the RI to improve Td 10 & Td 16 coverage in out-of-school adolescents

Routine immunization days and Village and Health and Nutrition Day (VHNDs) were found to be the most suitable platforms to cover out-of-school or missed adolescents for Td10 and Td16 at Anganwadi centers and in health facilities during immunization days. Strengthening this platform needs to be taken up as a priority by state governments for which prevalence of trained human resource, streamlined coordination mechanism (between Health, Education and WCD departments) and on-site vaccine availability is crucial. While a line-list of adolescents (for both in and out of school adolescents) is available with Anganwadi workers, the utilization of head count survey data, with the inclusion of data elements for age 10 and 16 will further provide an opportunity to cover missed / drop out adolescents during RI/VHNDs. Undertaking community awareness on Td vaccination for 10 and 16-year-old adolescents, with additional focus on boys by Anganwadi workers, without missing out on adolescent girls may also be viewed as a potential opportunity to tap on this age group.

Activities	Incorporating immunization within the RBSK portfolio
MICROPLANNING	• Strengthen immunization of adolescents aged 10 and 16 years (segregated information on boys and girls) in VHND micro-plans (including AVD and supervisory plans) • Include Td in vaccine distribution plan • Leverage partnerships with agencies with wide on-field presence (like NPSP / WHO) to strengthen micro-planning interventions to support Td10 and Td16 rollout.
HOUSEHOLD SURVEY	• Utilize Anganwadi Workers' household survey data to identify out of school adolescents • Head count survey data, post the inclusion of data elements for age 10 and 16 may further provide an opportunity to cover missed / left out adolescents during VHNDs • Undertake listing of school adolescents missed during school sessions. Accordingly update due list to include non-school going children and missed adolescents (during school sessions).
VACCINE DISTRIBUTION	• Undertake vaccine distribution through AVD • Estimation of vaccine requirement may be based on due list (post • Inclusion of adolescents to the list) and head count survey

IMPLEMENTATION	◉ Immunize adolescents for Td10 and Td16 during outreach sessions and health facilities during immunization days ◉ Identify 10 and 16-year-old out of school adolescent boys and girls (from AWW's survey data) to be mobilized by ASHAs / VHNs and vaccinated at Anganwadi centers or health facilities
RECORDING & REPORTING	◉ To be undertaken through HMIS and Monthly Progress Report ◉ Incorporate information pertaining to Td10 and Td16 within the existing immunization reporting formats and maternal child protection (MCP) cards to streamline and strengthen record keeping on Td coverage ◉ Advocate review of Td10 and Td16 coverage as a priority agenda during district / state level reviews
MONITORING SUPERVISION	◉ Strengthen the supportive supervision mechanism with the inclusion of Td10 and Td 16 indicators in GoI's monitoring checklists ◉ Include information pertaining to Td10 and Td 16 within the VHND supervisory checklist
COMMUNICATION	◉ Sensitize AWW/ASHA/ANM on the importance of Td10 & Td16 through IPC sessions during monthly review meetings (at the state / district /block level) ◉ Undertake mobilization of adolescents through ASHAs and ANM ◉ Sensitize schools on the importance of the Td at 10 and 16 years on VHN days ◉ Promote community awareness initiatives on Td vaccination, focusing on the drop outs and out-of- school children especially the boys and without missing the girls ◉ Strengthen IEC on Td for adolescents at health facilities and Anganwadi centers. Promote Td as TT+ to dispel confusion with regard to the vaccine ◉ Undertake IEC advocacy through peer educators on adolescent health days (under RKSK)
AEFI	◉ Organize orientation of FLWs (ANM/AWW/SN) on Td10 & Td 16 on AEFI reporting (at the state/ district / block level) ◉ Develop a media protocol handout with FAQs on AEFI concerning Td 10 & Td16 ◉ Ensure AEFI kit is available at all session sites ◉ Ensure availability of referral transportation to AEFI handling centers (RBSK vehicle may be assigned for this task or an additional vehicle may be put on duty ◉ Ensure the availability of a private space for administering Td vaccine at session site

Potential Solution 3

Td Immunization Week once every year to cover drop outs, private and religious schools, etc.

Campaign mode is a proven strategy to mobilize adolescents and robustly disseminate information and boost vaccine coverage. Based on learnings of the measles-rubella campaign it is imperative to boost advocacy efforts with schools (especially private schools) on promotion of Td vaccination and its benefits for adolescents. The campaign's success will be guided by efficient mapping of schools, with focus on high risk areas / populations for development due list and micro-plans, training of teachers and supervisor, orientation with parents and the prevalence of a strong coordination mechanism (between education, health and WCD departments) to review the campaign's gaps and successes.

Activities	Incorporating immunization within the RBSK portfolio
MICROPLANNING	• Develop micro-plan based on learnings of measles-rubella campaign micro-plan • Map schools to prepare due lists and micro-plans with focus on high risk areas / populations • Leverage partnerships with agencies with wide on-field presence (like NPSP / WHO) to map and strengthen micro-planning interventions to support Td10 and Td16 rollout in schools
HOUSEHOLD SURVEY	• N.A - Schools to provide a line list of adolescents (age 10 and 16)
VACCINE DISTRIBUTION	• Undertake vaccine distribution through AVD
IMPLEMENTATION	• Immunize adolescents for Td10 and Td16 during beginning of the academic year or between September – December to ensure maximum attendance of adolescents in private schools • Administer Td16 vaccine for class 10th students (besides class 5th for Td10) instead of class 11th, to maximize its coverage in schools and counter the challenge of high-school dropouts
RECORDING & REPORTING	• Incorporate information pertaining to Td10 and Td16 within the existing school reporting formats / student report cards
MONITORING SUPERVISION	• Establish special task forces on Td immunization at the national, state and district level for efficient coordination between various departments and facilitate robust a review mechanism

COMMUNICATION	◉ Sensitize orientation of teachers and supervisors on the importance of Td10 & Td16 prior to campaign rollout ◉ Strengthen IEC on Td for adolescents at in schools through leaflets for adolescents and teachers ◉ Initiate greater engagement with parents through parent teacher association (PTA) meetings and dissemination of positive messaging on Td vaccine through mobile texts and WhatsApp messages to counter parental resistance and create a lobby of vaccine advocates among caregivers of school going adolescents ◉ Promote Td as TT+ to dispel confusion with regard to the vaccine ◉ Organize media workshops at the national / state level to disseminate positive messaging on Td10&Td16, counter rumors and negative messaging. ◉ Undertake advocacy with religious leaders, other key influencers and organizations like the Lions club, Rotary club, IMA and IAP on promotion of positive messaging on Td for adolescents
AEFI	◉ Develop a media protocol handout with FAQs on AEFI concerning Td 10 & Td16 for school administration ◉ Incorporate AEFI protocols based on learnings from measles-rubella campaign micro-plan ◉ Ensure availability of referral transportation to AEFI handling centers ◉ Ensure the availability of a private space for administering Td vaccine in schools. Vaccine administration should not be done in classrooms, and not in the presence of other students ◉ Develop a media protocol handout with FAQs on AEFI concerning Td for 10 and 16-year-old adolescents. Orient RBSK teams on the same ◉ Organize state / district / block level orientations on AEFI reporting protocols for nodal officials and key media representatives

CONCLUSION

With reference to the key findings from four states, the above three strategies and its guiding interventions will provide an encouraging opportunity to bolster adolescent immunization coverage for TT/Td 10 and TT/Td16 for both in and out of school students in government, government aided and private schools, with focus on both adolescent boys and girls.

The sustainability and efficiency of these interventions will however be based on three key factors:

- Robust monitoring of adolescent immunization coverage for TT/Td10 and TT/Td16
- Strengthen the review and feedback mechanisms for adolescent immunization across all levels (national/state/block)
- Streamline inter-departmental coordination (between Health, Education and Women and Child department)