

Intermittent inadequate vaccine supply – one of the causes of negative drop out

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Proem:

Fully Immunized Children (FIC) below one year, DPT1 & DPT3 dropout rate, BCG & Measles1 dropout rate... are a few commonly used Routine Immunization performance review indicators. Theoretically all dropout rates are always positive (+ve). But we often get disproportionate negative dropout rates, especially in the urban areas. This rate is formula based: e.g. DPT1 -- DPT3 dropout rate is obtained by the following formula-

$$\frac{\text{DPT1} - \text{DPT3}}{\text{DPT3}} \times 100$$

In a given month if 100 children receive DPT 1st dose, generally children receiving DPT 3rd dose is less than 100. In urban areas, often children receiving 3rd dose is higher than 1st dose. This formula takes into consideration only the numbers but not the 'cohort' of specific children who received the 1st dose, do the same cohort receive 3rd dose on attaining eligible age. Vaccination data line listed in the Immunogram easily addresses this issue – provides child specific, cohort specific dropout rate and hence there is no chance of getting –ve dropout rate which is an invalid indicator for performance review.

Now:

India introduced two fractional doses of 0.1mL intra-dermal IPV in the National Immunization Schedule (NIS) since April 2016 as an end game strategy of Polio Eradication. It is supplied as multi dose vial of 50 doses per vial [0.1mL per dose – 5mL vial] & 25 doses [0.1mL per dose – 2.5mL]. From the first experiences of the first 5 vials we learnt that 61.6% doses were sacrificed [154 doses were sacrificed out of 250 doses in 5 vials]. Soon we received 25 doses per vial and the wastage became NIL [0%] in the CHC and Medical College. This month we again got 50 doses per vial. With this, to minimize “sacrificing” of precious vaccine and being supported by the midlevel managers, 3 Aces [ANMs, AWWs and ASHAs] started mobilizing all those who are below one year and missed IPV due to short supply.

With this 'movement' of clearing the backlog to close population immunity gap & to make optimum use of the vaccine, we observed that first dose IPV administered along with 3rd dose of OPV and Pentavalent was recorded in the 'cell' meant for IPV 2nd dose. This will give an accentuated negative IPV1 & IPV2 dropout.

