

## Methodology for Preparing Score Card / Dash Board

**Background:** The RMNCH+A strategy aims to improve maternal and child survival by reducing child and maternal mortality by strengthening health care delivery system. Score cards / Dash Boards have been developed to assess and improve the service delivery through the HMIS. The score card assists in comparative assessment of performance of states, districts and blocks.

**Objectives:** The objectives of the score card are to:

- Depict status of different components of services delivered under RMNCH+A strategy for states / districts / blocks using standard methodology and color coding scheme in maps
- Compares states / districts / blocks using the Overall Composite Index
- Highlight inequities across states, districts and blocks for focusing on areas lagging behind
- Facilitate use of HMIS data and ultimately improve the data quality in HMIS.

**Approach:** Score card shows the relative position of a State / district / block using a composite index. A total of 16 indicators (annexed) are used to calculate the composite index. These 16 indicators cover 4 stages of lifecycle as mentioned below:

- Pre-pregnancy/reproductive age
- Pregnancy care
- Child birth / delivery
- Post natal, maternal and new born care

**Methodology for preparing Scorecard:** Let  $X_{id}$  represent the value of the i-th indicator in the d-th district of a state ( $i=1,2,3,\dots,16$ ;  $d=1,2,3,\dots,n$ ) (n being the number of districts in the State). For each indicator, a normalized index value is calculated as indicated below:

If an indicator $X_i$ is positively associated with development, like safe deliveries, then	If an indicator $X_i$ is negatively associated with development, like women discharged in less than 48 hours to delivery then
$\text{Index Value } X_{id} = \frac{(X_{id} - \text{Min}(X_{id}))}{(\text{Max}(X_{id}) - \text{Min}(X_{id}))}$	$\text{Index Value } X_{id} = \frac{\text{Max}(X_{id}) - X_{id}}{(\text{Max}(X_{id}) - \text{Min}(X_{id}))}$

Where  $\text{Min}(X_{id})$  and  $\text{Max}(X_{id})$  are, respectively, the minimum and maximum of  $(X_{i1}, X_{i2}, \dots, X_{in})$  for that particular indicator across districts in a State [We use the stated minimum and maximum values if the objective is to compare relative position of districts in a State].

The normalized index values of each of the 16 indicators for a district are then combined by using simple average to arrive at overall composite index for each districts as follows:

$$\frac{\sum_{i=1}^{16} X_{id}}{16}$$

Composite Index for  $d^{\text{th}}$  ( $d=1,2,\dots,n$ ) district = -----

Equal weightage is given to all the index values while calculating the composite index. The composite indices can be calculated for each of the life cycle stages separately by obtaining simple average of the normalized index values of indicators falling in the respective stages of life cycle.

The composite scores of the districts in a State are divided into 4 parts using quartiles. The lowest ranking (lowest quartile) districts colour coded as Red (D) - depict very low performance, Pink (C) – Low performing, Yellow (B)- promising and Green (A) – good performance.

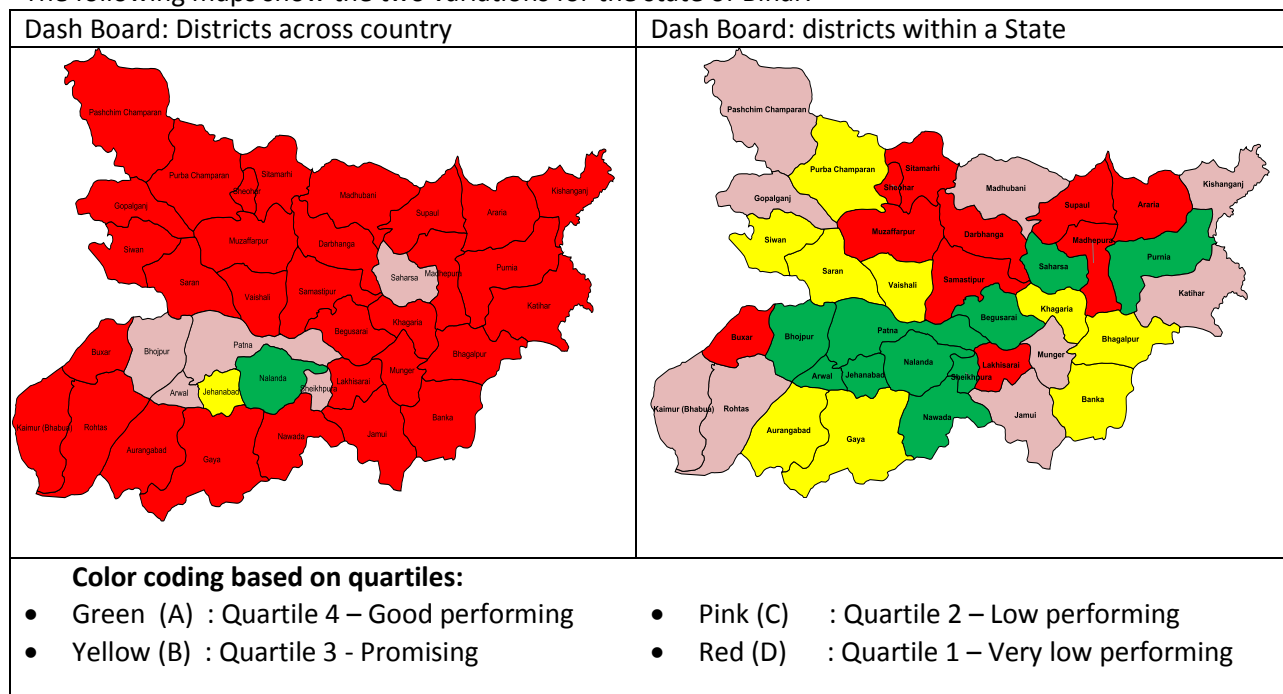
The Score card can be compiled for different levels to assess and monitor the indicators across the lifecycle. For example, to prepare block level score card in a district, replace districts by blocks and State by district in the above formula.

### Different variations of Score card /Dash Board

There can be many variations of Score Card based on minimum and maximum value of the indicator used in computation of its normalized index value. For example:

- If relative position is to be compared between districts of a State, one would take maximum and minimum value from districts within a State.
- In case relative position of districts of a State is to be compared with all districts in the country, then minimum and maximum are to be taken from all districts in the country.
- The above logic will apply for comparison of blocks within a district or blocks across districts.

The following maps show the two variations for the state of Bihar:



## Annexure

### List of Indicators Use in Score card / Dash Board

Stages of life cycle	Sl. No	Indicators
		<i>Proportion of:</i>
Pre Pregnancy / Reproductive age	1	Post-partum sterilization to total female sterilization
	2	Male sterilization to total sterilization
	3	IUCD insertions to all family planning methods (IUCD plus permanent)
Pregnancy care	4	1 <sup>st</sup> Trimester registration to total ANC registration
	5	Pregnant women received 3 ANC check-ups to total ANC registration
	6	Pregnant women given 100 IFA to total ANC registration
	7	Cases of pregnant women with Obstetric Complications and attended to reported deliveries
	8	Pregnant women receiving TT2 or Booster to total ANC registration
Child Birth	9	SBA attended home deliveries to total reported home deliveries
	10	Institutional deliveries to total ANC registration
	11	C-Section to reported deliveries
Postnatal maternal& new born care	12	Newborns breast fed within 1 hour to live births
	13	Women discharged under 48 hours of delivery in public institutions to total no. of deliveries in public institutions
	14	Newborns weighing less than 2.5 kg to newborns weighed at birth
	15	Newborns visited within 24 hours of home delivery to total reported home deliveries
	16	Infants 0 to 11 months old who received Measles vaccine to reported live births