Survey of Cause of Death (Rural) Maharashtra

1.1.Background

1. ORGI introduced the Model Registration Scheme in 1965 at 10 states and Maharashtra was included in second phase i.e. 1967 and Headquarters villages of 600 PHCs spread over breadth and length of the State were covered under it . Subsequently, the scheme got renamed as "Survey of Cause of Death- Rural (SCD- R) in 1982.

2. ORGI (govt. of India) discontinued the scheme in the year 1997 and merged it in to SRS. However, Maharshtra continued it as a State Scheme in order to derive the vital rates and mortality rates pertaining to Rural area of the State.

3. The year 2003 witnessed shift of sampling frame of SCD-R from Headquarters villages of 600 PHCs to other villages in the jurisdiction of these same 600 PHCs and around 1.3 Million State rural population got encompassed. World Bank Assisted Maharashtra Health Systems Development Project offered a financial Assistance to revamp this scheme (1999 to 2006).

4. Till 2006, only 600 villages used to be covered under SCD. The cause of death certified by the Physician were taken as they are and those unattended deaths were subjected to abridged Verbal autopsy which were used by MO PHC s for arriving at ICD X code (regrouped to reduce them to 109). The results have been documented in an annual report. We are in receipt of the following

a. annual reports of 2001, 2002, 2003, 2004, 2005, 2006,

b. Training Manual of SCD R, inclusive of list of 109 diseases..

c. Formats used by HWs, Compiled by HA, Reported by MO PHC and DHO, C form,

5. In order to enhance the adequacy of sample size, the scheme was expanded to envisage 1800 villages in 2007 i.e. addition of 1200 villages (Around 4 Million population). While selecting these 1200 additional villages in remaining 1200 PHCs following procedure was followed:

a. All sub centers in each of remaining 1200 PHCS were arranged alphabetically.

b. Every second sub center was picked.

c. All villages in each of these 1200 Sub centers were arranged alphabetically.

d. Every second village was picked. (327 out of 1800 selected villages are from Tribal area.)

e. Exclusion: Village above 5000 population.

1.2.Methodology:

I. Trained HW working in the selected villages keeps Enlisted Physical dwelling and household register, visits the houses bimonthly and collect data on births and deaths. In case of deaths, they collect the information on symptoms and signs, disease, duration of illness of the

deceased. De Jure method of data collection is adopted (both deaths of residential people in the jurisdiction of the study area as well as out side the study area and that of visitors/in migrants are also included) . The probable Cause of Death is arrived at.

II. Health Workers (ANM and Male worker) submit the information to HAs of PHC every month (Form A and Form B) , who compile the information of HWs and prepare its monthly report. (The forms are enclosed in Annexure I)

III. Health Assistants (Male and Female) conduct half yearly household survey to detect any omissions if any.

IV .MO PHC verifies the cause of death forms (C form) and gives ICD X code to the death (short listed 109 causes of XIX major Groups from ICD X as given in Annexure II)). However, the cause of death in case of Institutional death is taken as it is.

V. MOs of PHC offer refresher courses to HWs and HAs to sharpen their skills in administering VA tool and obtaining the narrative from the relatives of the deceased.

VI .DHO monitors and supervises the scheme

VII. Dy. Director HIVS Pune is overall in charge of the Scheme at the State level.

1.3. Critical Observations of the reports:

No.	Observation	Discussion and action point
1	Definitions of the indicators like Still Birth rate needs to be precisely corrected.	Discussed with Ajit on 29 July 2008 and he is correcting it.
2	It would be good idea to have denominator in each of the table displayed in the report for the sake of making it more reader friendly. (e.g. Total births in table related to % babies weighed , Total; deaths etc.)	Discussed with Ajit on 29 July 2008 and he is correcting it.
3	Population pyramid shows female and male in 2004 and 2005 but get reversed as Male and female in 2006. It is thought that the practices of 2004 and 2005 may be adhered too.	Discussed with Ajit on 29 July 2008 and he has noted for future.
4	The age groups used to describe Age specific fertility and/or mortality have under gone change in 2006 with class interval of 5 years over earlier 10 years. This change appears to be welcome	Discussed with Ajit on 29 July 2008 and he has noted for future.
5	The table Interval between 2 deliveries in 2004 was devoid of "Primi" and "Not stated" in addition to denominator. However this has rectified since 2005, which is a welcome step.	Discussed with Ajit on 29 July 2008 and he has noted for future.
6	In the tables depicting birth weight, 7 to 8 % of births are not weighed and the LBW rate worked out to be 11 to 12 %. The former needs supervisory control while the later artifact may offer a false positive health outcome which is hardly defendable. The "non survival rate of LBW" can be called "death rate in LBWs".	Either survival rate of death rate could be appropriate terms. Discussed with Ajit on 29 July 2008 and he has noted for future.

7.	COD code 1 A, 2 A are not from ICD X. What are they?	The physicians have regrouped and shortlisted the ICD codes in 109 and named them as SCD code 1 A, 1 2A, 3 A, ...1B, 2 B, 3 B,.....1C, 2C..... No algorythm was used.
8	Now a day it is considered that Anemia and Diabetes Mellitus may be rather the Risk factors than an underlying Cause of Death per say as far as possible.	Could be addressed ion the training
9	Some of the tables in report 2005 indicates the year 2004 that in 2006 of data of the year 2005. The former appears to be a typological error but the later indicates not analysis of 2006 data. The flow chart helpful to defend the compliance to the PIL of Abhay Bang is not updated in 2006 and copied as it is from 2005 report.	Discussed with Ajit on 29 July 2008 and he has noted for future.
10	Variation in Rates over the years is attributed to the inadequate sample size and hence the sample size got enhanced to 1800 villages in 2007. But if the same cohort of 1800 villages is followed over a period of time, the sample size can not be now blamed for Variation in Rates over the years.	Discussed with Ajit on 29 July 2008 and he has noted for future.
11	The quality of coding by PHC MOs is less than satisfactory. We wish to validate the COD obtained in SCD against the Maharashtra data of MDS.	

I had detailed discussions with Dr. Doke on 30 July 2008 where in I could share the gist of discussion, and observations. He has offered willingness to compare the SCD rural data with our MDS in corresponding period and then the physician's training could be considered. (phase TOT only) The dual coding of COD by both MOs of PHC and in case of disagreement, reconciliation and adjudication (physician of District Hospital) could be instituted.

1.4. Future course:

As I understand, we wish to compare the SCD rural data with our MDS in corresponding period (2000 to 2003) against the Maharashtra data of MDS. The detailed procedural steps involved in the process of recording, coding, and compiling are depicted above. If wished, the reports of 2001, 2002, 2003 could be sent to Toronto for review of Database team.

After this exercise, the physician's training – TOT could be considered for Maharashtra in order to improve the quality of COD reporting. Besides a theme of offering some incentives to coding physicians may also be considered. The dual coding of COD by both MOs of PHC and in case of disagreement, reconciliation and adjudication (physician of District Hospital) could be instituted. Dr. Doke has agreed to institute the supervisory apparatus to oversee the execution and ensure quality control; provided the training is done while he is in chair (31 January 2009).

Annexure I Formats

Form A : Birth (Red and White)

Month
Village
Taluk

Year
Name of PHC
District

Sr. No.	Malaria Household #	Mothers name	Date of birth	Sex M/F	Age of mother at birth	Place of birth : Home /Hospital	Place of birth: address	Registration # at Gram Panchayat	Who attended the delivery: Doctor/ Nurse /dai /other	# Living children	Spacing	Birth weight	Remark

Form B : Death (Yellow)

Month
Village
Taluk

Year
Name of PHC
District

Sr. No.	Malaria Household #	Name of deceased	Date of death	Sex M/F	Age of deceased at death	Place of death : Home /Hospital	Place of death: address	Registration # at Gram Panchayat	Cause of death	Code #	Remark

Form C: Cause of Death

Month
Village
Taluk

Year
Name of PHC
District

1. Name of deceased:
2. Age
3. Sex
4. Date of death
5. Place of death

6.1. Cause of death if given by physician:

6.2. If COD is not given by Physician, symptoms and signs as obtained from relatives:

7. On the basis of 6.1 or 6.2, the COD arrived by MO PHC:
8. Code of COD

Signature of MO
PHC
Date

Annexure II : SCD code improvised from ICD X codes

No	ICD X code	SCD Code improvised
1	A00	1A
2	A01	2A
3	A06	3A
4	A09	4A
5	A15-16	5A
6	A17-18	6A
7	A20	7A
8	A30	8A
9	A35	9A
10	A36	10A
11	A37	11A
12	A80	12A
13	A82	13A
14	A90-91	14A
15	B01	1B
16	B05	2B
17	B15-19	3B
18	B20-24	4B
19	B50-54	5B
20	Other infectious	6B
21	C00-14	1C
22	C15-26	2C
23	C30-39	3C
24	C50	4C
25	C40-41	5C
26	C51-58	6C
27	C60-63	7C
28	C64-68	8C
29	C69-72	9C
30	C81-96	10C
31	Other cancers	11C
32	D50-64	1D
33	D65-69	2D
34	E00-E07	1E

35	E10-E14	2E
36	E20-35	3E
37	E40-68	4E
38	F00-99	1F
39	G00-09	1G
40	G40-41	2G
41	G81	3G
42	Other G	4G
43	H00-59	1H
44	H60-95	2H
45	I00-I09	1I
46	I10-25	2I
47	I26-52	3I
48	I46	4I
49	I50	5I
50	I60-69	6I
51	I70-I99	7I
52	J13-18	1J
53	J45-46	2J
54	K25-27	1K
55	K35-38	2K
56	K40-46	3K
57	K70-77	4K
58	K80-87	5K
59	Other digestive	6K
60	L00-99	L1
61	M00-99	M1
62	N00-17	1N
63	N18	2N
64	N40-51	3N
65	N40-51	3N
66	N60-N77	4N
67	O00	1O
68	O03-08	2O
69	O10-16	3O
70	O20-43, O-46	4O
71	O30-42, O48	5O
72	O60-O66	6O
73	O67	7O
74	O70-P71	8O
75	O72	9O
76	O85	10O
77	O98.0	11O
78	O98.4	12O
79	O98.6	13O
80	O98.9	14O
81	O99	15O
82	Other	16O
83	P00-04	1P

84	P05	2P
85	P07	3P
86	P10-15	4P
87	P20-21	5P
88	P24.0-24.9	6P
89	P35-39	7P
90	P50-P61	8P
91	P80-83	9P
92	P90	10P
93	Other	11P
94	Q00-Q99	1Q
95	R00-R99	1R
96	S00-T19	1S
97	T20-32	1T
98	T33-35	2T
99	T36-62	3T
100	T63	4T
101	T67	5T
102	T71	6T
103	T75	7T
104	W85-87	1W
105	X22	1X
106	X33	2X
107	X60-84	3X
108	X85-Y09	4X
109	X other	5X