

Appendices

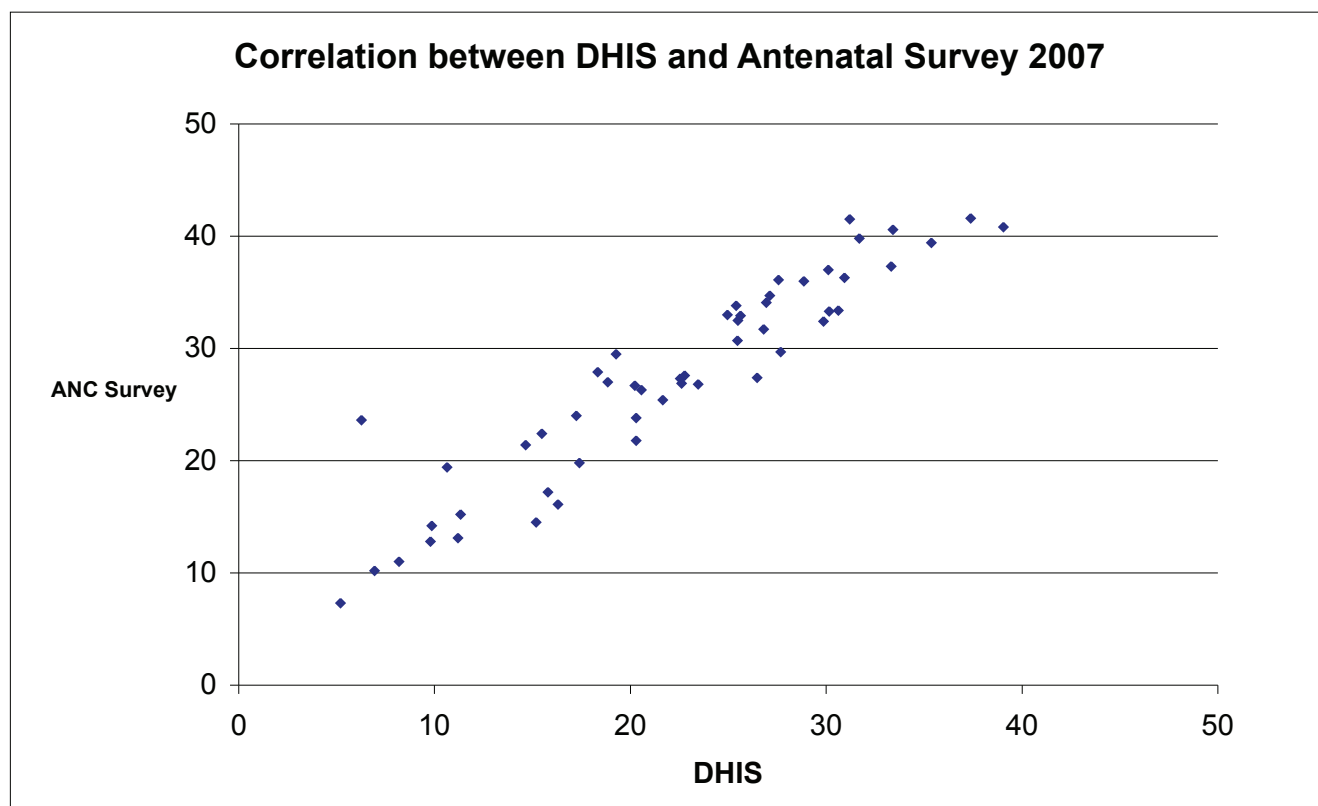
Appendix I

HIV Prevalence amongst antenatal clients tested - Correlation of the national antenatal sero-prevalence survey with the national District Health Information System data

The routine data collected from clinics and entered into the District Health Information System (DHIS) provides a picture of antenatal HIV prevalence at district level, and even down to facility level. The HIV prevalence amongst antenatal clients tested, measures the percentage of ANC clients who accept to be tested for HIV and then test positive. The sample of women included within the DHIS data compared with the national antenatal sero-prevalence survey is different in that the national survey is a representative sample and testing is anonymous and unlinked whereas the DHIS data includes only women who consent to HIV testing and have the opportunity to access their test results.

In some districts where HIV testing coverage is low, the HIV prevalence rate will not be representative of all antenatal women in the district. It is also possible that pregnant women at higher risk for HIV may be less likely to accept testing, which would lower the overall antenatal HIV prevalence rate obtained through the routine data. Despite these issues the correlation between the DHIS and survey data for 2007 is 93.5%, with slightly greater correlation where the testing coverage is higher. Overall, the survey prevalence is approximately 5 percentage points higher than the DHIS estimates, a similar finding to the previous year. The national DHIS estimate of 24.4% falls just below the 95% confidence interval of the survey estimate (29.0; 24.8-33.5).

It is noted that there have been questions about how the provincial survey estimates were calculated.¹



¹ Dorrington R, Bourne D. Has HIV prevalence peaked in South Africa? Can the report on the latest antenatal survey be trusted to answer this question? S Afr Med J. 2008; 98: 754-5.
URL: <http://www.samj.org.za/>

Appendix 2

Deprivation Indices¹

This section provides a brief guide to aid the understanding and interpretation of the deprivation indices used in this report.

The deprivation index is a measure of relative deprivation across districts within South Africa. Just as any index, the deprivation index is a composite measure derived from a set of variables. Principal components analysis (PCA) was used to reduce a set of demographic and socio-economic variables (that are indicators of material and social deprivation) into a composite index of deprivation. The deprivation indices were calculated at the district level for use in the District Health Barometer 2007/08 using the 2001 Census, 2005 and 2006 General Household Survey Data and the 2007 Community Survey Data.

Variables included for calculating the deprivation index are:²

1. The proportion of the area's population that are children below the age of 5
2. The proportion of the area's population that are black Africans
3. The proportion of the area's population that are from a household that is headed by a female
4. The proportion of the area's population whose household heads have no schooling
5. The proportion of area's adults between 25 and 59 classified as both not working and looking for work or not working and not looking
6. The proportion of the area's population that live in traditional dwelling, informal shack or tent
7. The proportion of the area's population that have no piped water in their house or on site
8. The proportion of the area's population that have a pit or bucket toilet or no form of toilet
9. The proportion of the area's population that do not have access to electricity or solar power for lighting, heating or cooking

Rationale for the use of proportion of black Africans

Deprivation indices are generated from variables that are indicators of material and/or social deprivation. Most of the variables included in this project are indicators of social and/or material deprivation (McIntyre and Okorafor 2003). However, the "proportion of the district that is black African" is included for contextual reasons. This variable has been included because of South Africa's history of apartheid. Apartheid policies created unequal opportunities for different racial groups. This resulted in large disparities in socio-economic status along racial lines. Analysis of a range of South African household surveys suggests that race (Africans, and to a lesser extent coloureds) is one of the critical indicators of socio-economic disadvantage (McIntyre et al 2006).

Including this variable in the index **does not suggest** that if an individual is a black African, then the individual is by default socially or materially deprived. What is true of South Africa is that areas with higher proportions of black Africans are more likely to be deprived. This is also confirmed by the GHS 2005 data. A separate deprivation index was generated without using the variable P_African (proportion of the area's population that are black Africans). The correlation coefficient for pair-wise correlation between P_African and this second deprivation index is 0.70.

Black Africans in South Africa are a historically disadvantaged group, socially and economically. This is therefore a valid reason for considering the variable P_African as an indicator of deprivation.

Methodology

The 2006 General Household Survey (GHS) data, had a sample size of 1 057 277 persons, with 27 978 households and the 2007 Community Survey (CS) enumerated 949 105 persons, and covered 246 618 households.

For this report the deprivation index has been calculated in such a way that the indices are directly comparable to the deprivation indices generated from the 2005 GHS data.

¹ From the technical report prepared for HST: Okorafor OA. Deprivation Indices by Health Districts in South Africa. Technical Report. Health Economics Unit, University of Cape Town, 2007

² For a more detailed discussion on the process for selecting the variables, see McIntyre and Okorafor (2003).

Correction to 2005 GHS data:

One variable “the proportion of the sub-district’s population that do not have access to electricity, gas or solar power for lighting, heating or cooking” could not be obtained from the 2007 CS data. However, a proxy variable was used in its place. A full description of the process of constructing a proxy and discussions on the reliability of the proxy are available in the document (Deprivation Indices by Health Districts in South Africa – Technical Report) on the DHB 2007/08 CD which accompanies this book. All variables used in this project were weighted to reflect the actual South African population characteristics.

It is important to note that the results of this PCA are slightly different from those obtained in the previous report, the DHB 2006/07 (using the 2005 GHS data). The reason is because in this new analysis, the variable “P_nocleenergy” was adjusted to reflect the true magnitude of the proportion of the population in each district that do not have access to electricity, gas or solar energy for cooking, heating and lighting. Previous analysis had overestimated this proportion. The result is that the deprivation indices for each district has changed, albeit marginally. The relative ranking of each district also changed, but almost all district remain in the same socio-economic quintile.

Calculating the deprivation index

The composite index is derived from the component produced by the PCA. The deprivation index is calculated for each sub-place by summing up the product of the z-score and scoring coefficient for each variable.

The z-score is the standard deviation of each variable (for each district) from the overall mean value of the variable.

Table 1: Scoring coefficients

Variable Name	Scoring Coefficients
P_Child	0.12465
P_African	0.13283
P_Femhead	0.16098
P_Head_noeduc	0.14003
P_Unemp	0.15459
P_Shacktrad	0.11669
P_Nopwaternear	0.16183
P_Pitbuck_none	0.11695
P_Nocleenergy	0.13845

The formula for calculating the deprivation index can then be written as:

$$D = 0.12465 \times \left(\frac{P_Child_1 - \overline{P_Child}}{SP_Child} \right) + \dots + 0.13845 \times \left(\frac{P_Nocleenergy_1 - \overline{P_Nocleenergy}}{SnP_Nocleenergy} \right)$$

Where D is the deprivation index; the numbers are the scoring coefficients for the respective variables; and the expressions in brackets are the standardised deviations of each variable from the overall mean of the variable for each district.

P_child₁ is the proportion of the first district’s population that are children below 5 years of age. P_Child (bar) is the mean value of the variable P_Child (for all districts). The expression: SP_child is the sample standard deviation of the variable P_Child. So, the product of the z-score and standardised deviation for all variables for a district (z-score × scoring coefficient) are summed up to give the deprivation index for a district.

Normalising the deprivation index

The deprivation index scores produced by PCA usually ranges from negative values to positive values. Higher values represent higher levels of deprivation, and lower values represent lower levels of deprivation.³ For example if the

³ Higher values reflect higher levels of deprivation because of the way the variables have been measured. For any district, if the proportion of the population with no access to “good” toilet facilities is high, it is an indication of higher levels of deprivation. The same can be applied to all variables included in the PCA.

deprivation index scores range from -3.564 to +3.687, then the district with -3.564 is the least deprived district. By the same token, the district with +3.687 is the most deprived.

Interpreting negative and positive values can be quite involved, so the deprivation index was normalised. This means that the indices were moved to the positive number scale. This is achieved by adding a value to all the indices such that the district that is least deprived has a deprivation index of 1. Table 2 shows the original deprivation index scores for select districts in the Eastern Cape and the normalised deprivation indices.

Table 2: Deprivation index scores and normalised index scores

Province	District	Deprivation Index (A)	Normalised Index (B)	B - A
E Cape	Cacadu DM	-0.5339653	2.188614	2.722579
E Cape	Amatole DM	0.6892426	3.411822	2.722579
E Cape	Chris Hani DM	1.179608	3.902187	2.722579

Interpretation of the normalised deprivation index

Higher values of the deprivation index means that the district experiences higher levels of deprivation. For example, Alfred Nzo DM has a deprivation index value of 4.796, while Cacadu DM has an index value of 2.189. This means that Alfred Nzo DM is more deprived than Cacadu DM. The value of the deprivation index for any district is generated relative to all other districts. Therefore one can rank local municipalities and district municipalities according to their deprivation index scores.

Calculating deprivation indices for 2006 GHS and 2007 CS

The deprivation indices calculated from the 2006 GHS and 2007 CS data sets were done by using the same formula used in calculating the deprivation index from the 2005 GHS data. The scoring coefficients, standard deviation and means of the variables were the same as those used in calculating the deprivation indices from the 2005 GHS data. However, the values of the 9 variables for all districts were substituted with the actual values of the 2006 GHS and 2007 GHS data.

Calculating the index for the 2006 GHS data and the 2007 CS data in this way (as explained above) allows the deprivation indices for the 2006 GHS and 2007 CS data to be directly comparable to the deprivation indices for the 2005 GHS data. There are two key assumptions that support this statement. First, the data sets are representative of the populations within each district, and second that the relative weighting of the variables remains valid for 2006 and 2007.

Quintiles for the normalised deprivation indices

Each district was ranked according to levels of deprivation and categorised into quintiles. Districts that fall under quintile 1 (lowest quintile) are the most deprived districts. Those that fall under quintile 5 are the least deprived (best-off).

Interpretation of the deprivation indices

Higher values indicate higher levels of deprivation. For comparison of one district over years, an increase in the deprivation index from 2005 to 2006 means that the district has become even more deprived. Table 3 helps with illustrating this point.

Table 3 Sample of deprivation indices for 2005, 2006 and 2007

District	Normalised deprivation index		
	2005	2006	2007
Umzinyathi District Municipality	4.51	4.50	4.57
Umkhanyakude District Municipality	4.72	4.63	4.49
O.R.Tambo	4.60	4.25	4.47

For Umzinyathi DM, the deprivation index for the three years shows that this district has become even more deprived.

Its deprivation index remained the same in 2006, but increased to 4.57 in 2007 (it is now the most deprived district).

On the other hand, Umkhanyakude DM has experienced a decline in its level of deprivation – dropping from 4.72 in 2005, to 4.63 in 2006 and 4.49 in 2007. Lastly O.R. Tambo DM experienced a reduction in deprivation from 2005 to 2006, but the deprivation index increased again to 4.47.

Deprivation Index at Sub-District Level

Deprivation indices for sub-districts⁴ in South Africa using the 2007 Community Survey Data were calculated. The indices calculated were based on similar variables used in generating a deprivation index at the district level.

References

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4 Note all DMAs are omitted from the analysis

Appendix 3

Further Notes on Methodology

District health financing indicators

Provincial expenditure was coded according to the programmes and sub-programmes published by National Treasury (see Table 1). This coding was cleaned and made consistent across the provinces.

- All expenditure was then allocated (coded) to districts using primarily information in the 'Responsibility_lowest_level' and other 'Responsibility' fields.
- The DHIS facilities file was used to code all entries linked to individual health facilities. Expenditure which could not be allocated to a specific district was subsequently allocated to all of the districts within the relevant province in proportion to the total population share of each district.
- Expenditure that was allocated to a region including 2 districts was similarly allocated to each district within that region according to population share.
- Finally, expenditure for cross-boundary districts was combined and included as one item in the province that the district is located in, according to the new demarcation boundaries.¹

Table 1: Budget programme structure for provincial health expenditure

Programmes		Sub-programmes	
PR1	Administration		
PR2	District Health Services	Non-hospital PHC	District management Community health clinic services Community health centres Community-based services Other community services
			HIV/AIDS Nutrition District Hospitals Coroner Services Others
PR3	Emergency Medical Service		
PR4	Provincial Hospital Services		
PR5	Central Hospital Services		
PR6	Health Sciences and Training		
PR7	Health Care Support Services		
PR8	Health Facilities Management		
	Other		

¹ This means that for the purposes of analysis of per capita expenditure at district level, some expenditure which is originally recorded in one province may be shown under a different province.

Appendix 4

Population data by district and province comparing the DHIS and 2007 Community Survey population estimates.

Province	District	DHIS pop estimates 2007 (based on StatsSA Census data)	Community Survey 2007	Difference DHIS to Community Survey	% Difference DHIS to Community Survey
Eastern Cape	Cacadu	413 772	363 479	50 293	12.2%
	Amathole	1 860 128	1 664 752	195 376	10.5%
	Chris Hanani	875 429	798 589	76 840	8.8%
	Ukhahlamba	338 948	308 363	30 585	9.0%
	O.R. Tambo	1 822 740	1 862 218	- 39 478	-2.2%
	Alfred Nzo	632 022	479 395	152 627	24.1%
Free State	Nelson Mandela Bay Metro	1 131 016	1 050 934	80 082	7.1%
	Xhariep	133 666	127 611	6 055	4.5%
	Motheo	790 955	837 379	- 46 424	-5.9%
	Lejweleputswa	758 097	639 660	118 437	15.6%
	Thabo Mofutsanyane	767 862	694 322	73 540	9.6%
	Fezile Dabi	518 024	474 092	43 932	8.5%
Gauteng	Sedibeng	924 456	800 833	123 623	13.4%
	Metsweding	212 819	153 539	59 280	27.9%
	West Rand	805 553	539 029	266 524	33.1%
	Ekurhuleni	2 577 446	2 724 227	- 146 781	-5.7%
	City of Johannesburg	3 288 132	3 888 182	- 600 050	-18.2%
	City of Tshwane	2 140 964	2 345 909	- 204 945	-9.6%
KwaZulu-Natal	Ugu	705 561	709 916	- 4 355	-0.6%
	uMgungundlovu	995 303	988 831	6 472	0.7%
	Uthukela	632 343	714 945	- 82 602	-13.1%
	Umzinyathi	471 260	495 726	- 24 466	-5.2%
	Amajuba	590 023	442 263	147 760	25.0%
	Zululand	832 786	902 878	- 70 092	-8.4%
	Umkhanyakude	593 551	614 029	- 20 478	-3.5%
	Uthungulu	876 153	894 252	- 18 099	-2.1%
	iLembe	622 692	528 192	94 500	15.2%
	Sisonke	313 987	500 077	- 186 090	-59.3%
eThekweni	3 183 936	3 468 087	- 284 151	-8.9%	
Limpopo	Mopani	1 116 652	1 068 559	48 093	4.3%
	Vhembe	1 305 619	1 240 044	65 575	5.0%
	Capricorn	1 201 352	1 243 171	- 41 819	-3.5%
	Waterberg	663 303	596 087	67 216	10.1%
	Greater Sekhukhune	1 036 083	1 090 437	- 54 354	-5.2%
Mpumalanga	Gert Sibande	915 452	890 706	24 746	2.7%
	Nkangala	1 113 878	1 226 513	- 112 635	-10.1%
	Ehlanzeni	1 589 953	1 526 240	63 713	4.0%
Northern Cape	Kgalagadi	197 337	173 452	23 885	12.1%
	Namakwa	115 643	126 504	- 10 861	-9.4%
	Pixley ka Seme	185 440	166 837	18 603	10.0%
	Siyanda	233 826	238 059	- 4 233	-1.8%
	Frances Baard	370 026	353 194	16 832	4.5%
North West	Bojanala Platinum	1 271 534	1 268 586	2 948	0.2%
	Ngaka Modiri Molema (Central)	770 050	798 783	- 28 733	-3.7%
	Dr Ruth Segomotsi Mompati (Bophirima)	466 072	354 557	111 515	23.9%
	Dr Kenneth Kaunda (Southern)	632 179	849 985	- 217 806	-34.5%

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Province	District	DHIS pop estimates 2007 (based on StatsSA Census data)	Community Survey 2007	Difference DHIS to Community Survey	% Difference DHIS to Community Survey	
Western Cape	City of Cape Town	3 179 237	3 497 101	- 317 864	-10.0%	
	West Coast	285 099	286 748	- 1 649	-0.6%	
	Cape Winelands	652 298	712 438	- 60 140	-9.2%	
	Overberg	205 910	212 779	- 6 869	-3.3%	
	Eden	464 491	513 325	- 48 834	-10.5%	
	Central Karoo	63 289	56 222	7 067	11.2%	
Eastern Cape	Free State	7 074 055	6 527 730	546 325	7.7%	
	Gauteng	2 968 604	2 773 064	195 540	6.6%	
	KwaZulu-Natal	9 949 370	10 451 719	- 502 349	-5.0%	
	Limpopo	9 817 595	10 259 196	- 441 601	-4.5%	
	Mpumalanga	5 323 009	5 238 298	84 711	1.6%	
	Northern Cape	3 619 283	3 643 459	- 24 176	-0.7%	
	North West	1 102 272	1 058 046	44 226	4.0%	
	Western Cape	3 139 835	3 271 911	- 132 076	-4.2%	
	South Africa	4 850 324	5 278 613	- 428 289	-8.8%	
			47 844 347	48 502 036	- 657 689	-1.4%

The population estimates for 1995-2009 that are currently in use in DHIS were derived from three StatsSA datasets:

- provincial mid-year estimates 2001-9 per gender and age (1-year intervals)
- district mid-year estimates 2001-9 per 5-year cohort
- clustered enumeration area data set from Census 2001.

The observed discrepancies between the DHIS estimates and the 2007 Community Survey-based estimates are considered to be due to the fact that there were major weaknesses both in the Census data and also in subsequent modelling efforts done by StatsSA.

Indicators that can be affected are those that have population based denominators. These are: immunisation coverage, male condom distribution rate, utilisation rate, non-Hosp PHC expenditure per capita, delivery coverage, incidence of STI treated and diarrhoea incidence under 5 years. Therefore, if these indicators are calculated using the 2007 Community Survey figures as denominator, then the resulting indicator values will be different from those shown in the DHB which uses the DHIS pop estimates 2007 based on StatsSA Census data.

Group	Type	Level	Indicator	Definition	Numerator	Denominator	Source	
Demographic and socio-economic			Population				SSA_DM_Mid-year estimates 20 Mar 2006.xls and ZA_PopEst_July2006_SubDis.xls (DHIS)	
			Population under 1 year				SSA_DM_Mid-year estimates 20 Mar 2006.xls and ZA_PopEst_July2006_SubDis.xls (DHIS)	
			Area		Number of people	Area (km)	Municipal Demarcation Board	
			Population Density	Number of people per square km.			Calculated	
			Access to piped water	Census 2001: The percentage of the total number of households of a district that has access to piped water which includes: Piped water inside dwelling Piped water inside yard Piped water on community stand: less than 200m from dwelling Piped water on community stand: greater than 200m from dwelling GHS: Number of households with access to 'piped (tap) water in dwelling', 'piped (tap) water on site or in yard' or 'public tap' as a percentage of total households. Community Survey: Number of households with Piped water inside the dwelling, Piped water inside the yard, Piped water from access point outside the yard as a percentage of total households.			StatsSA Census 2001, GHS 2005	
			Deprivation index	The deprivation index is a composite index of deprivation using StatsSA Census and household survey, recalculated to a district level. The index shows that the sociodemographic variables that have the greatest influence of deprivation in the SA context are: Lack of access to piped water, race, living in a shack or traditional dwelling, lack of access to electricity or solar power, living in a female headed household, being a child under 5 years, living in a household whose head has no schooling and being unemployed.			Health Economics Unit, UCT - based on data from StatsSA Census 2001, GHS 2005	
			Socio-economic quintiles	The socio-economic quintiles are derived from the deprivation index. It is a simple stratification of districts based on their respective deprivation index scores. Quintile 1 comprises of districts that are the most deprived and those that fall under quintile 5 are the least deprived.			StatsSA Census 2001, GHS 2005	
			Poverty rate (% households spending <R800 pm)	Percentage of households who report total household expenditure of less than R800 per month in the month prior to the survey.	Number of households with total household expenditure <R800/month	Total number of households	GHS 2005	
	Financing	Input		Non-Hosp PHC expenditure per capita	Total amount spent on non-hospital PHC health services per person without medical aid coverage.	Provincial expenditure on the following sub-programmes of District Health Services expenditure (district management, community health clinics, community health centres, community based services and other community services) plus nett local government expenditure on PHC	Uninsured population (total population less medical aid coverage x population)	Calculated from BAS, NW financial data, Treasury data on LG exp, DHIS population and StatsSA GHS medical aid coverage
		Input		% PR2 expenditure on District Management	Percentage of total district health services spent on district management.			BAS, NW financial data

Group	Type	Level	Indicator	Definition	Numerator	Denominator	Source
Financing	Input	District hospitals	% PR2 expenditure on District Hospitals	Percentage of total district health services spent on district hospitals.			BAS, NW financial data
	Input		Medical aid coverage	Percentage of population who have a medical aid scheme			GHS 2005
	Input	District hospitals	Cost per patient day equivalent	Average cost per patient per day seen in a hospital (expressed as Rands per patient day equivalent)	Total expenditure on health per hospital	Patient day equivalents (Inpatient days + 1/2 Day patients + 1/3 outpatient and ER visits)	BAS, NW financial data, DHIS (PDE)
	Input		Private health facilities (hospitals)				Wilbury and Claymore database 2007
	Input		Private facilities beds				Wilbury and Claymore database 2007
	Input		Public health facilities - number of facilities by type				DHIS
	Input		Useable beds public sector				DHIS
	Process		Nurse clinical workload	Number of patients seen by a professional nurse in PHC clinics per nurse clinical work day.	PHC total headcount	Professional nurse clinical work days	DHIS NDoH4
	Process	District hospitals	Bed utilisation rate (BUR)	Measure of the occupancy of the beds available for use	(Inpatient days + 1/2 Day patients) x 100	Useable beds x days in period.	DHIS NDoH5 (data for district hospitals only)
	Process	District hospitals	Average length of stay (ALOS)	Average duration of patient stay in a health facility (in days)	Inpatient days + 1/2 Day patients	Discharges + Deaths + Transfers out + Day patients	DHIS NDoH5 (data for district hospitals only)
Process		Clinic supervision rate	Percentage of primary level facilities which are visited by a supervisor at least once per month.	Number of clinics and CHCs visited at least once	Total number of clinics and CHCs	DHIS NDoH5	
Output		Immunisation coverage < 1 year	Percentage of all children in the target area under one year who complete their primary course of immunisation during the month (annualised). A Primary Course includes BCG, OPV 1, 2 & 3, DTP-Hib 1, 2 & 3, HepB 1, 2 & 3, and 1st measles.	Children fully immunised under 1 year	Target population under 1 year	DHIS NDoH4	
Output		Immunisation drop out rate (DTP1-3)	The percentage of children who dropped out between the first and third dose of DTP vaccine.	Drop outs between 1st and 3rd DTP-Hib Dose	DTP-Hib 1st Dose	DHIS NDoH4	
Output	District hospitals	Caesarean section rate	The number of Caesarean section deliveries expressed as a percentage of all deliveries.	Caesarean sections in facility	Deliveries in facility	DHIS NDoH5 (data for district hospitals only)	
Output		Male condom distribution rate	The number of male condoms, distributed (to patients at the facility or through other channels) per male 15 years and older.	Condoms distributed at PHC facilities	Male population 15 years and older	DHIS NDoH4	
Output		Utilisation rate	Average number of visits per person to PHC health facilities per year (public sector).	PHC total headcount	Total catchment population	DHIS NDoH4	
Output		Proportion ANC clients tested for HIV	The proportion of women coming for their first antenatal visit that are tested for HIV.	Antenatal clients tested for HIV	Total antenatal clients at first booking visit	DHIS NDoH4	
Outcome		HIV prevalence among ANC clients tested	The percentage of antenatal clients who accept to be tested for HIV, and then tested positive.	Antenatal clients tested HIV positive - new cases	Antenatal clients tested for HIV	DHIS NDoH4 and antenatal seroprevalence survey	
Output		Nevirapine uptake rate among newborn babies of HIV+ve women	The percentage of new born babies - born from HIV positive women - who received Nevirapine suspension within 72 hours after birth.	Nevirapine dose to baby born to woman with HIV	Number of live births in facilities to women with HIV	DHIS NDoH4	
Output		Nevirapine uptake rate among pregnant HIV+ve women	The proportion of HIV positive pregnant women who were dispensed with NVP - to take home and/OR those to whom NVP was administered at the facility during labour.	Nevirapine dose to woman at ANC or labour	Antenatal client HIV positive - new	DHIS NDoH4	
PMTCT							

Group	Type	Level	Indicator	Definition	Numerator	Denominator	Source
	Outcome		Incidence of STI treated - new	A new episode of a symptomatic Sexually Transmitted Infection (STI) treated according to the Syndromic Approach in a patient over 15 years old. One patient can have more than one new episode at a time.	Number of new episodes of STI treated	Population over 15 years old	DHIS NDoH4
	Outcome		Incidence of new smear positive TB				
	Outcome		Smear positivity				
PE	Outcome		Smear conversion rate	The smear conversion rate (SCR) is the percentage of new smear positive PTB cases that are smear negative after two months of anti-TB treatment and are therefore no longer infectious.	Number of new PTB cases who were +ve before starting treatment but show a -ve smear after 2 months treatment	Total number of new smear positive cases registered during the specified time.	DoH TB directorate
	Outcome		TB Cure rate	The proportion of smear positive PTB patients who completed treatment and were proven to be cured (which means that they had two negative smears on separate occasions at least 30 days apart).	The number of initially smear positive patients who converted to negative smears at two or three months after starting treatment	Total number of new PTB smear positive cases started on treatment during the specified time.	DoH TB directorate
	Outcome		Diarrhoea incidence under 5 years	The number of new cases of children with diarrhoea per 1000 children in the catchment population.	Diarrhoea cases with and without dehydration under 5 years	Catchment population under 5 years	DHIS NDoH4
	Outcome		Not gaining weight under 5 years rate	A child under 5 years old who has not gained weight compared to the weight recorded at least one month earlier on the 'Road to Health' chart.	Child under 5 years old not gaining weight	Child under 5 years weighed	DHIS NDoH4
	Outcome		Delivery rate in facility	The percentage of deliveries taking place in health facilities under supervision of trained personnel in a year.	Number of deliveries in facility in a year	All expected deliveries in target population in a year.	DHIS NDoH4
	Impact		Stillbirth rate	The number of total births that are stillbirths (babies born dead) per 1000 births in facility.	Number of babies born dead (stillbirths) in facility	Total number of births in facility.	DHIS NDoH4
	Impact		Perinatal mortality rate in facility	The number of perinatal deaths per 1000 births in facility.	Stillbirth in facility + Inpatient death (early neonatal)	Total number of births in facility.	DHIS NDoH4

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