Section A: Indicator Comparisons by District

1. Socio-economic Indicators

Fiorenza Monticelli, Candy Day, Peter Barron

1.1 Deprivation Index

The deprivation index measures the relative deprivation of populations across districts within South Africa. It is a composite measure derived from a set of demographic and socio-economic variables obtained from the 2007 Community Survey and the 2005 and 2006 General Household Surveys. These variables include the proportion of the area's population that are children below the age of 5; are from a female headed household; household heads who have no schooling, who are adults between 25 and 59 classified as unemployed; living in a traditional dwelling, informal shack or tent; no piped water in their house or on site; a pit or bucket toilet or no form of toilet; no access to electricity or solar power for lighting, heating or cooking[1].

Higher values of the deprivation index denote higher levels of deprivation. The deprivation index has been calculated so that it can be compared over the three years, 2005 to 2007, for each of the districts. Further information on the methodology and background to the deprivation index can be seen in the appendices.

The level of deprivation in most districts (63% of the districts) in South Africa has reduced since 2005. Reduction in levels of deprivation is as a result of a reduction in one or more of the variables used in constructing the deprivation index.

Figure 1 shows the deprivation index values for all districts in South Africa in 2007 and the ranking into socio-economic quintiles. Those districts that fall into quintile 5 are the **least deprived** (best off) and the districts which fall into quintile 1 are the **most deprived** (worst off).

In 2007, the ten most deprived districts in South Africa fell within three provinces; - KwaZulu-Natal (Uthukela, Ugu, Sisonke, Zululand, Umkhanyakude and Umzinyathi districts), Eastern Cape (Chris Hani, Alfred Nzo and O.R. Tambo districts) and Limpopo (Greater Sekhukhune). Besides Sisonke and Uthukela, all these districts are designated as rural development districts (ISRDP). The poverty rate of people living in these deprived districts is high, and ranged from 63% to 82% of households living on less than R800 per month in 2006.

All the districts within the Western Cape are ranked amongst the least deprived in the country, as are three of the six metros (City of Cape Town, City of Johannesburg and Nelson Mandela Metro). Two other metros, Ekhurhuleni and City of Tshwane, and the West Rand district, dropped from the highest socio-economic quintile in 2005 to quintile 4 in 2007. Table 1 shows the deprivation index by district over three years from 2005 to 2007 and gives an indication of how districts have improved or deteriorated in terms of relative deprivation during that timeframe. Two metro districts in Gauteng, the City of Tshwane (9th to 19th place) and Ekhurhuleni (11th to 17th place), have slipped the furthest amongst all the metros in terms of ranking over the last three years and their deprivation indices have also increased. Of concern is that amongst the ten districts that have deteriorated the most, two ISRDP districts, Ugu and Umzinyathi, which are already in the lowest socio-economic quintile, have slipped by four and three places respectively, to take up 45th and 52nd place. These districts are meant to receive additional resources to improve their socio-economic development.

1 Full information on the deprivation index can be seen in Appendix 2.

Figure 1: Deprivation index and socio-economic quintiles by district, 2007

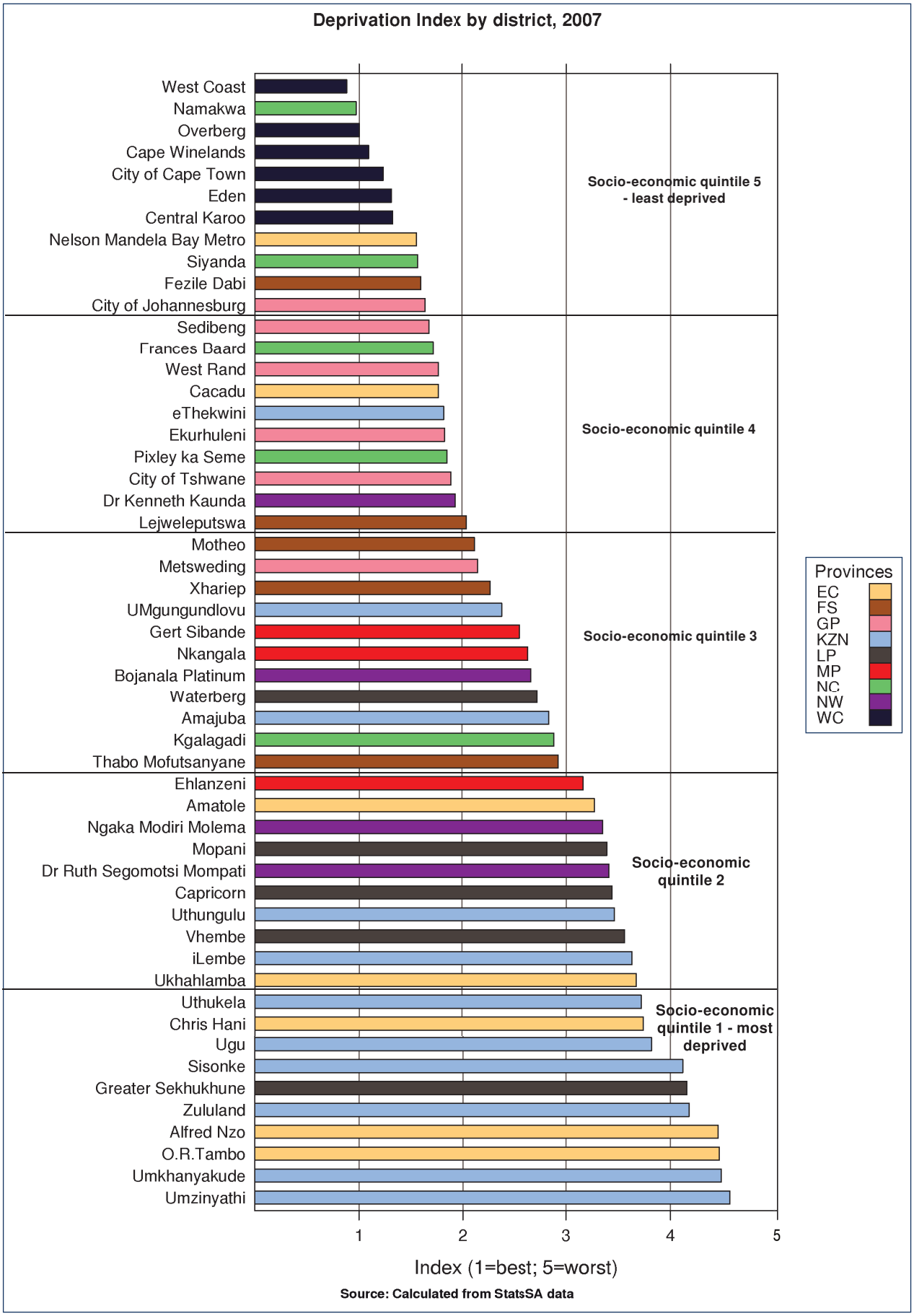
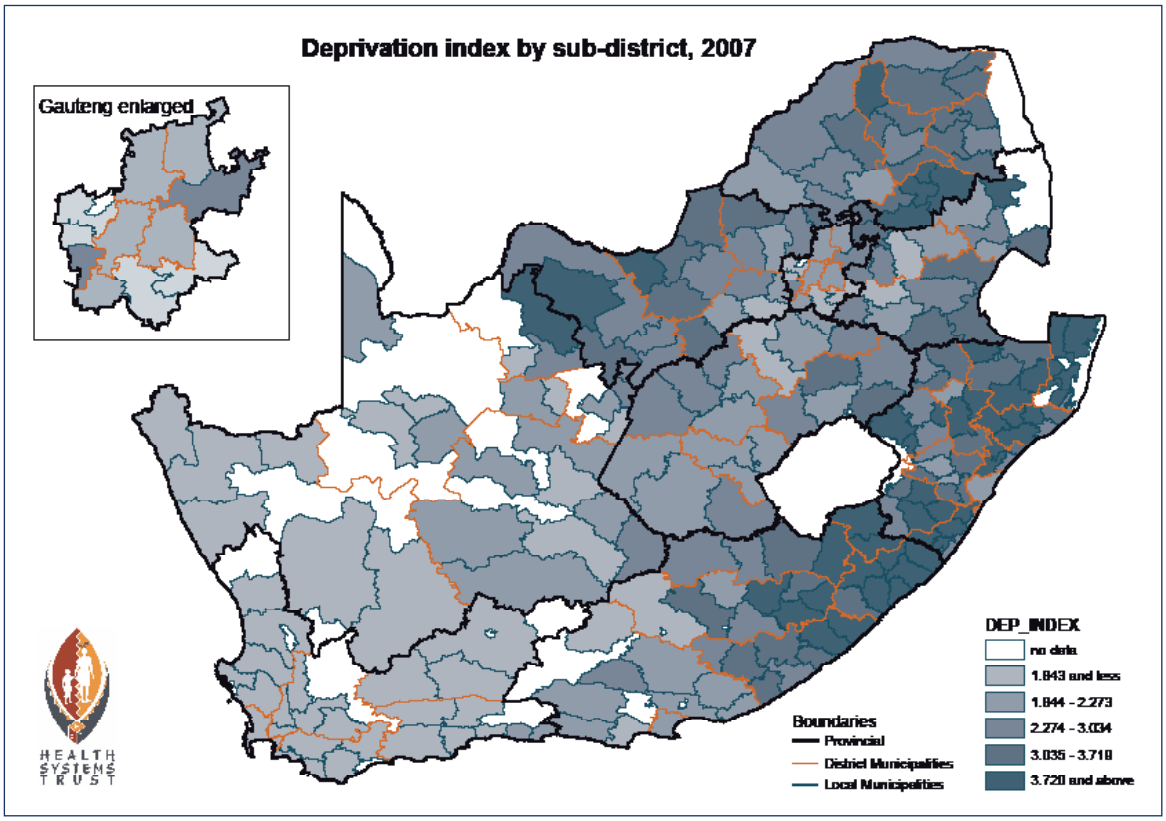


Table 1: Deprivation Index[2] by district, 2005-2007

Province	Code	Type	District	Deprivation Index			Rank		
				2005	2006	2007	2005	2006	2007
Eastern Cape	DC10		Cacadu	2.19	2.09	1.76	20	21	15
	DC12		Amathole	3.41	3.26	3.27	39	34	34
	DC13	ISRDP	Chris Hani	3.90	3.63	3.74	47	42	44
	DC14	ISRDP	Ukhahlamba	3.60	3.70	3.67	43	44	42
	DC15	ISRDP	O.R. Tambo	4.60	4.25	4.47	50	49	50
	DC44	ISRDP	Alfred Nzo	4.80	4.77	4.46	52	52	49
	NMA	Metro	Nelson Mandela Bay Metro	1.98	1.79	1.55	16	14	8
Free State	DC16		Xhariep	2.54	2.23	2.27	27	23	24
	DC17		Motheo	1.95	2.09	2.12	14	20	22
	DC18		Lejweleputswa	2.17	2.00	2.04	18	19	21
	DC19	ISRDP	Thabo Mofutsanyane	3.26	3.23	2.92	34	33	32
	DC20		Fezile Dabi	1.82	1.48	1.59	13	6	10
Gauteng	DC42		Sedibeng	1.99	1.87	1.67	17	16	12
	DC46		Metsweding	2.23	2.11	2.15	21	22	23
	DC48		West Rand	1.74	1.93	1.76	10	17	14
	EKU	Metro	Ekurhuleni	1.75	1.79	1.82	11	15	17
	JHB	Metro	City of Johannesburg	1.71	1.51	1.63	8	9	11
	TSH	Metro	City of Tshwane	1.72	1.71	1.88	9	12	19
KwaZulu-Natal	DC21	ISRDP	Ugu	3.48	3.57	3.82	41	40	45
	DC22		UMgungundlovu	2.28	2.30	2.38	23	26	25
	DC23		Uthukela	3.55	3.92	3.72	42	45	43
	DC24	ISRDP	Umzinyathi	4.51	4.50	4.57	49	50	52
	DC25		Amajuba	2.86	3.07	2.83	31	30	30
	DC26	ISRDP	Zululand	4.28	4.08	4.18	48	47	48
	DC27	ISRDP	Umkhanyakude	4.72	4.63	4.49	51	51	51
	DC28		Uthungulu	3.36	3.51	3.46	37	38	39
	DC29		iLembe	3.30	3.31	3.63	35	36	41
	DC43		Sisonke	3.66	4.04	4.12	45	46	46
	ETH	Metro	eThekwini	1.97	1.70	1.81	15	11	16
Limpopo	DC33		Mopani	3.61	3.63	3.39	44	41	36
	DC34		Vhembe	3.36	3.67	3.56	36	43	40
	DC35		Capricorn	3.45	3.47	3.44	40	37	38
	DC36		Waterberg	2.39	2.26	2.72	25	24	29
	DC47	ISRDP	Greater Sekhukhune	3.87	4.11	4.16	46	48	47
Mpumalanga	DC30		Gert Sibande	2.73	2.75	2.55	28	28	26
	DC31		Nkangala	2.74	2.90	2.63	30	29	27
	DC32		Ehlanzeni	2.73	3.10	3.16	29	31	33
Northern Cape	DC45	ISRDP	Kgalagadi	3.07	3.20	2.88	32	32	31
	DC6		Namakwa	1.45	1.49	0.97	5	7	2
	DC7		Pixley ka Seme	2.18	1.93	1.84	19	18	18
	DC8		Siyanda	1.77	1.50	1.56	12	8	9
	DC9		Frances Baard	2.34	2.28	1.71	24	25	13
North West	DC37		Bojanala Platinum	2.43	2.67	2.66	26	27	28
	DC38		Ngaka Modiri Molema	3.20	3.30	3.35	33	35	35
	DC39		Dr Ruth Segomotsi Mompati	3.39	3.54	3.41	38	39	37
	DC40		Dr Kenneth Kaunda	2.24	1.74	1.92	22	13	20
Western Cape	CPT	Metro	City of Cape Town	1.40	1.12	1.23	4	4	5
	DC1		West Coast	1.00	0.83	0.88	1	1	1
	DC2		Cape Winelands	1.21	0.97	1.09	2	3	4
	DC3		Overberg	1.22	0.86	1.00	3	2	3
	DC4		Eden	1.69	1.59	1.31	7	10	6
	DC5	ISRDP	Central Karoo	1.50	1.40	1.32	6	5	7

2 The closer to 5, the more deprived.
Figures in red highlight those districts which demonstrate an increasing level of deprivation (deprivation index increased each year) over the last 3 years.

Map 1: Deprivation index by sub-district in South Africa, 2007



Deprivation index by sub-district (municipality)

A new feature in this year's report is the deprivation index calculated at sub-district level. Map 1 shows clearly where poverty in South Africa is located. The full table of deprivation indices by sub-district is available on the CD as an Excel file called 'Deprivation Sub_District_CS2007.xls. Extracts from this file are shown below as Table 2 which illustrates the variation in the levels of deprivation within some districts. For example Chris Hani District (Eastern Cape) has sub-districts that range from being very deprived (Engcobo Local Municipality) to relatively well off (Inxuba Yethemba Local Municipality). Similarly Gert Sibande District in Mpumalanga, which falls in to socio-economic quintile 3, shows a wide variation between its sub-districts. Some districts however show little variation (e.g. Uthungulu District in KwaZulu-Natal where all the sub-districts are very deprived and Cape Winelands District in the Western Cape where all nine sub-districts are in socio-economic quintile 5).

The majority of the most deprived sub-districts (25/47) fall into KwaZulu-Natal province; 14 are in the Eastern Cape, five in Limpopo, one in the Northern Cape and two in North West Province. There are no sub-districts in the lowest socio-economic quintile in the Western Cape, Gauteng, Mpumalanga or Free State provinces. A list of these sub-districts is also included on the CD.

Table 2: Deprivation Index and socio-economic quintiles by selected sub-districts, 2007

	Sub-District	Deprivation Index	Quintile
Chris Hani District Eastern Cape	EC137: Engcobo Local Municipality	4.66	1
	EC135: Intsika Yethu Local Municipality	4.47	1
	EC136: Emalahleni Local Municipality	4.25	1
	EC138: Sakhisizwe Local Municipality	3.59	2
	EC132: Tsolwana Local Municipality	3.45	2
	EC134: Lukanji Local Municipality	2.68	3
	EC133: Inkwanca Local Municipality	2.24	4
	EC131: Inxuba Yethemba Local Municipality	1.72	5
Uthungulu District KwaZulu-Natal	KZN286: Nkandla Local Municipality	4.80	1
	KZN285: Mthonjaneni Local Municipality	4.22	1
	KZN283: Ntambanana Local Municipality	4.14	1
	KZN284: uMlalazi Local Municipality	4.05	1
Gert Sibande District Mpumalanga	MP301: Albert Luthuli Local Municipality	3.57	2
	MP303: Mkhondo Local Municipality	3.29	2
	MP304: Seme Local Municipality	3.20	2
	MP302: Msukaligwa Local Municipality	2.48	3
	MP306: Dipaleseng Local Municipality	2.35	3
	MP305: Lekwa Local Municipality	2.10	4
	MP307: Govan Mbeki Local Municipality	1.84	5
Cape Winelands District Western Cape	WC023: Drakenstein Local Municipality	1.51	5
	WC025: Breede Valley Local Municipality	1.50	5
	WC024: Stellenbosch Local Municipality	1.31	5
	WC022: Witzenberg Local Municipality	1.31	5
	WC026: Breede River/Winelands Local Municipality	1.28	5
	WC031: Theewaterskloof Local Municipality	1.47	5
	WC032: Overstrand Local Municipality	1.29	5
	WC034: Swellendam Local Municipality	1.28	5
	WC033: Cape Agulhas Local Municipality	1.00	5

1.2 Equity: Monitoring the gap between the most and least deprived districts

One of the main goals of the District Health System is to fulfill a number of principles embodied in the primary health care approach, including equity and accessible comprehensive services of good quality that are effective and efficient.

Although inequities in health result from the social conditions that lead to illness, health systems play a pivotal role in improving or worsening the situation, particularly through provision of PHC services.

By the monitoring of a selected set of socio-economic and health care indicators in PHC, the District Health Barometer works as a tool to monitor and support improvement of equitable provision of PHC in South Africa.

In the section that follows, a selection of some of the indicators that are in the DHB are analysed by socio-economic quintile, in order to monitor and highlight the inequities that exist between the most deprived and the least deprived districts in the country.

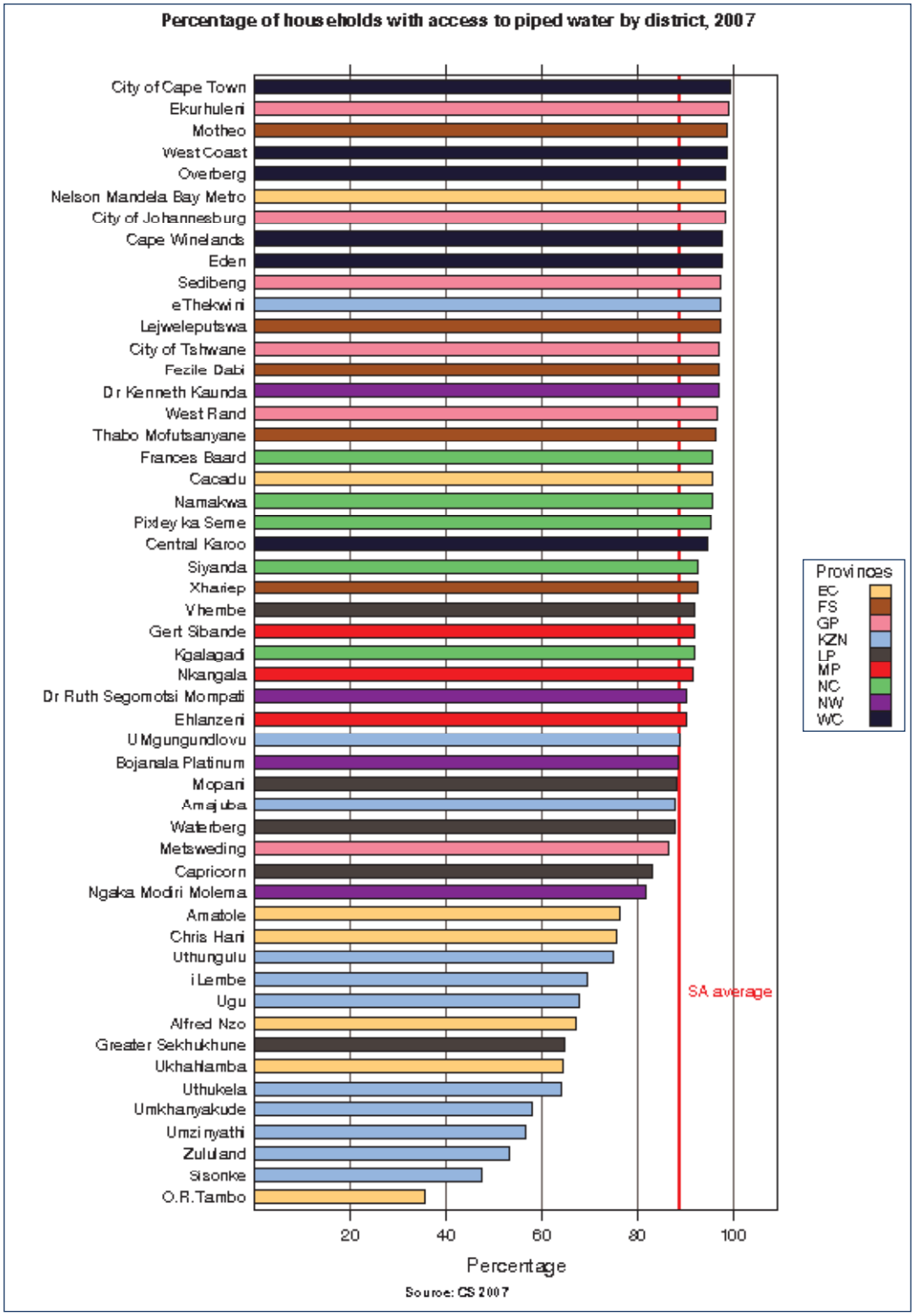
Social Determinants of Health

Access to water

The percentage of households in each district that have access to piped water[3], as measured by the Community Survey in 2007, is illustrated in Figure 2. The districts are ranked from the highest access of 99.4% (City of Cape Town, Western Cape) to the lowest access of 35.6% (O.R. Tambo District, Eastern Cape).

3 Defined in the survey as: 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.

Figure 2: Percentage of households with access to piped water by district, 2007[4]



The ten districts that have the least access to piped water in the country are the same as those identified as being the most deprived (Figure 1) with the exception that Ukhahlamba in the Eastern Cape has replaced Chris Hani from the same province. There has been an improvement in access to water in the ISRDP districts. In 2007, 62.7% of households in these districts had access to piped water up from 53.7% as shown in the Census in 2001 and up from the General Household Survey estimate of 57,7% in 2005. The district with the worst access to water is O.R. Tambo at 35.6% of households with access, up from the 28% measured during the 2001 Census. The districts with the lowest access to piped water are in KwaZulu-Natal and Eastern Cape provinces, with six (KZN) and three (EC) districts among the ten districts with the least access. The average percentage access to piped water in the highest socio-economic quintile is 97.2% vs an average of 59% for households in the lowest socio-economic quintile.

4 Source: StatsSA Community Survey 2007.

Access to medical aid

Access to medical aid refers to the percentage of the population who have access to a medical aid scheme. The national average for access to medical aid in 2007 was 14.3%. There is, however, large variation in this indicator from a low of 3.2% in Alfred Nzo to 26.7% in Nelson Mandela Bay metro. Both districts fall within the Eastern Cape illustrating the wide inequity within one province. With regard to the gap between quintiles, an average of 5.2% people had access to medical aid in those districts which were most deprived, compared to 19.5% with access to medical aid in the districts that were in the least deprived quintile.

Inputs

Per capita expenditure on primary health care

Per capita expenditure on primary health care refers to the amount spent on non-hospital PHC services per person without a medical aid. This indicator is useful in assessing the extent of equity in the distribution of PHC resources across districts.

Research on public sector financing and deprivation in 2001 indicated inequities in resource allocation across and within provinces[5]. Differential resources were made available to different geographic areas. Poorer and underserved mostly rural districts generally received far less per capita than did the wealthier and more urban districts. The trends of the per capita expenditure (PCE) among the districts however illustrate that inequities in financial resource allocation are narrowing. Figure 3 shows that the gap between socio-economic quintile 5 and 1 has narrowed since 2001/02. However, it is paradoxical that those districts in quintile 5 (the least deprived) generally are still better funded than those in quintile 1 (the most deprived).

Processes

Average length of stay

The average length of stay (ALOS) indicator measures the average duration of patient stay in a health facility (in days). In 2007/08, the average of the ALOS in facilities in districts in the most deprived quintile, was 5.7 days. This was significantly longer than in the least deprived districts, where the average ALOS was 3.1 days. In 2005/06 the ALOS in the most deprived districts was 6.2 days, although it was much the same (3.2 days) in the least deprived districts. Although the gap is decreasing, research needs to identify the reasons for this difference (e.g. if it is related to a difference in resources, efficiency or quality of care, which causes the more deprived districts to have a longer ALOS).

Bed utilisation rate

Bed utilisation rate is a measure of the occupancy of the beds available for use. It is generally a measure of efficiency and expresses how well the hospital is using its available capacity. The indicative value set by the national DoH is 72%. The bed utilisation rate for the least deprived quintile in 2007/08 was on average 75%, up from 70% in 2005/06. On the other hand the bed utilisation rate for the most deprived quintile was on average 62% in 2007/08, similar to the 63% in 2005/06. Possible reasons for this include migration from rural to urban areas; fewer doctors working in rural areas, etc. The reasons for low utilisation requires review to ensure that there is maximum use of scarce resources.

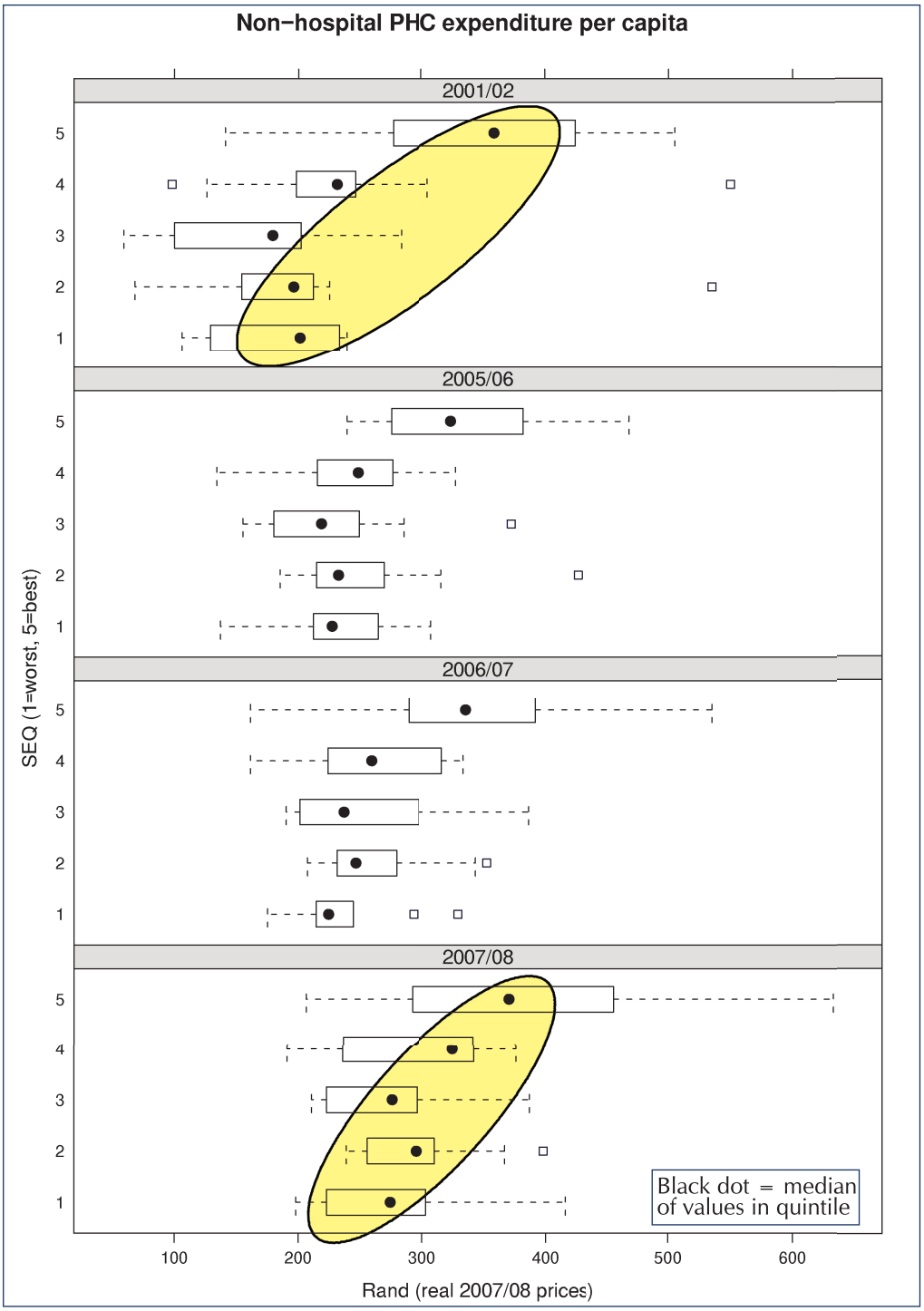
Outputs

Immunisation coverage

Immunisation coverage measures the percentage of children under one year who have completed their primary course of immunisation. The average immunisation coverage for 2006 was 84.2%. Looking at the most deprived quintile, the average immunisation coverage in 2007/08 was 81.7%. In the least deprived quintile, however, the average immunisation coverage was 12.6 percentage points higher, at 94.3%. In addition, a number of the districts in these areas have immunisation coverage of over 100%, suggesting that mothers and their babies may be coming from neighbouring less advantaged areas to access the service. Alternatively there may be data quality problems with underestimates of the denominator.

5 Thomas S, Muirhead D, Mbatsha S, McIntyre D, Financing and Need across District Municipalities. In: Ijumba P, Ntuli A, Barron P, editors , South African Health Review 2002. Durban: Health Systems Trust; 2002.

Figure 3: Per capita non hospital PHC expenditure by socio-economic quintile (2007/08 prices), 2001/02 to 2007/08†



Primary health care utilisation rate

The primary health care utilisation rate is the average number of visits per person per year to a public PHC facility. In 2007/08, the average utilisation of primary health care services in South Africa (SA) was 2.2 visits per person and the national target is 3.5. Between 2005/06 and 2007/08 the utilisation rate in the most deprived quintile remained between 2.0 and 2.1 visits per person per year, whereas in the least deprived quintile, the average number of visits to public PHC facilities increased from 2.7 to 3 visits per person per year. It seems as though those with the greatest needs made less use of their PHC facilities compared to the people in the better resourced districts. This is a disturbing observation as people in poorer circumstances generally have greater health problems with greater needs for health services.

† Explanation of box-and-whisker plots: These graphs plot the values of the indicator for each district according to socio-economic quintiles. The black dot represents the median of the values for districts in the quintile. The box is drawn between the first and third quartiles of the values. The horizontal lines (the 'whiskers') extend to at most 1.5 times the box width (the interquartile range) from either or both ends of the box. They must end at an observed value. Any value more than 1.5 times the interquartile range is considered an outlier and is shown by a small rectangle.

Outcomes

HIV prevalence amongst antenatal clients tested

The annual data collected through the latest national antenatal sero-prevalence survey[6] provides a picture of HIV prevalence at district level. The HIV prevalence amongst antenatal clients nationally was 28.0% in 2007. The median by socio-economic quintile and province are shown in Figures 4 and 5. In 2007 the median prevalence is 16% in the least deprived quintile, whereas the median prevalence for the most deprived quintile is more than double that 33%. In 2006, a similar difference in the median prevalence was noted; 13% for SEQ1 and 30% for SEQ5. There was no real difference in the prevalence rates between socio-economic quintiles one to four. Quintile five reflects a much lower prevalence rate largely because all the districts in the Western Cape, which have a different demographic profile, are contained in this quintile. The medians of the prevalence rates by province however, show wide variation as can be seen in Figure 5.

Figure 4. Box-and-whisker plot of the HIV prevalence among antenatal clients tested (survey) by socio-economic quintile, 2007[7]

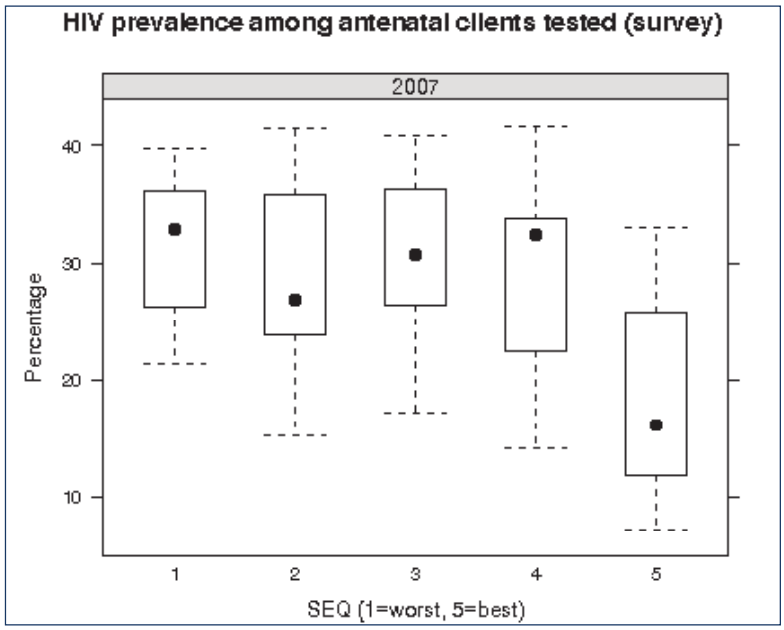
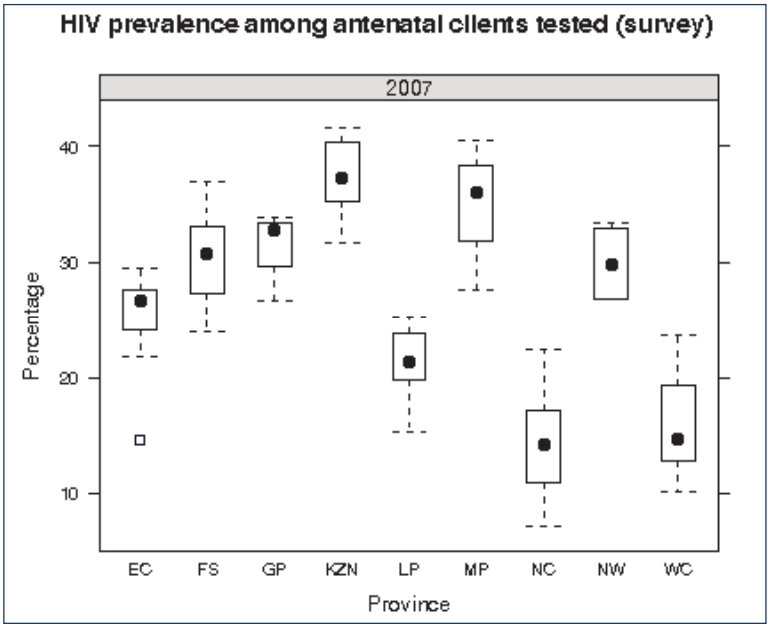


Figure 5. Box-and-whisker plot of the HIV prevalence among antenatal clients tested (survey) by province, 2007[7]



6 The National HIV and Syphilis Prevalence Survey South Africa 2007. National Department of Health. Pretoria: Department of Health; 2008. URL: http://www.doh.gov.za.

7 These values represent the median of the values of individual districts within a province and not the averages of the provinces as shown in the National HIV and Syphilis Prevalence Survey.

TB cure rate

The TB cure rate is the proportion of new smear positive cases that are shown to be smear negative at the end of six months and/or on at least one previous occasion of TB treatment. In 2005, the average cure rate for the least deprived districts was 70.5% and for the most deprived districts 57.8%, a difference of 12.7 percentage points. This gap has widened to a 16.1 percentage point difference in 2006 (the latest available data) with the average cure rate for the least deprived districts being 71.4% and 55.3% for the most deprived districts. It is alarming that the TB cure rates have deteriorated in the most deprived districts.

Impact

Stillbirth rate

The stillbirth rate measures the number of babies born dead out of 1000 total births. The stillbirth rates are for public sector facilities only and do not give a full community picture, especially in those places where there are a significant number of home deliveries. The average stillbirth rate in South Africa in 2007/08 was 23.0. The average for the least deprived districts was 20.3 and for the most deprived quintile was 22.4 stillbirths per 1 000 births. There is no clear relationship between stillbirth rates and the socio-economic quintiles of districts, and little evidence of change between the best and worst off districts.