

1 Finance

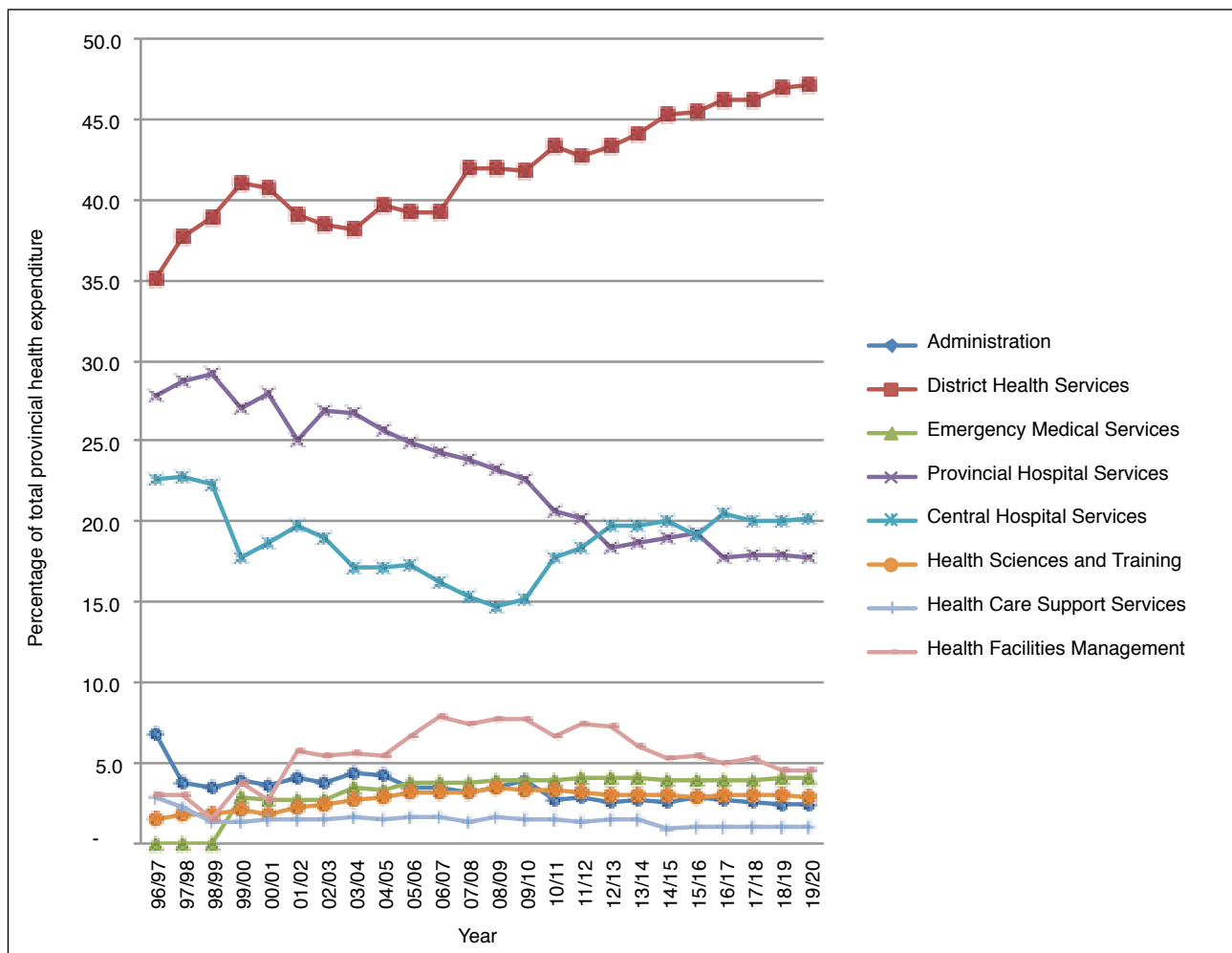
Jonatan Davén, Candy Day, Mark Blecher, Aparna Kollipara, and Jodi Wishnia

The ability of government to provide health services is dependent on the availability of financial resources to pay for key inputs, such as personnel, medicines and other goods and infrastructure. Analysing trends in the distribution of financial resources can give an indication of the adequacy of allocations and priorities of the health sector, and the extent to which these resources are equitably distributed and efficiently used. This chapter focuses mainly on three key indicators: (1) provincial and local government district health services (DHS) expenditure per capita (uninsured population); (2) provincial and local government (LG) primary health care (PHC) expenditure per capita (uninsured population); and (3) provincial and local government PHC expenditure per PHC headcount. It also analyses DHS expenditure by sub-programme, discusses how this breakdown differs across provinces and districts and what some of the reasons could be for such differences and provides recommendations that the sector might consider to improve allocative efficiency and equity.

Provincial health expenditure up to 2016/17 was extracted from the National Treasury's Basic Accounting System (BAS) database. Expenditure allocated to specific health facilities under the 'Responsibility level' dimension was coded to the latest District Health Information Software (DHIS) facility information in order to identify the district where the expenditure was incurred. All other expenditure was coded by district where possible using other information in the BAS database. The remaining expenditure at provincial level or that which could not be clearly allocated to a specific district was allocated to each district proportionate to its population. Unless otherwise stated, historical expenditure in this chapter has been adjusted for inflation and is presented in real 2016/17 terms. Local government expenditure on health provided by the National Treasury was added to the expenditure retrieved from the BAS database.

Figure 1 illustrates the growing importance of district health services to the health system. Expenditure on this programme has increased significantly as a proportion of total provincial health expenditure over the past two decades and is now by far the largest budget programme, making up 46.1% of total expenditure in 2016/17. This percentage has increased gradually from 35.1% in 1996/97, and based on current budgets it is expected to reach 47.1% by 2019/20, largely due to rapidly growing HIV budgets, which form part of DHS. There has been a marked reduction in relative expenditure on Provincial Hospital Services, while Central Hospital Services has remained relatively stable. The Health Facilities Management proportion has decreased, since 2012/13, largely due to baseline reductions to infrastructure budgets as a result of budget constraints.

Figure 1: Proportional provincial health expenditure by programme, 1996/97–2019/20^a



Source: Blecher et al.^b

In addition to spending by provincial departments of health, local governments also use their own revenue to fund health services, including those rendered by clinics owned and operated by municipalities. The local government revenue spent on DHS was R4.1 billion in 2016/17.

District health services budgets are divided into nine sub-programmes, which are described in Box 1. Expenditure by programme is shown in Table 1. District Hospitals remains the largest sub-programme, making up 35.3% of total DHS expenditure. This is followed by HIV and AIDS (HIV/AIDS) (20.8%), Clinics (19.9%) and Community Health Centres (11.8%).

a Excluding Local Government own revenue expenditure.

b Blecher M, Davén J, Kollipara A, et al. Health spending at a time of low economic growth and fiscal constraint. In: Paradath A, Barron P, editors. South African Health Review 2017. Durban. Health Systems Trust. 2017. URL: <http://www.hst.org.za/publications/south-african-health-review-2017> [Accessed 1 September 2017].

Box 1: District Health Services: sub-programme objectives

District management: Planning and administration of services, managing personnel- and financial administration and the co-ordinating and management of the Day Hospital Organisation and Community Health Services rendered by Local Authorities and Non-Governmental Organisations within the Metro and determining working methods and procedures and exercising district control.

Community health clinics: Rendering a nurse driven primary health care service at clinic level including visiting points, mobile- and local authority clinics.

Community health centres: Rendering a primary health service with full-time medical officers in respect of mother and child, health promotion, geriatrics, occupational therapy, physiotherapy, psychiatry, speech therapy, communicable diseases, mental health, etc.

Community based services: Rendering a community based health service at non-health facilities in respect of home-based care, abuse victims, mental- and chronic care, school health, etc.

Other community services: Rendering environmental and part-time district surgeon services, etc.

HIV/AIDS: Rendering a primary health care service in respect of HIV/AIDS campaigns and Special Projects.

Nutrition: Rendering a nutrition service aimed at specific target groups and combines direct and indirect nutrition interventions to address malnutrition.

Coroner services: Rendering forensic and medico legal services in order to establish the circumstances and causes surrounding unnatural death.

District hospitals: Rendering of a hospital service at district level.

Source: National Treasury

Table 1: District health expenditure by sub-programme and economic classification (nominal)

R million	2012/13		2013/14		2014/15		2015/16		2016/17	
	Audited outcome	Percentage of total	Audited outcome	Percentage of total	Audited outcome	Percentage of total	Audited outcome	Percentage of total	Pre-audited outcome	Percentage of total
Programme 2: District Health Services										
District Management	2 993	5.6%	3 105	5.4%	3 249	5.1%	3 501	5.0%	4 073	5.3%
Community Health Clinics	11 448	21.6%	11 769	20.5%	12 774	20.0%	14 267	20.4%	15 276	19.9%
Community Health Centres	6 023	11.4%	6 502	11.3%	7 408	11.6%	7 953	11.3%	8 747	11.4%
Community Based Services	2 050	3.9%	2 049	3.6%	2 490	3.9%	2 944	4.2%	3 148	4.1%
Other Community Services	1 177	2.2%	1 406	2.4%	1 372	2.1%	1 382	2.0%	1 683	2.2%
HIV/AIDS	9 277	17.5%	11 114	19.3%	12 476	19.6%	13 955	19.9%	15 961	20.8%
Nutrition	232	0.4%	185	0.3%	210	0.3%	196	0.3%	195	0.3%
Coroner Services	412	0.8%	458	0.8%	491	0.8%	518	0.7%	545	0.7%
District Hospitals	19 282	36.4%	20 775	36.1%	23 215	36.4%	25 280	36.1%	27 116	35.3%
Global fund (WC only)	140	0.3%	154	0.3%	122	0.2%	93	0.1%	18	0.0%
Total	53 034	100.0%	57 517	100.0%	63 805	100.0%	70 088	100.0%	76 763	100.0%

Source: National Treasury.

Primary Health Care has been shown to play a pivotal role in improving the health of communities and preventing unnecessary escalation of illnesses.^c Therefore, tracking expenditure on PHC as compared to other levels of care is a well-known measure to assess the importance government places on PHC.^d In a country like South Africa (SA), which has pledged its support to a PHC system and lowering the need for hospitalisation,^e it is apt that the expenditure on DHS has continued to grow to such an extent that it makes up the largest proportion of health expenditure for the country.

Work done by the World Health Organization and partners on the System of Health Accounts 2011, mapped the expenditure per capita on PHC for 30 countries, of which 23 are in Africa.^f The average expenditure on PHC per capita was USD35. The 2016/17 PHC expenditure per headcount in SA was R389 on average. When divided by the average USD exchange over 2016/17, SA is spending approximately USD28 per capita on PHC and therefore, it is likely that we are spending too little on PHC despite the positive growth in recent years.

The White Paper on National Health Insurance (NHI) (2017) is strong on its commitment to improve management of DHS through district health management offices. This includes new Contracting Units for PHC (CUPs) whereby districts can begin to build networks for contracting and managing providers under NHI. The NHI envisions a risk-adjusted capitation-based reimbursement model (prospective lump-sum payment per enrolled patient for PHC services in a given catchment

^c Starfield B, Shi L, and Macinko J. (2005). Contribution of primary care to health systems and health. *Milbank Q.* 83: 457–502.

^d <http://www.phcperformanceinitiative.org/blog/2015/12/01/primary-health-care-and-sustainable-development-goals>.

^e National Department of Health South Africa. National Health Insurance White Paper. June 2017, pp 29.

^f <http://phcperformanceinitiative.org/indicator/capita-current-primary-health-care-expenditure-usd#!loc=&viz=0&ci=false>.

population), with an element of performance-based remuneration. Fortunately, SA can take heed from best practices in other countries to guide the development of these rates.

1.1 Provincial and local government district health services expenditure per capita (uninsured population)

Provincial and local government expenditure per capita (uninsured) on DHS is the total amount spent per uninsured person (i.e. not a medical scheme member or beneficiary). Overall, approximately 16% of South Africans are covered by medical schemes, although this percentage differs greatly between provinces and districts. The numerator for this indicator is the sum of provincial and LG expenditure under the DHS programme (with the exception of the Coroner Services sub-programme, which is excluded). The denominator is the estimated uninsured population.

As can be seen in Figure 2, the DHS spending per capita uninsured for the whole country was R1 726 in 2016/17. This is an increase in real terms^g of 2.8% from 2015/16. However, nine districts showed a decrease in spending per capita from 2015/16. These districts are based in the Eastern Cape (EC) (Joe Gqabi), Free State (FS) (Fezile Dabi), Gauteng (GP) (Ekurhuleni, Sedibeng), Mpumalanga (MP) (Ehlanzeni), Northern Cape (NC) (Namakwa, ZF Mgcawu) and in North West (NW) (Dr K Kaunda, RS Mompoti). The spending across districts in 2016/17 is vast, ranging from R1 177 in Johannesburg (GP) to R3 241 in Central Karoo (Western Cape (WC)).

While it is important to monitor the level of expenditure on DHS, given that it is the largest provincial budget programme and that it is the level of care that is generally the most accessible to people, it is not very useful for comparison across geographical areas such as provinces and districts, as it is skewed by the uneven distribution of district hospitals. District hospitals make up the largest portion (35.3%) of provincial DHS expenditure (Figure 3) and the number of district hospitals in a district is influenced by a number of factors, such as the number of higher-level hospitals (e.g. reason for low district hospitals spending in Johannesburg (GP)) and classifying relatively few hospitals as district level. However, Figure 3 shows that the district hospital budgets are not necessarily linked to the number of hospitals, which alludes to the challenge of misclassification of hospitals.

^g Real means adjusting for inflation.

Figure 2: Provincial and local government District Health Services expenditure per capita (uninsured) by district, 2016/17

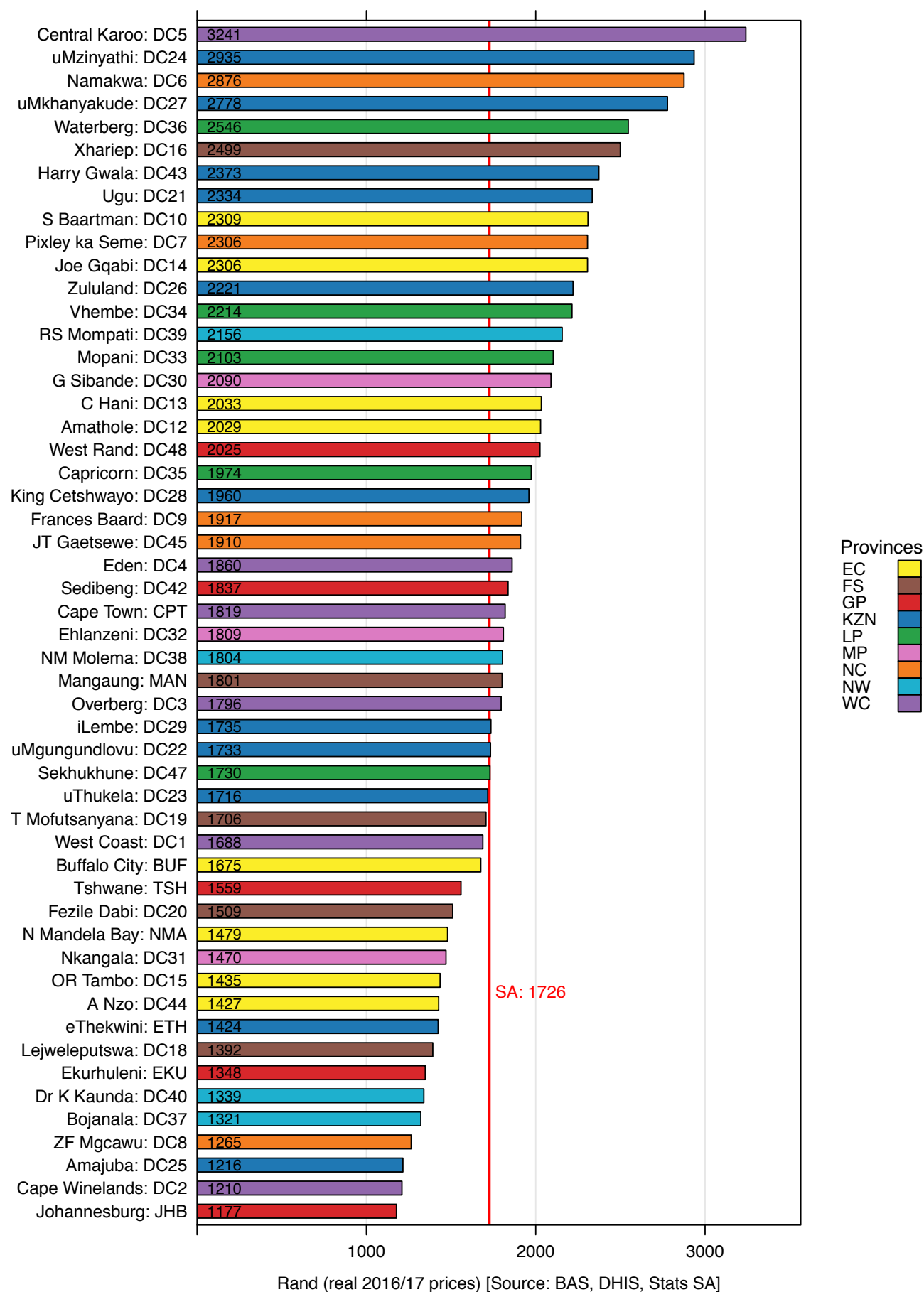
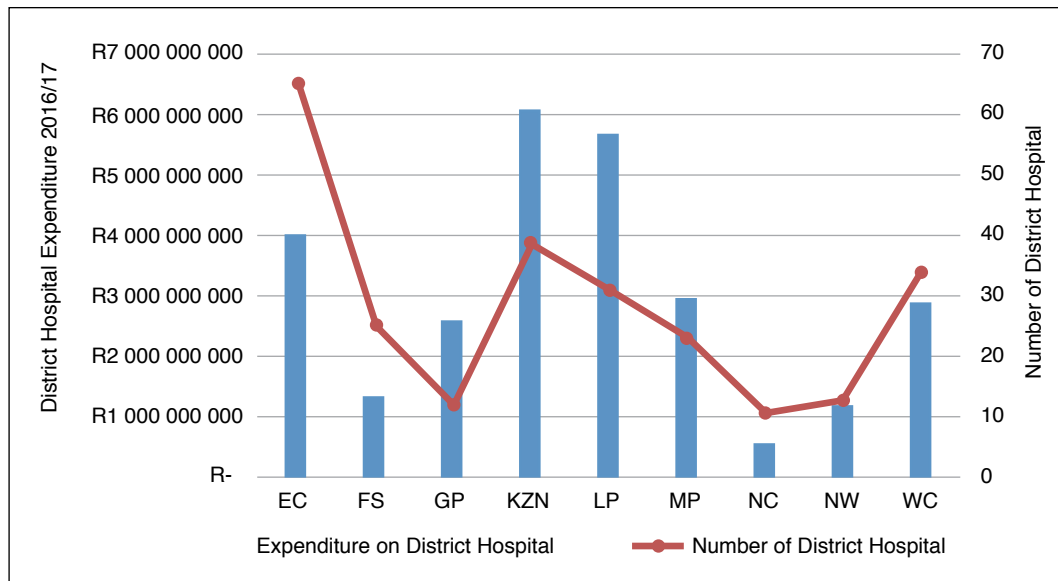


Figure 3: Expenditure on district hospitals against number of district hospitals, per province



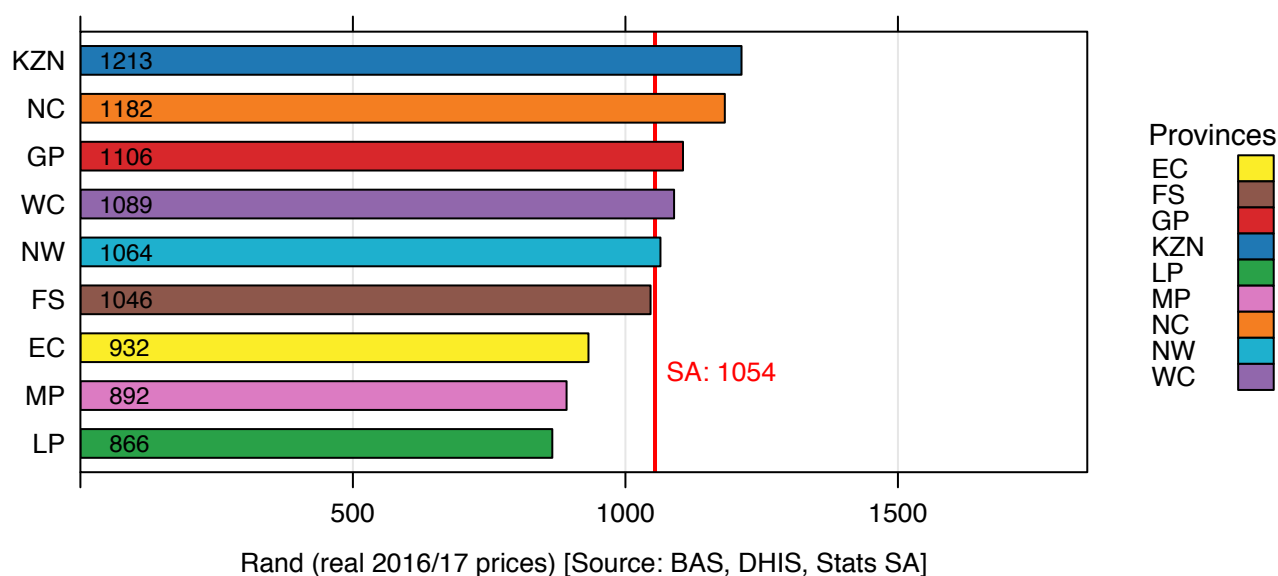
Source: National Treasury.

1.2 Provincial and local government primary health care expenditure per capita (uninsured population)

Provincial and local government primary health care expenditure per capita (uninsured) is calculated in the same way as the previous indicator, but excludes the sub-programmes District Management and District Hospitals. The numerator is thus made up of community health clinics, community health centres, community-based services, other community services, HIV and AIDS, nutrition and LG PHC expenditure and the denominator is the uninsured population. Primary Health Care is the level of care that is the closest to the community and therefore has an important role in responding to the immediate health care needs of the community. Government has an explicit policy to re-engineer primary health care, and this level of care is seen as the fundamental building block of NHI.

Figure 4 shows that PHC expenditure per capita for SA was R1 054 in 2016/17, which is a real increase of 3.7% from 2015/16. KwaZulu-Natal (KZN) had the highest per capita spending (R1 213), surpassing Gauteng, which was the highest spending province in 2015/16. This could partially be explained by the high HIV burden in KwaZulu-Natal, and that HIV/AIDS budgets grow faster than other PHC budgets due to the annual baseline additions to the HIV/AIDS conditional grant to sustain and expand the antiretroviral treatment (ART) programme. Limpopo (LP) had the lowest PHC expenditure per capita, despite having the highest per capita expenditure on DHS, which can be explained by high spending on district management and district hospitals in this province. Both KwaZulu-Natal and Eastern Cape appear to have prioritised PHC services in 2016/17 with real growth rates of 6.9% and 6.8% respectively from the previous year.

Figure 4: Provincial and local government PHC expenditure per capita (uninsured) by province, 2016/17



The difference between the highest and lowest district remained very large, even though it narrowed slightly in 2016/17 compared to 2015/16 (Figure 5). The highest-spending district in 2016/17 was Xhariep (FS) at R1 679, Namakwa (NC) at R1 789 in 2015/16 and the lowest-spending district was Alfred Nzo (EC) at R617 (the same district was the lowest at R599 in 2015/16). Spending in Xhariep was 2.7 times that of Alfred Nzo, while in 2015/16 the highest-to-lowest ratio was 3.0.

The three highest-spending districts, Xhariep, Namakwa (NC) and Central Karoo (WC), remain the same as in 2015/16 and are all districts with relatively small populations and low population density, which tends to increase cost of service delivery. Expenditure levels in these districts might still warrant scrutiny, although there appears to have been some cost containment in Namakwa (negative 6.2% real growth from 2015/16) and Central Karoo (0.7% real growth). It is also important to note that this is expenditure per capita and not per headcount. Therefore, it relates more to the need for services and not what is actually being provided. When looking at the actual PHC-fixed facility utilisation data, Namakwa and Central Karoo showed an increase in utilisation from 2015/16, whereas Xhariep showed a 7% decrease. This highlights the need to analyse spending against actual service delivery outputs.

All metropolitan municipalities except for Johannesburg (GP) and Tshwane (GP) had per capita expenditure above the national average. The high spending levels in the metros is partly due to their relatively stronger ability to raise their own revenue and allocate it to health care, (e.g. the LG component of PHC expenditure in Ekurhuleni (GP) was R446 per capita).

Figure 5: Provincial and local government PHC expenditure per capita (uninsured) by district, 2016/17

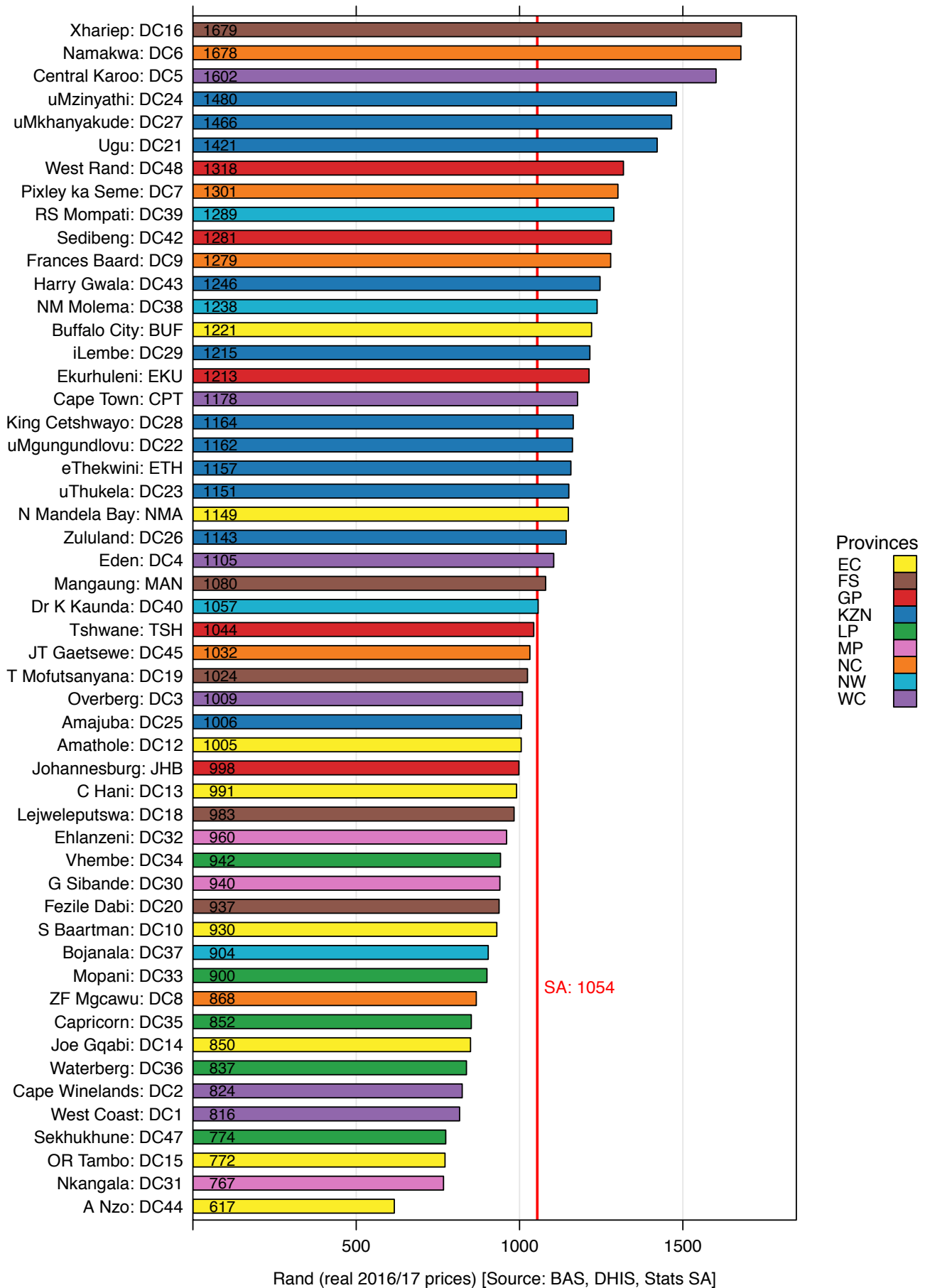


Figure 6 shows this expenditure for each district, grouped by province, over the past seven years. There has been considerable real growth in all provinces over this time period, and while some provinces have seen a real decline during some years, 2016/17 saw growth in all provinces, ranging from 0.7% in Gauteng to 6.2% in Eastern Cape.

Some provinces (Gauteng, Limpopo and Western Cape) have relatively equal distribution of expenditure per capita across districts, while others (Eastern Cape, Free State, Northern Cape and Western Cape) show much greater variability. Three of the latter provinces have clear outliers in terms of the three highest-spending districts in the country, discussed above. This highlights the need for a benchmark for per capita spend that is deemed equitable and sufficient. From this, provinces could adjust based on the burden of disease and other demographic factors. The large variations within one province can be attributed to sub-optimal coordination between service delivery planning and finance units in the budgeting process.

Figure 6: Provincial and local government PHC expenditure per capita (uninsured), 2009/10–2016/17

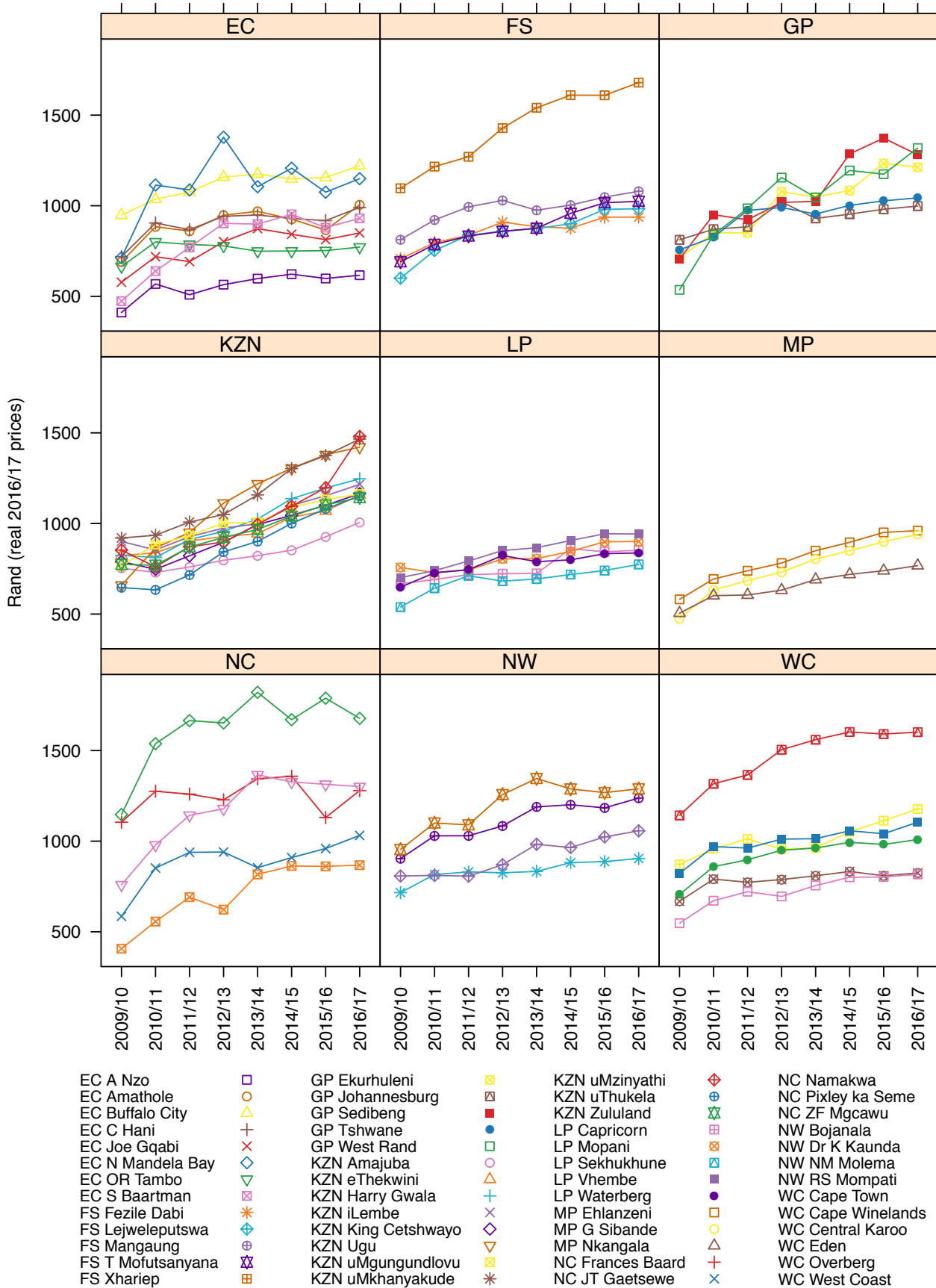
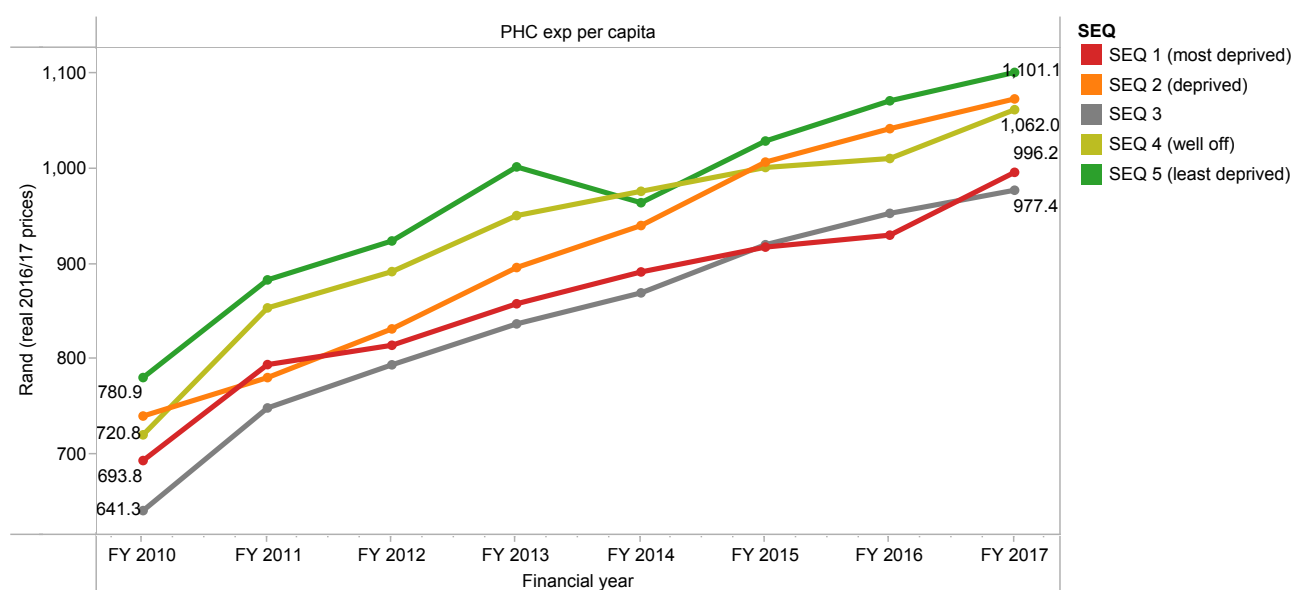


Figure 7 shows PHC expenditure per capita (uninsured) by socio-economic quintile (SEQ), which is a composite measure of relative deprivation based on a set of variables from Census 2011. Socio-economic quintile 5 (least deprived) remains the highest spending quintile at R1 101 per capita, which is 12.6% higher than SEQ3, which was the lowest spending at R977 per capita. Socio-economic quintile 5 includes all metros, except Buffalo City (EC). The difference between the highest and lowest SEQ districts was lower in 2016/17 than in 2015/16, largely because it appears as if SEQ1 (most deprived) received somewhat greater priority in 2016/17, growing by 7.1% in real terms from the previous year. It might still be a cause for concern that expenditure is relatively low in the most-deprived districts, although as noted in the 2015/16 *District Health Barometer* (DHB), this picture might be partially skewed by the density of district hospitals in these districts and, as a result, patients access care at district hospitals (rather than at the PHC level). The inequities shown suggest that greater attention needs to be given to deprivation when allocating funds between districts.

Figure 7: Trends in average district values for provincial and local government PHC expenditure per capita (uninsured) by socio-economic quintile, 2009/10–2016/17



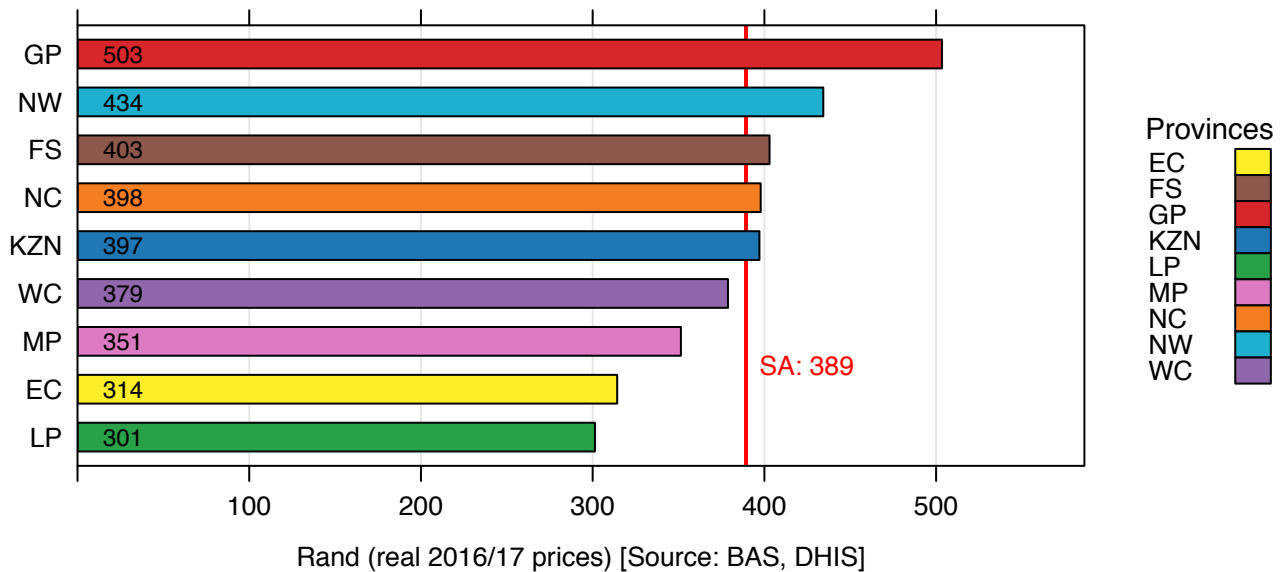
1.3 Provincial and local government primary health care expenditure per headcount

While PHC expenditure per capita can provide insight into equity in resource distribution and the prioritisation of PHC across districts, looking at how much was spent per headcount/visit might be a better measure to evaluate efficiency. The numerator for this indicator is the same as in the previous indicator (community health clinics, community health centres, community-based services, other community services, HIV and AIDS, nutrition and LG PHC expenditure) while the denominator is the number of primary health care headcounts.

Expenditure per headcount in SA was R389 in 2016/17 (Figure 8), which is a real 6.1% increase from 2015/16 and 31.7% increase from 2011/12.

There are considerable differences across provinces. Expenditure per headcount in Gauteng (R503) was 67% higher than in Limpopo (R301). Significant growth in real terms from 2015/16 was seen particularly in KwaZulu-Natal (14.2%) and Eastern Cape (8.0%). Limpopo expenditure per headcount decreased by 3.8% from 2015/16, which is a major concern given its already low levels of spending. This could be explained by a 6% growth in utilisation in the province, while the province perhaps underestimated the demand for services and did not adjust the budget accordingly.

Figure 8: Provincial and local government PHC expenditure per headcount by province, 2016/17



Despite its efforts to increase expenditure on PHC in 2016/17, four of the five lowest spending districts still remain in Eastern Cape, as in previous years.^h At the opposite end of the spectrum is Gauteng, which has all of its five districts among the eight highest-spending districts.

Similar to expenditure per capita, expenditure per headcount varies greatly across districts, with the highest-spending district (Sedibeng (GP)) spending more than twice as much (R533) per headcount as Alfred Nzo (EC), which spent R256. There may be many different explanations for this, but it may be worthwhile for managers in the higher-spending districts to look at how to save costs and improve efficiency across all levels of care (e.g. Gauteng), while the lowest-spending districts may potentially be underfunded for the workload they carry. Using historical utilisation and burden of disease data during the budget allocation process can assist in ensuring budgets are responsive to need. In addition, stronger referral networks across levels of care will help to bridge the gap between population need and patient demand for PHC services and thus can address the variability in expenditure per capita and expenditure per headcount across districts.

It is noticeable that Xhariep (FS) and Namakwa (NC), which had the two highest expenditure levels per capita, are not even among the 10 highest-spending districts per headcount, indicating that PHC utilisation rates must be relatively high in these districts.

^h Massyn N, Peer N, Padarath A, Barron P, Day C, editors. District Health Barometer 2015/16. Durban. Health Systems Trust. October 2016.

Figure 9: Provincial and local government PHC expenditure per headcount by district, 2016/17

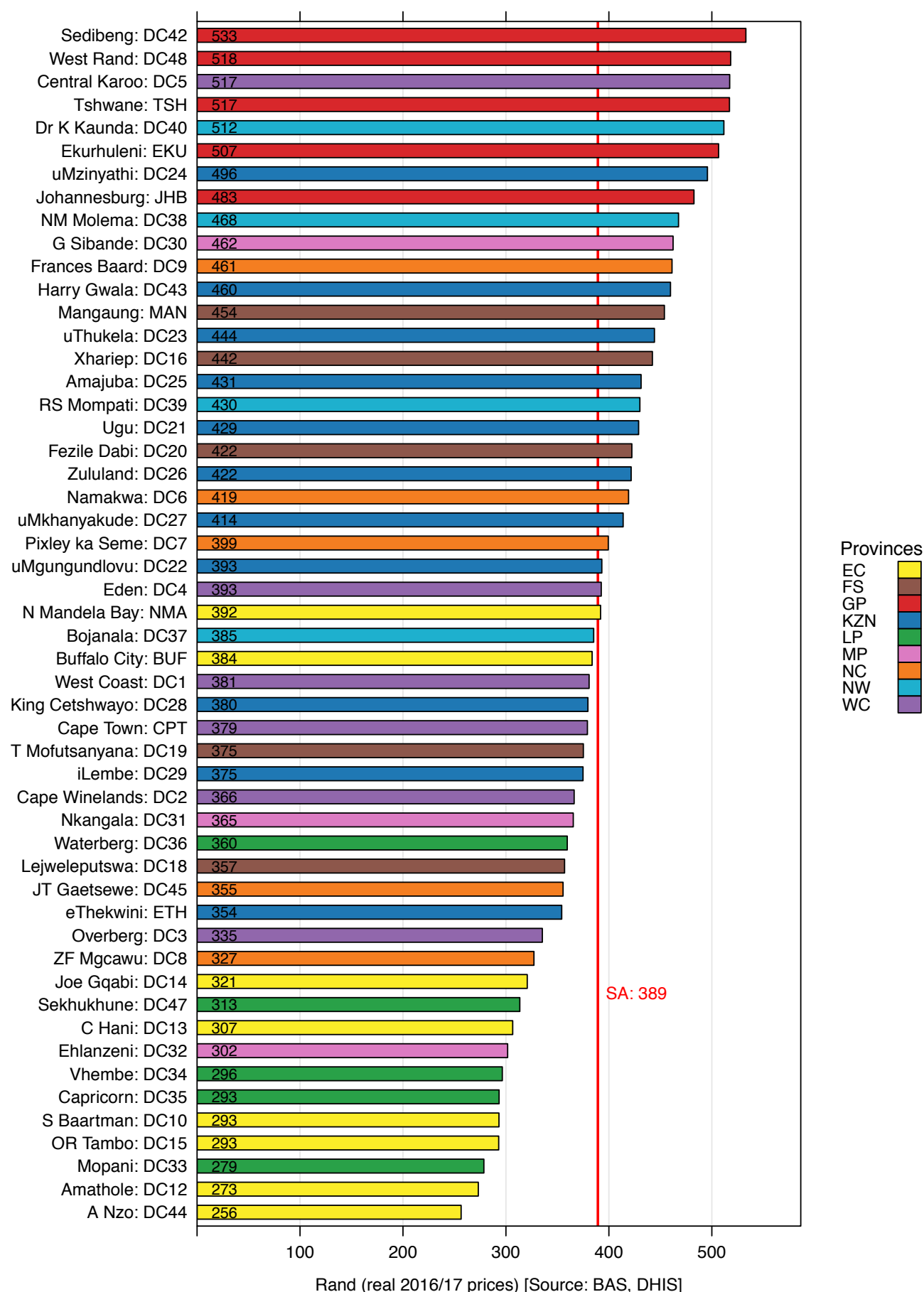


Figure 10 shows how PHC expenditure per headcount has evolved in real terms in each district over the past eight years. It increased in all provinces in 2016/17 except for Limpopo, where it declined by 3.8%. Growth was particularly large in KwaZulu-Natal, at 14.2%, and Eastern Cape at 8%. Some individual districts stand out with a notably high year-on-year growth, such as Gert Sibande (MP), Dr K Kaunda (NW), uMzinyathi (KZN) and Harry Gwala (KZN). The only district that diverges significantly from other districts in the same province is Central Karoo (WC), which is 37% higher than the province as a whole. In terms of utilisation rates, the country has shown a decrease in headcounts of 1% (~1.13 million) from 2015/16. KwaZulu-Natal showed a 5% (~1.66 million) decrease and Eastern Cape a 1% (~111 000) decrease in headcounts. Free State showed the biggest decline proportionally at 6% (~366 000). Therefore, factors other than increased utilisation are driving the real increase in expenditure per headcount.

Figure 10: Provincial and local government PHC expenditure per headcount, 2009/10–2016/17

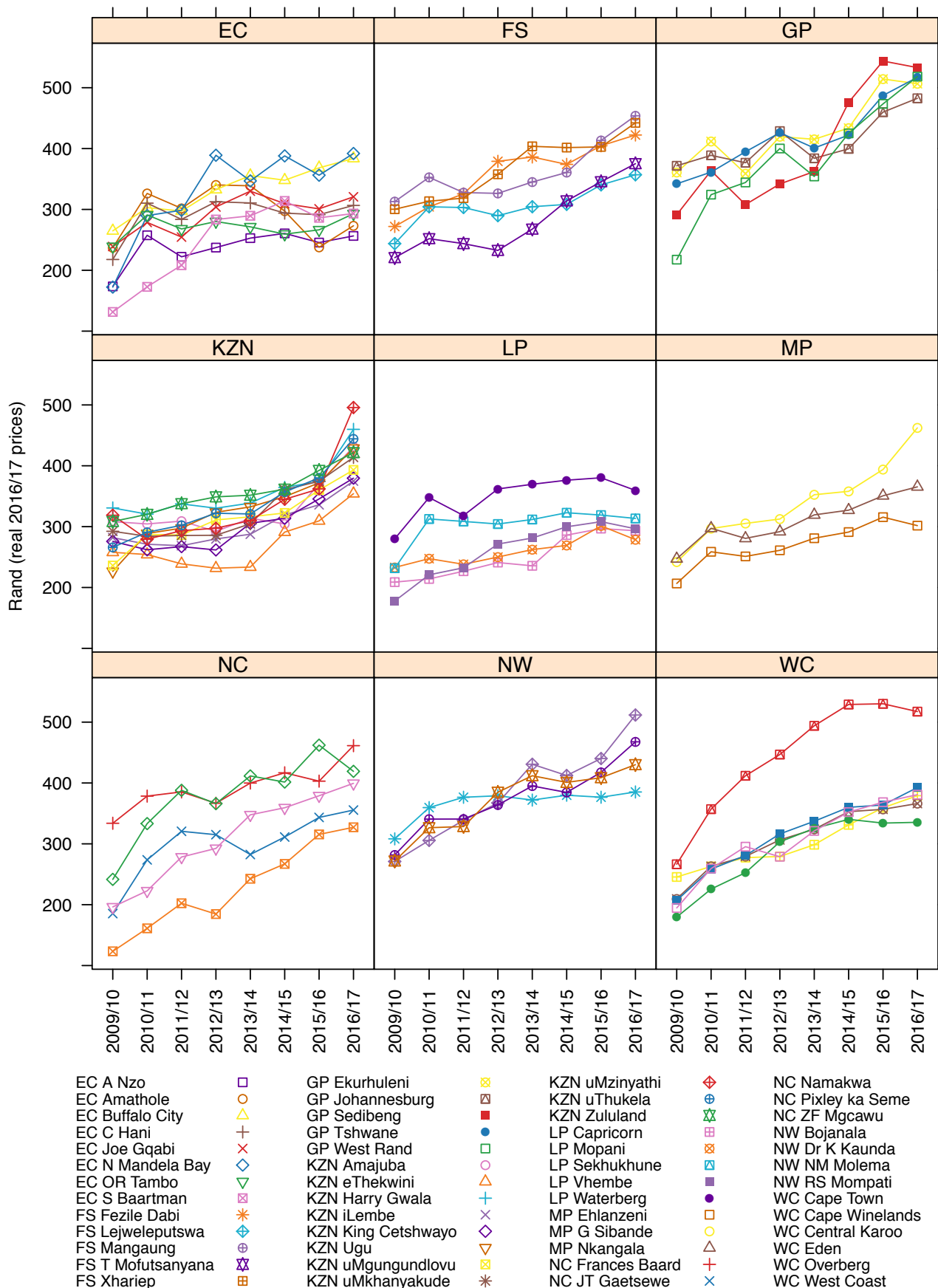
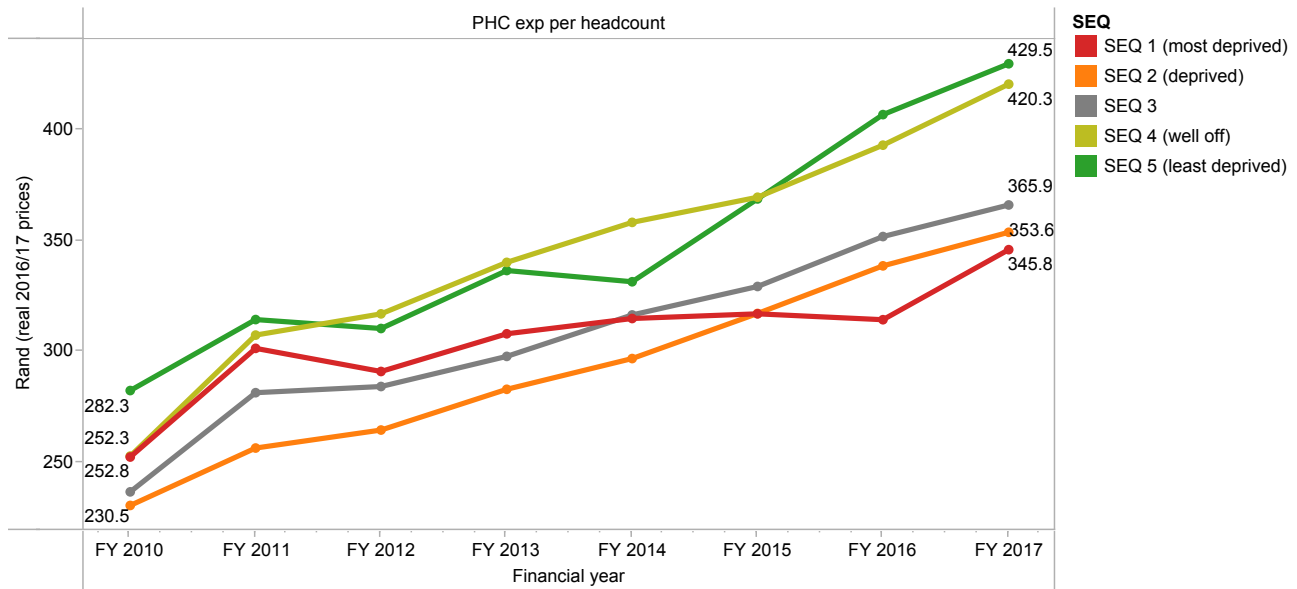


Figure 11 shows PHC expenditure per headcount by SEQ. While the pattern has changed somewhat over time, the data again clearly shows that in 2016/17 there was an inverse correlation between deprivation and PHC expenditure per headcount. While the expenditure per headcount in the most-deprived quintile (SEQ1) increased significantly by 20% in real terms in 2016/17, it was preceded by three years of virtually no increase at all, while in the least-deprived quintile (SEQ5) it has increased steadily since 2014/15.

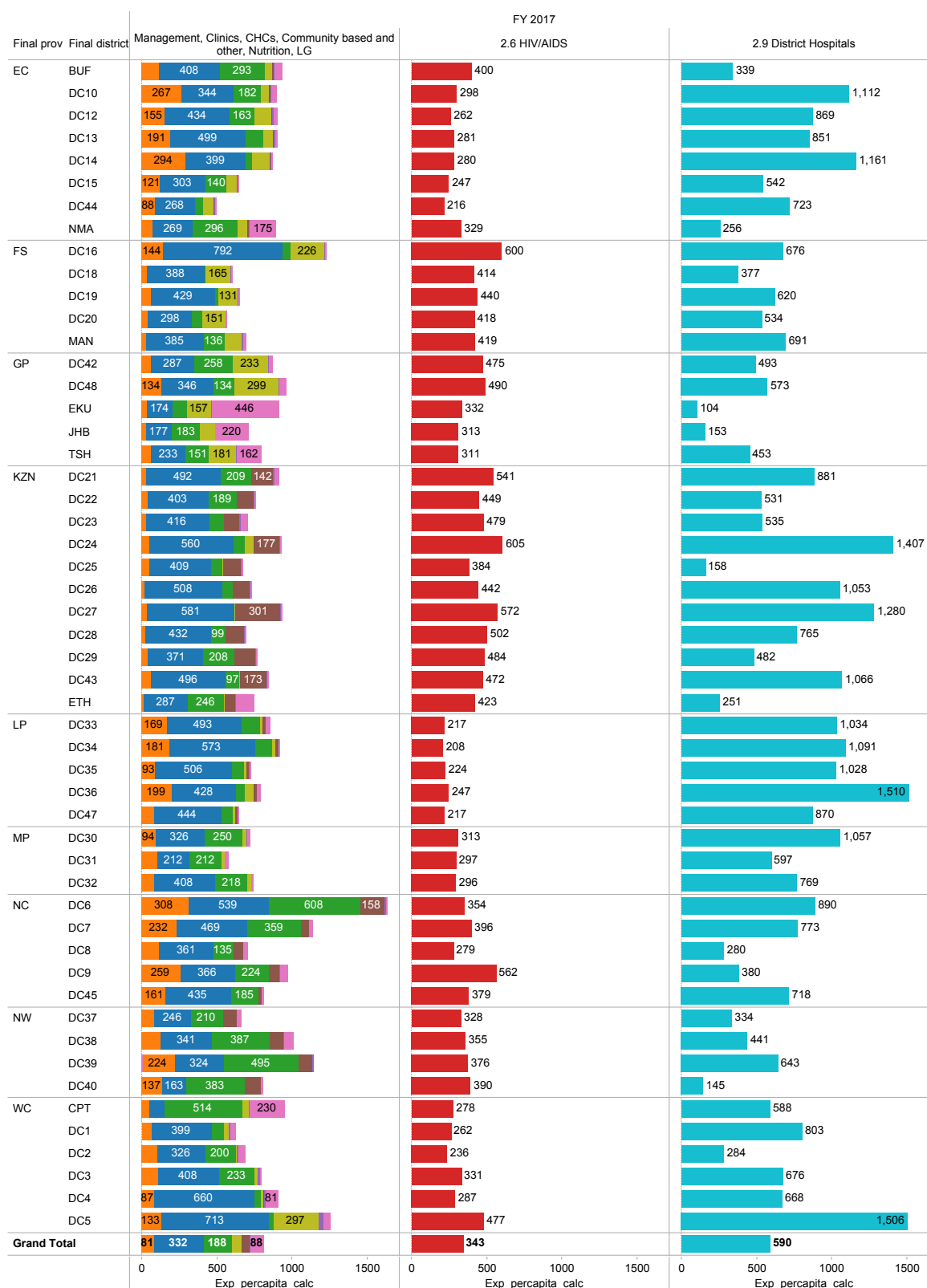
Figure 11: Trends in average district values for provincial and local government PHC expenditure per headcount by socio-economic quintile, 2009/10–2016/17



Detailed breakdown of district health services expenditure

Figure 12 shows the breakdown of DHS expenditure per capita in three categories: PHC (excluding HIV/AIDS); HIV/ AIDS; and district hospitals. This shows clearly that much of the variation in DHS expenditure across districts can be attributed to variations in spending on district hospitals, and to some extent also spending on HIV/AIDS. However, the significant differences in the core PHC (excluding HIV /AIDS) expenditure across districts also warrants attention.

Figure 12: Provincial and local government primary health care expenditure per capita (uninsured) by district and sub-programme, 2016/17



- Subprog
- Local government expenditure
 - 2.9 District Hospitals
 - 2.7 Nutrition
 - 2.6 HIV/AIDS
 - 2.5 Other Community Services
 - 2.4 Community-based Services
 - 2.3 Community Health Centres
 - 2.2 Community Health Clinics
 - 2.1 District Management

Key findings

Summary by province

Eastern Cape

In the 2015/16 DHB, concerns were raised about the real decline for three years in a row in all three expenditure indicators and that in terms of PHC expenditure per headcount the five lowest-spending districts were in this province. This declining trend was turned around in 2016/17, as DHS spending per capita increased by 3.8% and PHC spending per capita increased by 6.8% in real terms. Expenditure per headcount increased by 8% and it is no longer the lowest-spending province for this indicator. However, there is a great difference internally across its districts and the provincial average is dragged up by its two metros. Four of the five lowest-spending districts per headcount are still in Eastern Cape, which warrants attention. Alfred Nzo is still by far the lowest-spending district per capita and headcount in the country and appears to still be underfunded. The low expenditure per capita in the rural districts may be explained by relatively high expenditure on district hospitals. It is also important to note the concerns around the declining headcounts in PHC facilities. While this could be explained by a growth in PHC services being delivered at non-PHC facilities (including outreach activities), further analysis to better understand this trend is required.

Free State

Expenditure per capita on both DHS and PHC was relatively equally distributed across Free State's districts, with the exception of Xhariep, which is a clear outlier. Xhariep had the highest PHC expenditure per capita in the whole country, largely as a result of high expenditure on clinics and HIV/AIDS. It also had the second highest PHC utilisation rate in the country at 3.8, explaining why expenditure per headcount is only just above the national average. The high expenditure on HIV/AIDS in Xhariep may warrant scrutiny, given that antenatal HIV prevalence was below the national average according to the latest survey.ⁱ Fezile Dabi had relatively low utilisation at 2.2 headcounts per capita uninsured; to understand this trend, one would need to analyse barriers to access, referral patterns and the significance of outreach services.

Gauteng

Gauteng had by far the highest PHC expenditure per headcount in the country, at R503, which was 29% more than the national level and 67% higher than the lowest province (Limpopo). This is a result of PHC expenditure per capita above the national average combined with a low PHC utilisation rate at 2.2 compared to the national 2.7. The low utilisation rate in Gauteng is often attributed to patients seeking PHC at private practices or at public hospitals. A significant portion of PHC funding in Ekurhuleni (R446 per capita) is sourced from local government. Such funding is also relatively high in the other two metros, Johannesburg and Tshwane. The low expenditure on district hospitals may warrant a review of hospital services in Gauteng, as it is likely that this results in inefficient spending at higher hospital levels and as a result, inefficient spending to maintain personnel and other fixed costs at the PHC level while PHC utilisation rates remain low. This is particularly important given the rapid population increase in the province and the high volume of patients that are referred from neighbouring provinces to tertiary facilities in Gauteng.

KwaZulu-Natal

KwaZulu-Natal had the highest year-on-year growth of PHC expenditure per capita (6.9%) and per headcount (14.2%) in 2016/17, and also over a five-year period. The strong growth is likely explained to a large extent by its high HIV burden, and it receives the largest portion of the HIV/AIDS and TB conditional grant. All its districts spent above the national average on HIV/AIDS. It had the highest PHC expenditure per capita, but also a high PHC utilisation rate of 3.1, resulting in expenditure per headcount being very close to the national average. However, the province saw a significant decrease in utilisation (1.6 million visits) and while the average visits per person is above the target, the decline might be attributable to the Central Chronic Medicine Dispensing and Distribution (CCMDD) programme which offers alternative pick-up points to collect chronic medicines, (including antiretroviral therapy medication) to decongest public PHC facilities. The majority (close to 900 000) of the CCMDD registered patients are in KwaZulu-Natal. The 2015/16 DHB noted that KwaZulu-Natal had by far the largest expenditure on 'other community services' and that much of the expenditure in this sub-programme was for inputs that are generally classified elsewhere in other provinces.^h This issue seems to have remained in 2016/17. Expenditure per capita on district hospitals varied greatly across districts, ranging from R158 in Amajuba to R1 407 in uMzinyathi, likely driven by differences in distribution of district hospital beds in the province.

Limpopo

Limpopo had the highest expenditure per capita in the country on DHS, but the lowest on PHC. This is explained by the province having the lowest expenditure on HIV/AIDS and the highest on district hospitals. District hospitals made up 51.8% of total DHS expenditure in the province in 2016/17, as compared to 36.0% for the whole country. Of potential concern is

ⁱ The National Antenatal Sentinel HIV Prevalence Survey, South Africa, 2013. National Department of Health. Pretoria. 2015.

that expenditure per PHC headcount dropped by 3.8% in real terms from 2015/16 to 2016/17. This was particularly low in Mopani, Capricorn and Vhembe. Another concern is the high spending on district management in Waterberg, Mopani and Vhembe. This should be looked into, as to whether these high amounts are due to differences in the way expenditure is classified or whether these districts' administration costs are unduly high. Primary Health Care expenditure per headcount is also the lowest in the country.

Mpumalanga

Mpumalanga had the second-lowest PHC expenditure per capita in the country, and the third-lowest per headcount, while high expenditure on district hospitals brings its total DHS expenditure per capita above the national average. Expenditure per capita on HIV/AIDS is below the national average in all the districts, despite their relatively high HIV prevalence.ⁱ It is recommended that both the province and the National Department of Health (NDoH) look into Mpumalanga's HIV/AIDS budgets and its portion of the HIV/AIDS and TB conditional grant. Headcount rates are relatively low in Gert Sibande (2 per capita uninsured) and Nkangala (2.1 per capita uninsured) and the province should review whether services in these districts could be made more accessible. It should be noted though that the province saw a 2% growth in PHC headcounts from 2015/16 (140 000) and real annual PHC expenditure growth of 5.5% over the past five years.

Northern Cape

Figure 6 showed a very wide spread across Northern Cape's districts in terms of PHC expenditure per capita, which ranged from R868 in ZF Mgcawu to R1 678 in Namakwa. However, compared to 2015/16, the discrepancy has declined somewhat as some of the funding for Namakwa appears to have been reprioritised towards other districts, such as Frances Baard and JT Gaetsewe. As noted in the 2015/16 DHB, Northern Cape spent above the national average per capita on HIV/AIDS, despite all its districts having relatively low antenatal HIV prevalence. Consideration should be given by the NDoH to reprioritise some of the HIV/AIDS and TB conditional grant from Northern Cape to Mpumalanga, which has higher prevalence but lower expenditure. Further, Northern Cape's HIV/AIDS spending should be analysed in detail to better understand the reasons for its high HIV/AIDS expenditure per capita and to identify potential inefficiencies.

North West

District Health Services expenditure per capita was the second-lowest in the country, mainly due to low expenditure on district hospitals. Primary Health Care expenditure per capita was marginally above the national average and was relatively evenly distributed across the districts, ranging from R904 in Bojanala to R1 289 in RS Mompoti. The province should look into the relatively high expenditure on district management in the latter district, which was at R224 per capita. Expenditure per headcount in the province was the second-highest in the country, and the province showed a 3% (253 000) decrease in headcount.

Western Cape

Similar to Northern Cape, Figure 6 shows a relatively wide spread between Western Cape districts in terms of PHC expenditure per capita. Notably, Central Karoo is a clear outlier, mainly due to high expenditure per headcount at R513, which was the third-highest in the country. The district did however increase PHC utilisation by 5% (~9 000). Expenditure on district hospitals and community-based services was significantly higher than other districts. Also HIV/AIDS spending was relatively high, despite having the district with the second-lowest antenatal HIV prevalence in the country in 2013. Other districts were fairly close to the national average for both PHC expenditure per capita and per headcount.

HIV/AIDS as a driver of PHC expenditure

The data seems to indicate that HIV/AIDS is increasingly important as a driver of PHC expenditure. HIV/AIDS expenditure has increased by 38% (or 8.4% per annum) in real terms over the past 5 years, while non-HIV/AIDS PHC expenditure only increased by 13% (or 3.0% per annum). This is in line with previous findings that the percentage growth in HIV budgets has outpaced the general growth of health budgets over the past decade.^b An example of the importance of HIV/AIDS as a driver of expenditure is that KwaZulu-Natal has now surpassed Gauteng in PHC expenditure per capita. The two provinces with the highest HIV prevalence in the country, KwaZulu-Natal and Mpumalanga, are also the two provinces with the highest real annual growth in PHC expenditure over the past five years, at 6.5% and 5.5% respectively. Northern Cape, which has the lowest HIV prevalence, is the province with the lowest annual PHC expenditure growth, at 1.5%.

Growth in PHC expenditure per headcount

Table 2 shows real PHC expenditure per headcount by province and district between 2005/06 and 2016/17, together with numerators, denominators and growth rates. During this period this indicator has doubled in real terms, growing by an annual average of 6.5%. From one perspective this increase potentially represents technical inefficiency. There are a number of other potential reasons for this sharp increase:

- ◆ **Greater prioritisation / better resourcing of healthcare and ideal clinics:** As was seen in Table 1, DHS makes up an increasingly large share of total provincial health expenditure and of total PHC expenditure.^b
- ◆ **Rising input costs:** While personnel numbers have remained relatively stable in recent years, recent public-sector negotiations have resulted in salaries and benefits increasing above inflation. Seen over a longer time period, the introduction of the occupation-specific dispensation has also had a significant impact and personnel unit costs in provincial departments of health increased by 38.2% above inflation between 2005/06 and 2012/13.^j Non-personnel unit costs have also increased above inflation, particularly imported goods such as medicines, given the recent years' Rand depreciation.
- ◆ **Changing case mix:** Government's antiretroviral treatment programme has expanded by approximately 400 000 net additional patients per year and likely makes up an increasing proportion of total headcounts. The recent policy shift to 'universal test and treat' will likely increase the number of new ART initiates thereby increasing headcount numbers, particularly in high HIV-prevalent districts. Given the relatively high medicines and laboratory costs this may drive up average expenditure per headcount. Furthermore, the case mix is rapidly evolving with an increasing burden of non-communicable diseases, co-morbidities, and associated complications, which will require further investment to appropriately manage at the PHC level.
- ◆ **Levelling off of PHC headcount numbers:** While PHC expenditure has continued to increase in real terms (Table 2), headcounts have stabilised over the past years and have in fact declined for two years in a row, even dropping below 2011/12 levels. The underlying reasons for this would need to be studied further. Possible reasons are increased outreach activities through ward-based PHC outreach teams and the new CCMDD programme, which offers alternative pick-up points (e.g. private pharmacies) for chronic medicines collection which has decanted patients from public PHC facilities. As at the end of 2016/17, there were 1 252 000 patients enrolled in this programme.^k The latest report from the NDoH shows that the total number of registered patients has grown to 1 685 000 by 25 August 2017. These patients, who previously had to visit a health facility once a month to collect their medicines, now only have to visit a facility every 6 months, which presumably has drastically reduced the PHC headcount on DHIS. It is important that the Department of Health closely monitor the proportion of patients that are registered in the programme that collect their chronic medicines in order to track utilisation rates in CCMDD and other outreach programmes as well.

Table 2: PHC expenditure per headcount, 2005/06–2016/17

	Real (2016/17) PHC expenditure (R'000')	PHC headcount ('000')	Real (2016/17) expenditure per headcount (ZAR)	Year-on-year growth (ZAR)	Year-on-year growth (%)
2005/06	19 580 888	100 585	194.7	-	-
2006/07	21 354 781	105 608	202.2	7.5	3.9%
2007/08	24 264 853	105 296	230.4	28.2	14.0%
2008/09	26 446 203	115 212	229.5	-0.9	-0.4%
2009/10	30 889 060	120 196	257.0	27.4	12.0%
2010/11	35 423 672	119 750	295.8	38.8	15.1%
2011/12	37 597 612	127 209	295.6	-0.3	-0.1%
2012/13	40 814 987	128 960	316.5	20.9	7.1%
2013/14	41 650 332	129 034	322.8	6.3	2.0%
2014/15	44 532 773	129 436	344.1	21.3	6.6%
2015/16	46 536 086	126 769	367.1	23.0	6.7%
2016/17	48 910 722	125 633	389.3	22.2	6.1%

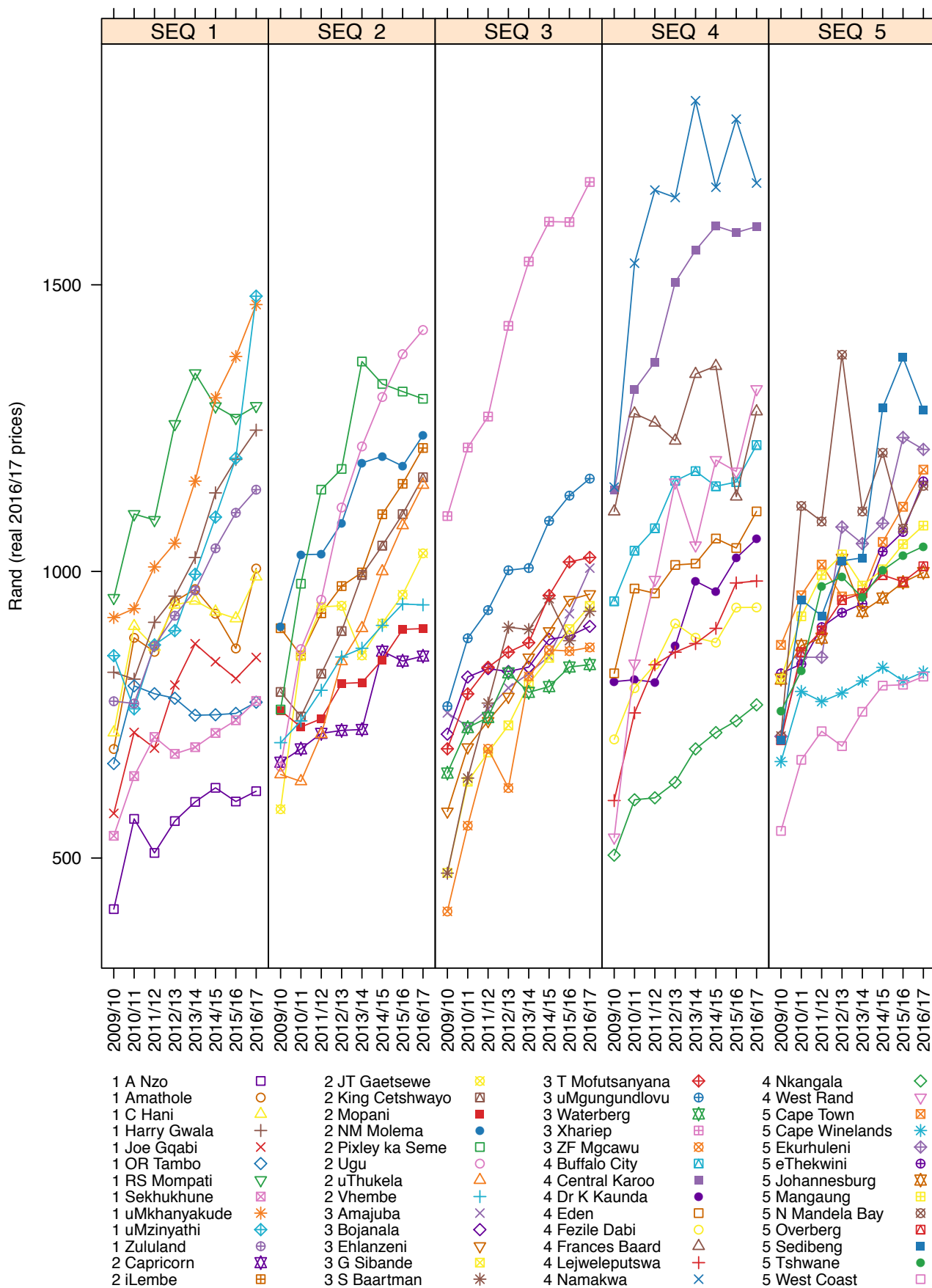
District comparison within socio-economic quintiles

This chapter has shown considerable remaining inequities, with districts with high social-deprivation scores often receiving lower PHC budgets. However, there is also significant variability within quintiles (Figure 13). Particularly concerning is the low expenditure in several districts in the most deprived quintile, such as Alfred Nzo (EC), Sekhukhune (LP), OR Tambo (EC) and Joe Gqabi (EC).

^j Ibid.

^k Quarter 4 Performance Report for Health Sector Conditional Grants, 2016/17 Financial Year. National Department of Health.

Figure 13: PHC expenditure per capita in districts, grouped by socio-economic quintile, 2009/10–2016/17



Cost by service area

The National Treasury commissioned a PHC costing study which allocated PHC service costs to each service area for planning and budgeting purposes. The results from this study are shown in Table 3 (in nominal 2014/15 ZAR). The estimated cost per headcount was R294 whereas the actual expenditure per headcount in 2014/15 was R344. The table shows a relatively high proportion of spending on chronic care, emphasising the importance of disease management programmes such as the CCMD programme. A Western Cape study shows a very high proportion of patients attending public sector PHC clinics have non-communicable diseases with multimorbidity and unmet treatment needs.^l A system to provide adequate data on patient diagnosis is needed and this must be addressed in order to understand the changing disease burden for better budgeting and planning.

Table 3: Estimate of cost by service area, 2014/15

PHC Packages	Total Expenditure (Rands)	Headcounts	Cost per headcount (Rands)	Inter-district median cost per headcount and (IQR)	Cost per capita (mid-year catchment population – uninsured)
Chronic Diseases	14 685 702 286	43 200 350	340	350 (316–412)	387.7
HIV Services	6 574 368 751	13 683 021	480	509 (451–575)	173.6
Pre-ART	249 830 583	735 193	340	378 (315–471)	6.6
TB Services	831 819 899	2 409 914	345	373 (293–448)	22.0
NCD Patients	7 029 683 052	26 372 222	267	267 (236–335)	185.6
Acute Services	6 742 421 570	26 732 448	252	254 (224–321)	178.0
Preventative Services	4 272 273 556	18 640 220	229	246 (208–308)	112.8
HIV Testing (excl antenatal)	2 492 492 333	7 287 334	342	379 (307–472)	65.8
Cervical Cancer	318 978 410	600 913	531	593 (488–674)	8.4
Family Planning	1 328 584 127	10 463 624	127	134 (114–164)	35.1
Termination of Pregnancy	15 846 900	20 711	765	840 (691–949)	0.4
Male Medical Circumcision	104 423 183	260 807	400	435 (353–528)	2.8
Post Sexual Assault	11 948 603	6 831	1 749	1 646 (1 372–2 049)	0.3
Maternal Health Services	3 525 563 753	8 020 976	440	451 (374–537)	93.1
Antenatal Care Services	1 863 563 920	5 143 495	362	378 (319–467)	49.2
Post Natal Services	243 549 804	659 696	369	369 (330–445)	6.4
Prevention of Mother to Child Transmission	748 002 147	2 018 788	371	392 (325–447)	19.8
Labour	670 447 882	198 997	3 369	3271 (2 794–3 714)	17.7
Dental Services	678 713 081	1 615 449	420	458 (385–531)	17.9
Mental Health	911 137 712	1 756 514	519	539 (450–632)	24.1
IMCI Patients	2 442 293 491	9 752 377	250	257 (219–318)	64.5
Children on ART	561 645 698	1 368 720	410	425 (383–480)	14.8
Children on TB	3 570 027	8 004	446	490 (428–536)	0.1
Immunisation Services	1 756 979 172	10 092 019	174	185 (161–215)	46.4
Children Mental Health	34 790 788	62 230	559	567 (466–666)	0.9
TOTAL FACILITY-BASED PACKAGES	35 615 091 134	121 249 308	294	301 (270–360)	940.3
School Health Services	66 909 738	514 352	130	125 (108–155)	1.8
Outreach Services	2 834 697 699	9 809 567	289	290 (252–358)	74.8
TOTAL SCHOOL HEALTH AND OUTREACH	2 901 607 437	10 323 919	-	-	76.6

Source: Institute of Health Outcomes and Technology Assessment.^m

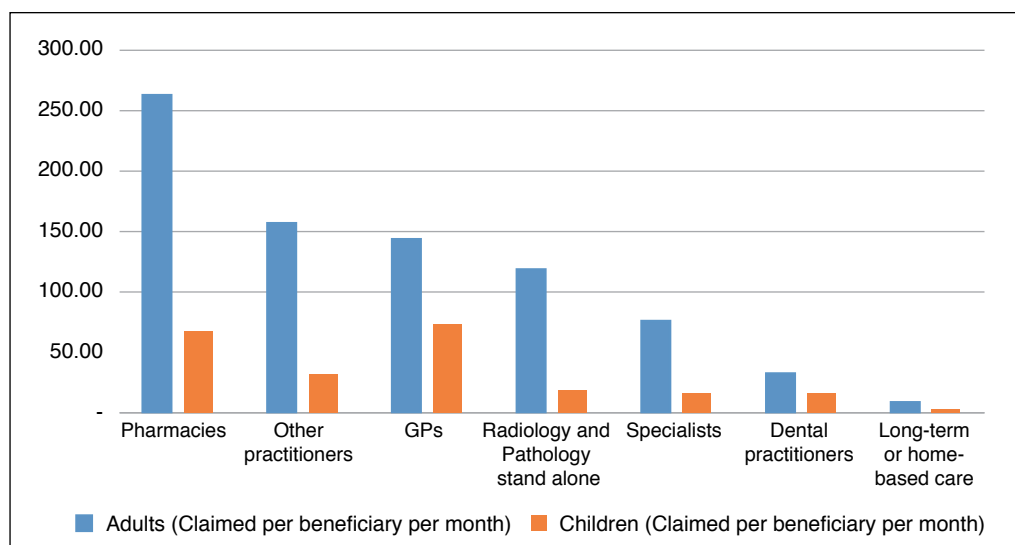
Despite the rapid increase in PHC expenditure per headcount discussed above, unit costs in the private sector are still significantly higher. Figure 14 below shows a summary of the results of a private sector PHC costing commissioned by National Treasury using data from a large public medical scheme.

The study found that private sector costs amounted to almost five times that of the public sector – the overall out-of-hospital expenditure per beneficiary per month in 2014 was R558 or over R6 000 per annum, although one should note that definitions in the private sector are somewhat different so that out-of-hospital care includes specialist services.

^l Folb N, Timmerman V, Levitt N S, et al. (2015). Multimorbidity, control and treatment of non-communicable diseases among primary healthcare attenders in the Western Cape, South Africa. *South African Medical Journal*, 105(8):642–647. DOI:10.7196/samjNEW.8794.

^m Institute of Health Outcomes and Technology Assessment (unpublished), 2016. Actual and Normative Cost of Package of Services for Primary Healthcare in South Africa 2014–2015. Durban. University of KwaZulu-Natal.

Figure 14: Claimed amount per beneficiary per month by provider type, 2014/15



Conclusions

Despite the slowdown of the economy and the decline in health budgets in general, PHC spending has grown reasonably well (4.1% real per annum) over the past three years, driven partly by HIV/AIDS spending. However there has been a paradoxical levelling off of headcounts, which requires greater investigation, including to better document CCMDD outreach headcounts which are growing but currently not counted by DHIS. Rising PHC spending shows a positive outlook, however, this is largely due to the new universal 'test and treat' policy. The indirect NHI Grant of the NDoH has supported PHC activities such as GP contracting in NHI pilot districts, the Ideal Clinic programme, human papillomavirus vaccination, increasing spending on PHC services which are, however, not reflected in provincial health budgets. Therefore, if the indirect NHI grant spending is added to provincial and local government spending, total PHC expenditure will be greater, particularly in the NHI pilot districts. Furthermore, increasing district management spending speaks to the need for districts to attempt to reduce overhead costs and work on improving efficiency. However, districts such as Alfred Nzo are amongst the lowest funded both per capita and per headcount, but have a high level of deprivation, and is likely to merit a larger share of provincial PHC spending. Therefore, this paper calls on provinces and districts to jointly determine allocations that are equitable and responsive to the disease burden of each district.

Recommendations

- ◆ Improve efficiencies in resource allocation: Higher spending districts should consider reviewing how they can improve efficiencies, particularly if expenditure per headcount is high. On the contrary, lower spending districts are potentially underfunded and provincial departments of health should consider reprioritising funding towards such districts.
- ◆ Improve reporting on outreach services: CCMDD outputs (e.g. number of parcels collected) and number of ward-based outreach team visits need to be captured routinely into DHIS workloads.
- ◆ Harmonise expenditure classification: There still appear to be inconsistencies in terms of how expenditure is classified on BAS (an example is the uniquely high spending on 'other community services' in KwaZulu-Natal). The sector should come together to harmonise how expenditure is classified in order to enable better inter-district and inter-provincial comparisons.
- ◆ Improve clinical data reporting: Neither DHIS nor the national Health Patient Registration System provide adequate data on patient diagnosis and this must be addressed. Inclusion of clinical coding data would be a major improvement and it is recommended that the NDoH fast-track the development of an electronic health record which will include patient diagnosis.