

**FACILITATOR'S NOTES ON:
Heutown district: Planning and resource allocation case study**

1. Objectives:

- To develop skills in undertaking a situation analysis, including:
 - Evaluating the distribution of health care resources between health services;
 - Evaluating the distribution of health care resources between geographic areas;
 - Assessing staff workload patterns; and
 - Evaluating utilisation patterns.
- To develop skills in health service planning, with a focus on resource allocation.

2. Key issues to cover before using case study:

This case study is best used after covering a range of issues relating to health sector planning (including budgeting and resource allocation). It is frequently used to complete a series of sessions on planning issues, in order to develop skills in applying planning concepts covered. It may also be useful to provide an introduction to basic cost analysis and staff workload indicators.

3. Overview of case study:

This case study takes approximately 1.5 to 2 days to complete if all the steps are undertaken during 'classroom' sessions. Alternatively, if the case study is used in a formal academic program, participants can be requested to develop a plan (and budget if desired) as a written assignment. This would then require only 4-5 hours of facilitated group work to undertake the district analysis.

It is advisable to distribute the case study (excluding the blank Tables A-D) to participants to read before the 'classroom' session. Request participants to bring calculators to the following sessions.

4-5 hours for undertaking a situation analysis of the district (including calculating and analysing the data in Tables A-D)

2-3 hours for developing a plan in the groups and preparing a presentation (4-5 hours if participants are also expected to prepare a budget)

2 hours for presentations and discussions

Participants should work in small groups of 4-5 people.

4. Introduction to case study:

It is useful to provide some background information on the case study when it is distributed to participants. This may include the following points:

- You have been appointed as manager of a health district, Heutown.
- Someone has kindly compiled all the basic information you will require for a situation analysis of the district – you just need to read the information and analyse it (in reality, you would have to collect all this information, *and more*,

yourselves). The one piece of data you may need to explain is that of 'Potential Years of Life Lost' (PYLLs) – data contained in Table 2. While deaths refer to the total *number* of deaths, PYLLs are calculated as 'Average life expectancy minus the age at death' (so if the average LE is 60 and a person dies at the age of 45, they have lost 15 years of potential life). PYLLs are a useful indicator as they not only indicate the number of deaths but also contain a measure of whether people died at a young or old age.

- This is a 'hypothetical' district, although it is based on the information for a 'real' district.
- At present, provincial administration and local authorities are both involved in service provision. All of these services will be integrated under your control, so take all information into account in your analysis.
- Overview of various tasks in the exercise:
 - Participants will first discuss some of the key issues that immediately arise from the background information - key issues about the district.
 - Stage 1: Undertaking a detailed analysis of the information you are provided with on existing health services. There are some issues which are particularly important (distribution between different health services, geographic distribution, service workload, and utilisation patterns in the various services). Tables will be provided to help you analyse these data. You will be asked to discuss briefly what information you would need to analyse each issue and how you would manipulate these data. Then you will be given the relevant table, asked to fill in some cells to get a feel for how to do the calculations. Participants will then get fully completed tables and will be asked to analyse or discuss the implications of the data.
 - Stage 2: Developing a detailed plan for restructuring health services in the district to improve access to primary care services and to address the health care needs of the district. (Optional - preparing a detailed budget for these restructured health services for next financial year).
- District planning will take considerable time in reality – we will be trying to accomplish a 6 month task in 1.5 to 2 days – therefore, the plan will not be comprehensive. The case study serves to provide an overview of what information is useful for a situation analysis, how this information can be analysed, how to develop a plan, and how to develop a budget. It is also an important demonstration of the "process" of planning. In reality, you will need to have extensive discussions with a range of role players and facilitate reaching consensus between those with different views on service priorities, different opinions on the feasibility of reallocating resources between health services, etc.

5. Discussion of first impressions of district:

Task

Based on reading the background information on this district, briefly discuss in your group what your first impressions are of this district. What are the major health problems, what is the socio-economic status of the population, what is the infrastructure like, etc.? Make a note of these - you will need them for your plan.

Discussion

1. Disease/mortality profile:
 - a. Infectious diseases
 - b. Perinatal conditions
 - c. Chronic diseases of lifestyle (cardiovascular and respiratory disease)
 - d. Accidents
2. Relatively high fertility, teenage pregnancy levels and infant mortality (for a middle-income country)
3. Low population density and large surface area
4. Poor infrastructure (roads)

6. Table A:

Task

It is useful to get some idea of how resources are distributed between different types of health services in the district. It may be helpful to have a plenary discussion about: What categorisation of health services do you think would be most appropriate for this analysis, and which resources would you focus on (to highlight importance of financial and human resources)?

Hand out the blank version of Table A. The calculations for this table are not complicated. Participants merely have to record the expenditure and nurse information on the table (they will find it all in the case study) and calculate the percentage distribution between the different types of services. Hand out the completed Table A (see end of these facilitator's notes) when each group has finished their calculations and ask the group to analyse the distribution between service types.

Discussion

- Check if there were any problems with the calculations. There is sometimes double-counting of nurses where they work in a fixed clinic and sometimes provide mobile services. No nurses allocated to the northern rural services - they are drawn from Nicsinrivier and Bupsville clinics.
- There is a curative, hospital-centred bias, based on the expenditure patterns.
- There is a heavy concentration of nurses in hospitals. These hospitals do require 24 hour nursing cover (so require more nurses than a day facility to cover all the shifts), but there may be an inappropriate distribution of nurses.
- There are very low nursing levels for curative primary care services. Although they may provide some curative primary care services through hospital outpatient departments (OPDs), the Community Health Centre (CHC) is the only other service that uses nurses for curative primary care.
- Preventive primary care services account for <11% of nurses, but >20% of expenditure. This is attributable both to the higher salary scales in local authorities, and the staff mix in these services (higher proportion of professional nurses relative to enrolled nurses).

7. Table B:

Task

It is useful to get some idea of how resources are distributed between different geographic areas in the district. It may be helpful to have a brief plenary discussion about how one would get a sense of equity in the distribution of resources between

areas (with the emphasis being on evaluating resource distribution relative to the population size of each area).

Hand out the blank version of Table B. The calculations for this table are a bit complicated, but notes are provided at the bottom of the table to guide participants in the calculations. Once participants have calculated the expenditure and nurse information for different services in each area, they need calculate per capita expenditure and the population per nurse ratios. Given that it would take a very long time to calculate all the cells in the table, participants should be asked to just calculate the results for the 11 cells containing an asterisk. This will provide a good overview of how to undertake these calculations.

Hand out the completed Table B (see end of these facilitator's notes) when each group has finished their calculations and ask the group to analyse the distribution between geographic areas.

Discussion

- Check if there were any problems with the calculations.
- It is worth pointing out that it is important to get information on the place of residence of hospital users, so that one can accurately assess the geographic distribution.
- The large towns are well resourced.
- The smaller towns are relatively well resourced, but Solidorp is the worst off of these towns. Even though it has a CHC, Solidorp residents have particularly low usage of Heutown hospital resources.
- The rural areas are (not unexpectedly) the worst off, especially the Northern rural areas.
- It is also worth discussing the distribution of primary care expenditure between District Primary Care Practitioner (DPCP) and nurse-driven primary care services. In the northern rural areas and in Bupsville, the majority of finances are going into DPCP as opposed to nurse-driven primary care services.

8. Table C:

Task

The previous two tables identified the relative concentration of resources in hospitals and in larger towns. Before deciding that this can be interpreted as indicating a need for shifting staff out of the hospitals and larger towns, we need more information on the relative workload of staff in the different services/facilities. It may be useful briefly discussing how one could go about evaluating relative workload with participants (particularly if staff workload indicators have not been covered in previous sections).

Hand out the blank version of Table C. Once again, notes are provided at the bottom of the table to guide participants in the calculations. Given that it would take some time to calculate all the cells in the table, participants should be asked to just calculate the results for the 8 cells containing an asterisk. This will provide a good overview of how to undertake the different calculations. It is also helpful to provide the following guidelines for completing the table:

- Discuss the differences between inpatient and ambulatory or outpatient services (for hospitals, one should combine inpatient and outpatient information into a patient day equivalent while with ambulatory services one merely uses the number of visits).

- With Tomstown and Heutown hospitals – it is not necessary to separate out the patient day equivalents between different geographic areas (as one did in Table B).
- However, it is important to calculate the local authority services in various areas separately, because there are different numbers of full-time equivalent (FTE) nurses and different numbers of visits in each area.

Hand out the completed Table C (see end of these facilitator's notes) when each group has finished their calculations and ask the group to analyse the staff workload in different facilities.

Discussion

- Within the hospitals, Heutown has a relatively greater workload than Tomstown.
- The Solidorp CHC has fewer visits per nurse than the local government clinics. However, the CHC is providing curative services while the clinics only provide preventive services.
- Workload in the local government clinics:
 - Solidorp and Nicsinrivier have a slightly greater workload relative to staff than local authorities in Heutown and Tomstown (so the large towns carry the lowest workload per nurse).
 - Northern, and particularly southern, rural local authorities have a high workload relative to the other clinics.
 - Bupsville has a workload that is more than 3 times greater than the average for local authority clinics in this district.
- It is difficult to evaluate these data in isolation (particularly within the hospitals as you are just comparing two facilities, and the CHC as there is only one in the district). It is particularly useful to compare workload indicators with information from other districts, or to 'norms' or national averages (see Table 4 in the case study).
- It is also difficult to assess whether a high workload to staff ratio is due to of under-staffing or excessive utilisation by the population (which leads onto the next table).

9. Table D:

Task

It is also important to get an indication of relative under- or over-use of services by the resident population. Again, it may be helpful to briefly discuss with participants what indicators may be most helpful in assessing utilisation.

Hand out the blank version of Table D. Notes are provided at the bottom of the table to guide participants in the calculations. Given that it would take considerable time to calculate all the cells in the table, participants should be asked to just calculate the results for the 21 cells containing an asterisk. This will provide a good overview of how to undertake the different calculations. It is also helpful to indicate that participants should add up all the ambulatory visits in each area to get total primary care visits per capita - as one is aiming to provide a comprehensive primary care service in future, one should consider both preventive and curative visits.

Hand out the completed Table D (see end of these facilitator's notes) when each group has finished their calculations. Ask the group to analyse the utilisation rates in different geographic areas as well as between different services.

Discussion

- There is much higher utilisation of inpatient and hospital OPD services by Heutown and Tomstown residents. This is not unexpected, given that residents of these towns have better access to these hospitals. However, their utilisation levels are higher than the national average, which may suggest over-utilisation.
- There is very low utilisation of inpatient service by residents of Solidorp and the Northern rural area. This clearly suggests poor geographic access, and possibly inadequate ambulance services in these areas.
- The lowest levels of ambulatory visit are found in the rural areas (but they are comparable to the national averages).
- DPCPs account for a high percentage of the reported ambulatory visits in some areas (Northern rural area and Bupsville).

10. Briefing for developing the plan:

Participants then work in groups to develop a plan for the Heutown district. It is helpful to encourage the participants to further analyse the data in Tables A-D, particularly by drawing links between the tables (e.g. it is clear from Table C that Bupsville staff are very busy, and Table D shows that although utilisation by Bupsville residents is a bit high, it is not exceptional – this suggests that Bupsville is understaffed).

It is important to point out that the plan should include:

- A brief situation analysis focusing on current problems, and the major needs from a health service perspective.
- The aims and objectives of the plan - be explicit about what you want to achieve in restructuring health services.
- A detailed plan, including implementation issues (who, how, when) – one should not merely say “redistribute some staff” but rather how many staff will be moved from which facility to which other facility and how will one accomplish this shift (e.g. overcoming staff resistance).

Refer participants to the questions under “Phase 2” at the beginning of the case study.

11. Briefing for developing the budget

It is not essential to develop a budget – the facilitator should decide whether they wish to use the case study merely to develop broad planning skills or whether to also use it to develop budgeting skills. Even if a budget is not developed, it would be useful to ask participants to think about potential additional sources of finance to assist with implementing their plan.

Depending on previous inputs, it may be necessary to provide some guidance on how to develop a budget, including the following issues:

- The starting point will be the expenditure on the existing services.
- Each service's budget will then be determined by adjusting the existing expenditure for changes in staffing levels (as a first step).
- It is important to take into account that if staffing increases, other costs will also increase. The same would apply if the nature of service provision changes (e.g. becoming a comprehensive service rather than merely a preventive service).
- Potential efficiency gains should also be identified and taken into account.
- The implications of changes in the DPCP service could be estimated.

- One should then adjust current expenditure levels for anticipated price increases. These should be determined as accurately as is possible, and it should be recognised that the prices of different inputs are likely to increase at different rates – information about expected price increases are provided in the case study.
- Don't worry about salary differentials - these will be taken care of out of the "improvement of conditions of service" vote, and should not come into your health budget.
- One should also estimate any training and capital expenditure requirements.

12. Presentation of plans and budgets

Groups should be provided with an opportunity to present their plans (and budgets). Participants should then be encouraged to question the group about their plan, particularly to assess whether the group has adequately thought through the necessary implementation strategies. To assist the facilitator in preparing for these presentations, some of the key issues that are frequently raised by participants are summarised in the next section. This may also be used as a handout for participants once the case study has been completed.

HEUTOWN DISTRICT: PLANNING AND RESOURCE ALLOCATION CASE STUDY

Key issues for inclusion in plan

There is no 'correct' answer to this case study. The information presented below summarises the major points usually arising from the situation analysis, and the issues most frequently raised in the plans presented by previous participants in this case study.

PROBLEMS

- Disease/Mortality profile:
 - Infectious diseases
 - Perinatal conditions
 - Chronic diseases of lifestyle (Cardiovascular and respiratory disease)
 - Accidents
- High fertility
- High levels of teenage pregnancy
- Relatively high infant mortality
- Low population density/large surface area
- Poor infrastructure (roads)
- Maldistribution of health sector resources:
 - Between level of care (66% of expenditure and 87% of nurses in hospitals, 14% of expenditure and 2% of nurses in curative PHC, and 20% of expenditure and 11% of nurses in preventive PHC)
 - Between geographic areas (in terms of per capita expenditure and population per nurse - see Table B)
- Higher workload for nurses in some areas - particularly acute in certain areas (Bupsville and rural areas)
- Low health service utilisation in some areas (Inpatient care particularly inaccessible for northern rural area residents; low ambulatory visit levels in both rural areas)

BROAD GOALS

- Improved access to primary care services
- Improve equity in health service delivery within district

SPECIFIC OBJECTIVES/SOLUTIONS (What)

- Extend and improve delivery of *comprehensive* primary care services, with particular emphasis on:
 - Maternal, woman and child health
 - Reproductive health (family planning)
 - Communicable disease control and treatment
 - Chronic diseases of lifestyle (preventive and curative)
 - Trauma services (more 24 hour services and improved ambulance services)
- Improve accessibility in rural areas (especially the northern areas)
- Encourage intersectoral collaboration
- Improve efficiency within the hospitals

BROAD PLAN (How)

- Improve delivery of comprehensive primary care services:
 - Introduce curative services in local authority clinics
 - Training of professional nurses in clinical nurse practitioner skills (so can provide curative services)
 - Additional staffing in primary care facilities/services (largely through reallocation of existing hospital staff)
 - Introduce more mobile clinics for rural areas (capital purchase)
- Strengthening MWCH through:
 - Specific training for staff; and
 - Increasing community awareness (media and health education)
- Increase community participation, through the establishment of community health committees
- Establish intersectoral committees
- Strengthen environmental health services

ASSESSMENT OF HOSPITALS

Admission and utilisation patterns

- The hospitals have reasonably high occupancy levels (Heutown = 77% and Tomstown = 66%). The national average is 68%.
- However, there are about three times more community hospital beds in the Heutown district than the national average (190 beds = 3.04 beds per 1,000 population compared with the national average of 1.05 community hospital beds per 1,000 population).
- The explanation for the high occupancy levels despite a relative “over-supply” of hospital beds is the relatively high number of inpatient days per capita of Heutown and Tomstown residents (1.49 and 1.11 inpatient days per capita respectively compared with a national average of 0.26 per capita for community hospitals and 0.63 per capita for all acute hospitals).
- The average length of stay in Heutown and Tomstown hospitals are below the national average (5.4 and 3.5 days respectively). Thus, the issue appears to be one of above average admissions rather than excessive length of stay.
- These findings suggest that the admission policies at these hospitals need to be investigated. Improved ambulatory services may facilitate a decrease in admissions, and may permit the closing of some beds/wards.
- The relative “under-use” of inpatient services by residents of the Northern rural areas may require investigation (There may be a need to improve ambulance services in this area). Solidorp also has relatively low inpatient levels, but not below national average (It may be worth considering having limited inpatient facilities at Solidorp CHC).

Staffing levels

- Heutown - There are 0.82 nurses per bed (which is higher than the national average for community hospitals of 0.7). If the national average were applied to the number of beds in Heutown hospital (0.7 x 104 beds), it can be estimated that Heutown hospital could function with approximately 73 nurses (i.e. 12 less than presently). It may be more appropriate to get an estimate of the total workload at the hospital (inpatient days + 1/3 OPD visits = patient day equivalents). Heutown has fewer patient day equivalents per nurse (370.08) than the national average for community hospitals (473.97). If the national average were applied to the total patient day equivalents at the Heutown hospital (i.e. 31,457/474), it could be estimated that approximately 66 nurses are required to deal with the current workload at the hospital in terms of the national average (i.e. 19 fewer than present staffing levels).

- Tomstown - This hospital also has more nurses per bed (1.1) than the national average. Applying the national average to the Tomstown bed numbers (0.7 x 86), it can be estimated that approximately 60 nurses are required (i.e. 35 less than presently). If the patient day equivalent per nurse is used (22,350/474), it can be estimated that only 47 nurses are required given the current workload (i.e. 48 fewer than at present).
- This analysis shows that the Heutown and Tomstown hospitals are considerably better staffed than the average community hospital in this country. It must however be recognised that the national averages may not be ideal - many community hospitals in this country may be significantly understaffed. Caution must therefore be exercised in reallocating nurses away from these facilities. In particular, adequate consideration must be given to ensuring sufficient nursing staff to provide 24 hour cover, given leave requirements etc.
- Nevertheless, there is clearly some potential to reallocate *some* of the nurses currently located in the hospitals (e.g. up to 35 nurses between the two hospitals). A comprehensive approach should be adopted; if staff reallocation is combined with attempts to improve efficiency within the hospital, disruption to the hospital services will be minimised. In particular, there should be an attempt to reduce unnecessary admissions to minimise excessive workload within hospitals.
- If nurses currently located within hospitals are to begin providing comprehensive services at primary care level, they will require additional training. In particular, all professional nurses should be trained as clinical nurse practitioners.
- One needs to explicitly consider how to *implement* a redistribution of nursing staff. For example, to minimise resistance to personnel redistribution, the majority of nurses could serve the rural areas from mobile clinics. These mobile clinics could be based at the two community hospitals. This would mean that staff would not be physically relocated. In addition resistance could be reduced by rotating assignment to the mobile teams among all the nurses in the community hospitals. This would however mean that all nurses within the hospitals would require additional training.

REALLOCATION OF HOSPITAL NURSING STAFF

One suggested pattern for reallocating hospital nursing staff to improve the provision of comprehensive primary care services is as follows (Table indicates the *additional* number of staff at various facilities):

	Professional nurses	Staff nurses	Assistant nurses
Tomstown clinic	1	1	--
Bupsville clinic	1	1	1
Nicsinrivier clinic	1	1	--
Northern rural mobiles	4	6	10
Southern rural mobiles	2	2	3

OTHER MECHANISMS TO IMPROVE PRIMARY CARE SERVICES

- The Community Health Centre and preventive clinic services in Solidorp should be integrated. In addition, one could investigate integrating the preventive services in Heutown and Tomstown with the respective community hospital OPD services (depending on distance between facilities etc.).
- The local authority services in all areas should be made comprehensive.
- There should be less emphasis on, and decreased budgets for, DPCP services. There are a number of possibilities ranging from merely changing the reimbursement mechanism and improve monitoring of DPCP services to changing the entire DPCP contract and opting for sessional work. In the latter case, all patients would be screened by the clinical nurse practitioners and would only be referred to a doctor as necessary (doctors would come to the public sector facility to conduct a predetermined number of sessions to see referred patients). Sessions could be spread between a number of the general practitioners in each town (i.e. not restricted to current DPCPs). There is also the possibility that some full-time doctors could be employed. However, whether there would be sufficient work-load to justify this move must be considered. In addition, specific measures to attract doctors to work in public sector facilities in rural areas must be proposed (i.e. consider the *implementation* issues explicitly).

The above are some ideas that could be incorporated into a plan for restructuring health services in the Heutown district to improve access to primary care services for all residents. In a district plan, one would need to provide much more detail, particularly in terms of implementation (e.g. the time frames for implementation, recognition of possible time lags in implementation such as requiring staff training, and recognition of potential obstacles to implementation - including political constraints).

FINANCING MECHANISMS

It is likely that if the plan has concluded that the majority of additional staffing requirements can be met through reallocating staff from the community hospitals, there will not be a significant increase in the budget. Most of the increased budgetary requirements can be offset by reductions in the budget for DPCP services, and through savings on the Essential Drug Program (EDP). The additional capital budget could be funded from the provincial budget or by donors. A recommendation that fee revenue should be retained within the district (fee revenue amounted to \$1.7 million in the year under review) may also be considered.

Table A: Distribution of Heutown health care resources by level of care

	Expenditure	% of Total	Professional Nurses	Enrolled Nurses	Total Nurses	% of Total
Community Hospitals						
Heutown	3,754,563	30.74	19	66	85	41.06
Tomstown	4,338,947	35.53	21	74	95	45.89
SUB-TOTAL	8,093,510	66.27	40	140	180	86.96
Curative PHC services						
Solidorp Community Health Centre	231,770	1.90	2	3	5	2.42
Heutown DPCPs	472,199	3.87				
Tomstown DPCPs	189,444	1.55				
Bupsville DPCPs	300,211	2.46				
Solidorp DPCPs	215,770	1.77				
Northern rural DPCP	236,911	1.94				
SUB-TOTAL	1,646,305	13.48	2	3	5	2.42
Preventive PHC services						
Heutown local authority clinic	754,896	6.18	5	4	9	4.35
Tomstown local authority clinic	563,666	4.62	3	2	5	2.42
Bupsville local authority clinic	218,568	1.79	1	1	2	0.97
Solidorp local authority clinic	58,358	0.48	1		1	0.48
Nicsinrivier local authority clinic	251,550	2.06	2	1	3	1.45
Northern rural local authority services	268,960	2.20				
Southern rural local authority services	356,716	2.92	2		2	0.97
SUB-TOTAL	2,472,714	20.25	14	8	22	10.63
TOTAL	12,212,529	100	56	151	207	100

Table B: Distribution of Heutown health care resources by geographic area

	Expenditure	Per capita Expend.	Nurses	Population Per Nurse
Heutown				
Heutown Community Hospital-Inpatient	2,957,645.31		72.69	
Heutown Community Hospital-OPD	253,099.42			
Heutown DPCPs	415,528.15			
Heutown local authority clinic	754,896.00		9	
SUB-TOTAL	4,381,168.88	264.29	81.69	202.94
Tomstown				
Tomstown Community Hospital-Inpatient	2,758,300.35		66.75	
Tomstown Community Hospital-OPD	290,253.47			
Tomstown DPCPs	170,796.62			
Tomstown local authority clinic	563,666.00		5	
SUB-TOTAL	3,783,016.44	294.93	71.75	178.78
Bupsville				
Tomstown Community Hospital-Inpatient	519,679.78		11.90	
Tomstown Community Hospital-OPD	23,903.23			
Bupsville DPCPs	240,180.51			
Bupsville local authority clinic	218,568.00		0.8	
SUB-TOTAL	1,002,331.52	195.77	12.70	403.11
Solidorp				
Heutown Community Hospital-Inpatient	173,979.14		4.06	
Heutown Community Hospital-OPD	5,502.16			
Solidorp Community Health Centre	231,770.00		5	
Solidorp DPCPs	181,240.48			
Solidorp local authority clinic	58,358.00		1	
SUB-TOTAL	650,849.78	129.52	10.06	499.35
Nicsinrivier				
Tomstown Community Hospital-Inpatient	319,802.94		7.38	
Tomstown Community Hospital-OPD	17,073.73			
Bupsville DPCPs	33,031.41			
Nicsinrivier local authority clinic	251,550.00		2.4	
SUB-TOTAL	621,458.08	151.32	9.78	420.12
Rural settlements (North)				
Tomstown Community Hospital-Inpatient	399,753.67		8.98	
Tomstown Community Hospital-OPD	10,244.24			
Tomstown DPCPs	18,647.38			
Bupsville DPCPs	26,999.08			
Northern rural DPCPs	236,911.00			
Northern rural local authority services	268,960.00		1.8	
SUB-TOTAL	961,515.37	80.03	10.78	1114.82
Rural settlements (South)				
Heutown Community Hospital-Inpatient	347,958.27		8.25	
Heutown Community Hospital-OPD	16,506.48			
Heutown DPCPs	56,670.85			
Solidorp DPCPs	34,529.52			
Southern rural local authority services	356,716.00		2	
SUB-TOTAL	812,381.12	117.72	10.25	673.21
TOTAL	12,212,721.19	195.18	207.00	302.28

Table C: Relative workload of nurses by facility

	Nurses	Patient Day equivalents or visits	Patient day equivalents or visits per Nurse
Heutown			
Heutown Community Hospital	85	31,456.67	370.08
Heutown local authority clinic	9	19,762.00	2,195.78
Tomstown			
Tomstown Community Hospital	95	22,350.00	235.26
Tomstown local authority clinic	5	13,307.00	2,661.40
Bupsville			
Bupsville local authority clinic	0.8	7,558.00	9,447.50
Solidorp			
Solidorp Community Health Centre	5	6,542.00	1,308.40
Solidorp local authority clinic	1	3,164.00	3,164.00
Nicsinrivier			
Nicsinrivier local authority clinic	2.4	7,488.00	3,120.00
Rural settlements (North)			
Northern rural local authority services	1.8	6,328.00	3,515.56
Rural settlements (South)			
Southern rural local authority services	2	8,234.00	4,117.00
TOTAL - HOSPITALS	180	53,806.67	298.93
TOTAL - CLINICS	22	65,841.00	2,992.77
TOTAL – CHCs	5	6,542.00	1,308.40

Table D: Relative service utilisation by facility and area

	Inpatient Days or no. of visits	Population	Inpatient Days Per Capita	Ambulatory Visits Per Capita
Heutown		16,577		
Heutown Community Hospital-Inpatient	24,779.20		1.49	
Heutown Community Hospital-OPD	6,360.88			0.38
Heutown DPCPs	19,086.00			1.15
Heutown local authority clinic	19,762.00			1.19
Total ambulatory visits				2.73
Tomstown		12,827		
Tomstown Community Hospital-Inpatient	14,207.79		1.11	
Tomstown Community Hospital-OPD	4,485.45			0.35
Tomstown DPCPs	8,683.00			0.68
Tomstown local authority clinic	13,307.00			1.04
Total ambulatory visits				2.06
Bupsville		5,120		
Tomstown Community Hospital-Inpatient	2,676.83		0.52	
Tomstown Community Hospital-OPD	369.39			0.07
Bupsville DPCPs	8,202.00			1.60
Bupsville local authority clinic	7,558.00			1.48
Total ambulatory visits				3.15
Solidorp		5,025		
Heutown Community Hospital-Inpatient	1,457.60		0.29	
Heutown Community Hospital-OPD	138.28			0.03
Solidorp Community Health Centre	6,542.00			1.30
Solidorp DPCPs	5,737.00			1.14
Solidorp local authority clinic	3,164.00			0.63
Total ambulatory visits				3.10
Nicsinrivier		4,107		
Tomstown Community Hospital-Inpatient	1,647.28		0.40	
Tomstown Community Hospital-OPD	263.85			0.06
Bupsville DPCPs	1,128.00			0.27
Nicsinrivier local authority clinic	7,488.00			1.82
Total ambulatory visits				2.16
Rural settlements (North)		12,014		
Tomstown Community Hospital-Inpatient	2,059.10		0.17	
Tomstown Community Hospital-OPD	158.31			0.01
Tomstown DPCPs	948.00			0.08
Bupsville DPCPs	922.00			0.08
Northern rural DPCPs	11,763.00			0.98
Northern rural local authority services	6,328.00			0.53
Total ambulatory visits				1.67
Rural settlements (South)		6,901		
Heutown Community Hospital-Inpatient	2,915.20		0.42	
Heutown Community Hospital-OPD	414.84			0.06
Heutown DPCPs	2,603.00			0.38
Solidorp DPCPs	1,093.00			0.16
Southern rural local authority services	8,234.00			1.19
Total ambulatory visits				1.79
TOTAL - HOSPITAL INPATIENTS	49,743.00		0.79	
TOTAL - HOSPITAL OPD	12,191.00			0.19
TOTAL - DPCPs	60,165.00			0.96
TOTAL - CLINICS & CHCs	72,383.00			1.16
TOTAL - ALL AMBULATORY VISITS				2.31