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National Treasury
REPUBLIC OF SOUTH AFRICA

2019

Investigating the cost of establishing an in-house for acute and chronic haemodialysis services at Rob Ferreira Hospital

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CLUSTER: HEALTH

PROVINCE: MPUMALANGA

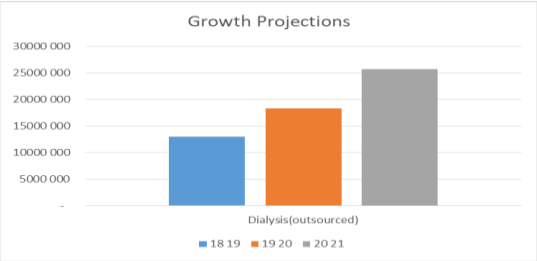
SAVINGS@WORK
GOVERNMENT SPENDING REVIEWS

Summary

SUMMARY	MTEF		
	2019	2020	2021
OUTSOURCING	14 170 716	14 962 656	15 769 272
INSOURCING	9 297 491	6 086 862	6 461 321
SAVINGS/(DEFICIT)	4 873 225	8 875 794	9 307 951

Discoveries

- By exploring a new model of rendering the acute and chronic haemodialysis services yield positive results as per the table above. Highlighted in green
- **Substantial savings** realised would enable the hospital to expand its nephrology services.
- This model not only reduce the Heath Cost but enables the institution to meet the 7 per cent annual increase in patient numbers.
- It ensures effective and efficient use of resources.



- The above graph depicts how continual use of the current model of provision of acute and chronic haemodialysis, is unsustainable in meeting current and future demands of the services. The growth exceeds the prior year's expenditure plus CPI, which is a health growth.
- The cost grows by an abnormal average of 27 percent per annum. This far exceeds the budget growth rate of the CPI by over 21 percent. In the economic state the country is in, Departments are required to keep to their budget ceiling according to the budget guidelines, which is limited to prior year's expenditure plus CPI.

Recommendation

- Focus on insourcing only in implementation and not club with the expansion of the nephrology to be able to actual saving, as per the costing tool, that would be realised
- Appointment of a nephrology specialist attached to a donor centre in order to kick start the inactive donor programme.
- Review of the staff compliment to ensure efficient use of staff
- The adoption of this model

1. Introduction

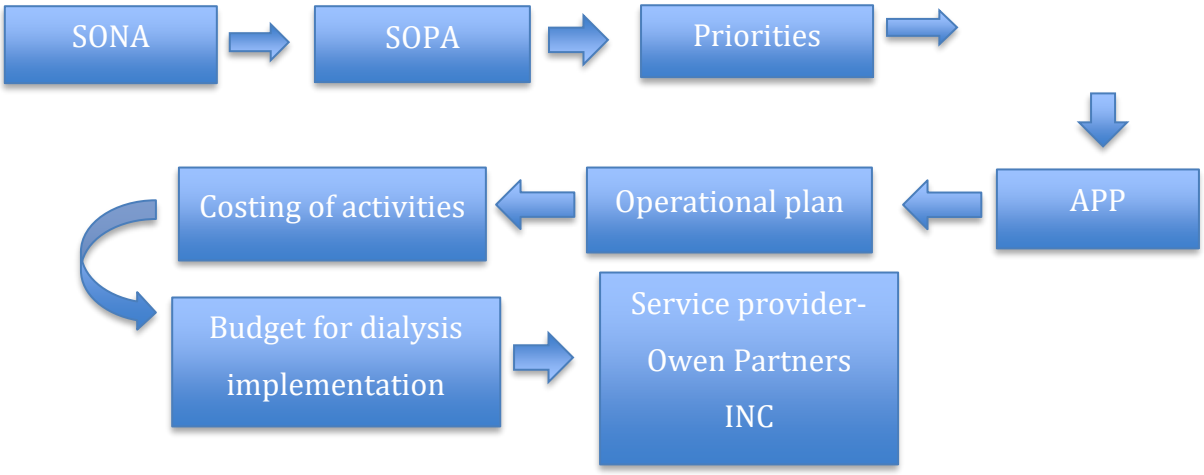
I chose my topic for the PER to investigate the cost of establishing a fully functional Renal Dialysis unit as Rob Ferreira Tertiary hospital which is situated in Ehlanzeni District. The Department is currently outsourcing this services and the substantial amount spent per annum is not sustainable due to limited resources. Therefore, the aim is to ascertain whether establishing an in-house will reduce the health costs without compromising the quality of service.

Patients with acute, chronic and chronic kidney failure are beneficiaries of the programme being investigated. The topic is important in ensuring that the Department continue to provide and sustain this services in the future to ensure that the people of Mpumalanga has uninterrupted access to these services. This shall result in an increased life expectancy for this patient as well as keeping up with current and future demands for the service.

Mpumalanga Province has a total population of 4 558 782 with three Districts namely Ehlanzeni, Gert Sibande and Nkangala. Ehlanzeni is the largest district with total population of 1 744 375 with the following top 5 burden of disease, Anti-Natal Clients(ANC) tested positive, Pneumonia, Maternal mortality death, HIV positive year and older and HIV Positive between 5-14 years. The District has the following numbers of clients treated on Diabetes and from 2017, 2018 and 2019 respectively, 5 273, 8 606 and 3408. HIV Positive and Diabetes patients end up requiring Dialysis.

The source of my Data is the Basic Accounting System (BAS). The challenge I encountered was the BAS item (Contractors: medical services) used to pay for dialysis is not solely for it but includes payment for referrals to private hospitals. So I used the hospital provided information on the actual patient numbers as per their records in their Dialysis Business Plan, DPSA salary tabled for the costing of staff.

2. Policy and institutional information



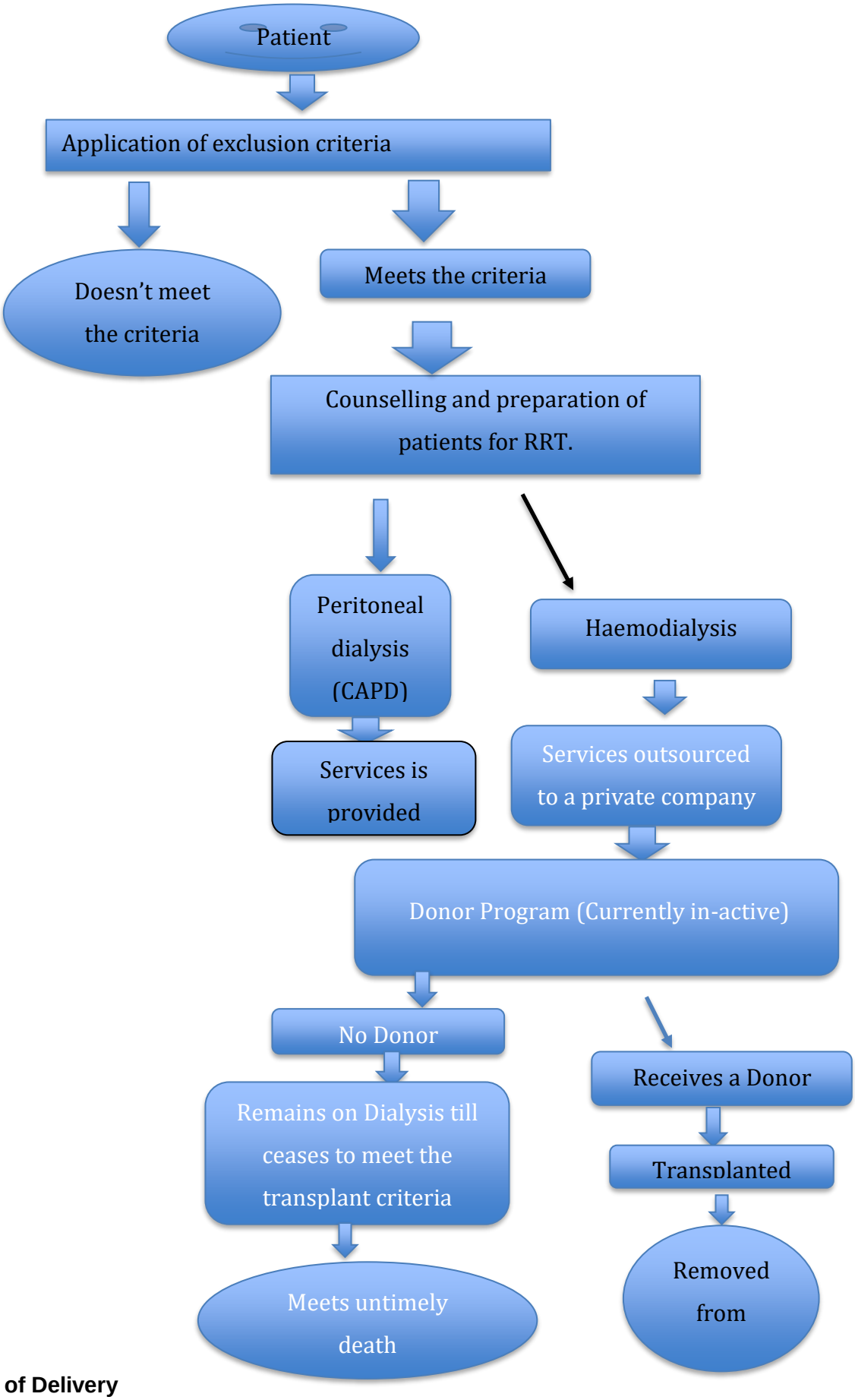
The above process flow reflect the necessary steps that has to take place in order for my implementation programme to happen. Policy that might affect the implementation programme are pronounces on the State of the Nation Address which would have to be taken into consideration on planning for implementation. On the State of the Province Address department priorities are announced has to ensure are carried out if affecting the delivery of the service. Thereafter the programme manager through the strategic plan sessions goes to drawing board reviews performance and make the required adjustment therefore the plans are annualised. The strategic plan and APP are approved by the Provincial Legislature. The Chief Director: Hospital Services facilitate the development of the operational plans with the hospital executive. Thereafter the Finance manager costs the activities which translate into the institutions budget and align it to the hospital allocation.

The National Treasury transfers the Province allocation into the Provincial Treasury's Revenue Fund, as per the equitable share allocation formula. Then the Provincial Treasury allocates to Departments after considerations of their Budget inputs. The PDoH is given a Budget allocation letter inclusive of equitable share and conditional grants. The Provincial Office Allocates to Rob Ferreira Hospital after considerations of the hospital request. The Hospital being a Tertiary benefits from two source of funding (Equitable and Conditional Grant- National Tertiary Services Grant). This enables them to make payment to the service provider providing the dialysis within 30 days as per Supply Chain Policy.

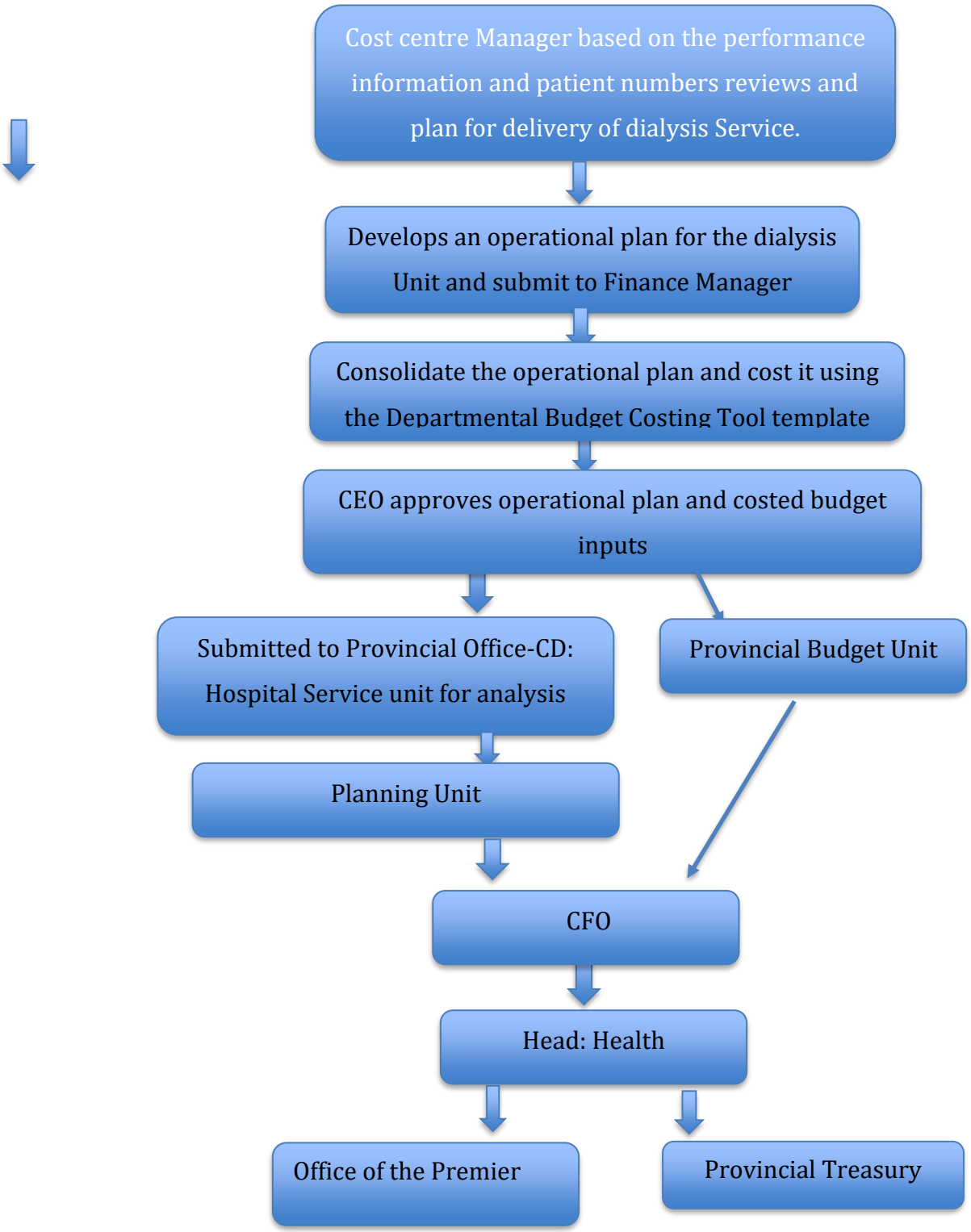
The national department of Health responsible for policy issues. On 3 March 2009 the then Minister Barabara Hogan approved a Dialysis Guideline for Health departments rendering the service to the people. The main objectives are; to optimize the use of scarce resources, to promote cost- effectiveness to promote public/private partnership, and improve services to

users. The Mpumalanga department of Health used the outsourcing model to render the Dialysis services due to lack of the specialised personnel and facility requirements. This has since changed as the hospital was expanded and there's currently ward with four rooms, accommodating 2 patients per room. The provision of acute and chronic haemodialysis services is completely outsourced to a private institution. The peritoneal dialysis is rendered in-house.

3. Programme chain of delivery



Hospital Chain of Delivery



An exclusion criteria is used to select patient into the Dialysis Programme which are set out in the Dialysis Guideline. The treatment options for chronic dialysis is discussed with the patient and the family. They are allowed to choose the technique that is optimal for the patient with

due consideration of medical, social and geographic factors. . In order to make informed choice the potential impact on the patient's life and that of the families is explained.

An appointment is then made with Steve Biko Hospital for the patient to be seen by a Nephrology Specialist and undergo a surgical procedure. There are two surgical procedures insertion of abdomen catheter for peritoneal dialysis and vascular access surgery for Haemodialysis. The appointments take three to six months and because most patient cannot wait that long. A temporally central venous catheters is inserted and the patient is initiated on haemodialysis programme whilst on the waiting list.

After the patients are seen by the nephrologist at Steve Biko a peritoneal dialysis patient is train on home self-dialysis, whist a haemodialysis patient is dialysed by the outsourced company. The peritoneal patients are supplied with sufficient supplies till next appointment. They are given return dates which they need to communicate with the nephrology back at Robs, so she can arrange transport. However, she faces challenges in this regard as most patients do not relay that information. She then personally follow up with the patients for the appointment date for review.

These patients are accepted into the programme with the purpose of undergoing a kidney transplant which is the exit point from this programme. The organ donor programme in the province is almost non-existent and the number of patients that eventually undergo renal transplantation is minimal. Most of patients on the chronic dialysis programme eventually get worse and cease to meet the criteria. This then becomes a problem for the department as these patient remain in the programme till they meet their untimely dead. Meanwhile the guideline states that the number of patient requiring the service is 7 per cent per annum. This then put a heavy financial burden on the system. Therefore a need for an active donor programme, both brainstem death and living donors, will increase the number of patients being transplanted and reduce the increasing number of patients on renal dialysis.

The Department is accommodating the private institution rendering haemodialysis services in the hospital so when these patients are admitted to the hospital are dialysed there. The outpatient for haemodialysis are dialysed at the private institutions premises. The admitted peritoneal dialysis patients are dialyses in-house using hospital consumables instead of those provided at Steve Biko.

This programme provides access to quality health care for Ehlanzeni District Dialysis Patients which ensures that a health Life for ALL people of Mpumalanga is achieved.

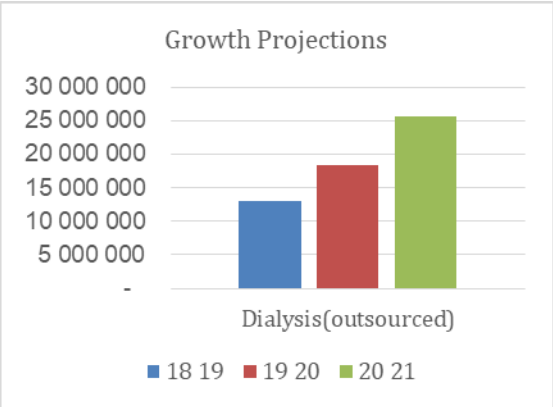
4. Expenditure observations

					Growth rates			Growth Projections(using simple growth formula		
Row Labels	2015/2016	2016/2017	2017/2018	Grand Total	16 17% Y oY	17 18% Y oY	CAGR	18 19	19 20	20 21
Dialysis(outsourced)	5 693 689	6 582 573	9 251 000	21 527 263	16%	41%	27%	13 001 146	18 271 517	25 678 378

The above expenditure reflects only the amount paid for the outsourced services for acute and chronic haemodialysis dialysis. The Service provider is contracted and paid a fixed rate for the service. This model of providing this service has been used since the initial implementing of these services without being renewed. The CAGR for the three year period at 27 percent is very alarming given the fact that the budget grows by the CPI. This basically means were pulled from other programmes to ensure continual provision of this service.

This is a shocker and has to be attended to as it drastically impacts on the future continual access to this service. There are many contributory factor influencing the demand of this services which then translate into expenditure;

- Significant proportion of patients present late with end stage renal failure and start on haemodialysis as default treatment.
- the increasing age and comorbidity of renal replacement therapy patients, peritoneal dialysis is not likely to offer a significant alternative to haemodialysis
- 23% of peritoneal dialysis patients have to switch to haemodialysis after three to five years of treatment
- majority of patients with failing renal transplants are usually managed by haemodialysis
- Initiating patients who doesn't meet the criteria on to the programme
- All inpatient are incorrectly classified as acute even when chronic. The acute rate is R3 500 whilst the chronic rate is R1 700. The rates are per patient per session rates as per contract with the service provider.



The above growth projection graph over the MTEF doesn't present a good picture and it thought provoking. It is just an indication that we cannot continue like this and expect different result. A model which should ensure sustainability of the programme at an efficient cost without compromising the quality of the programme. To mitigate the above factors the following will have to be done;

- Create awareness on the importance of early testing this should reduce the number of patient presenting late who are initiated on haemodialysis as a default treatment.
- A monthly outreach programme by the nephrologist from Steve Biko would reduce the waiting time of assessment and initiation of patient into the appropriate dialysis treatment. Therefore peritoneal dialysis patient would not have to wait 3 months or more before been changed from haemodialysis.
- Establish an active donor programme, both brainstem death and living donors, will increase the number of patients being transplanted and reduce the increasing number of patients on renal dialysis. This should ensure that there is an exit to the programme which bring about relief to the system and the ability to take on new patients. As well as reducing the number of patients who cease to meet the transplant criteria.
- Ensuring that only patients who meets the exclusion criteria are taken into programme
- Verifying correct classification of acute and chronic patient as these patient are not charged the same rate. Upon checking the register all patient were classified as acute.

All in all the sky rocketing expenditure pattern can be changed for the better. The current and future demands can be meet just by changing the model of providing the service without changing its quality.

5. Performance

Provision of access of dialysis services to the people of Ehlanzeni district in Mpumalanga Province. The services for acute and chronic haemodialysis are rendered through a model of outsourcing. The number of patient on the programme for acute and chronic for the month of August 2018 were 23 and47 respectively. However for the month of September the numbers shows a reduction to 17 and 44 respectively. This could be due to various reasons, death, non-compliance (missed sessions) -which would not be the case as it leads to removal from programme, or received kidneys which is highly unlikely as according to the business plan as patient who eventually undergo renal transplantation is minimal due to the donor programme which is almost non-existent.

The Guideline for chronic dialysis requires that the treatment options, the potential impact on the patient and the family's life be discussed and trained on self-dialysis at home. Therefore an indicator to measure the above is a training register to ensure that all patient initiated on the programme received training. The other indicator is the number of patients and good performance would be reduction due to transplantation. That would make room for new patients requiring the service but due to the inactive donor programme. Patients stay longer in the dialysis programme preventing new ones access due to the limited resources whiles the old ones cease to meet the transplantation criteria. Since this is a public service you cannot limit the number as patients cannot be refused treatment whilst there is a limited budget.

The average life expectancy on dialysis is 5 to 10 years .This can be used as an indicator to measure the effectiveness of the dialysis services offered. However many patient live up to 20 and 30 years, if this is the case with most of the patients then it means exceptional service is offered

6. Options

The effect of doing things differently are as follows;

- Reduce waiting period through outreach programme

  Patients waits 3 to six months to be to be assessed and be operated on in order to be initiated on the programme by the nephrologist From Steve Biko. A monthly outreach programme by the specialist would reduce the waiting time.
- Access to surgical procedures- through training of an in-house medical officer.

  Haemodialysis requires an insertion of catheter. A surgical procedure is required for the insertion. The current practice due to the long waiting time. Patient presenting late and cannot wait the long period are temporally initiated on haemodialysis which put a burden on the demand for the services.

  This type of treatment is expensive, as it costs R3500 per patient per session whiles the other is done in-house, than the peritoneal dialyses the patients are changed to after assessment by the nephrologist. A refresher course by the in-house medical officer would ensure 24 hour access to these procedures. This would reduce the cost of haemodialysis and as well as the waiting time.

The possibilities for doing things differently to be more effective

- Reduce health cost

  By changing the model of providing the services from outsourcing to insourcing drastically reduce the cost of providing the service without compromising quality
- Improve patient's quality of life

  Complete reduction of the waiting time ensures that patients are attended to with spend. That has a huge impact on their quality of life and ability to respond to the intervention. Therefore, means patients will not cease to meet the transplant criteria due to deteriorating health emanating from late medical attention.
- Provide access to patients on waiting list to get on the programme

  According to the guideline for chronic renal dialysis the demand for the service increase by seven per cent per annually. Meeting this demand was impossible with the old model, however the new model through the savings it presents. It makes room for new intake as well as activation of the transplant programme, which provides an exit door from the programme, hence reducing the burden.

Recommendations

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Scenarios

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VARIANCE	4 873 225	8 875 794	9 307 951

My cost model seeks to provide an answer to the following two big questions. Should the department continue to use the current model to render the acute and chronic haemodialysis or should it establish these services in-house? On comparison of the results of both options refer to the above table. The insourcing is based on the costing model attached in annexure 3 additional information. The decline in 2020 is due to the once of fixed cost(Capital purchases). The in-house options worked out to be efficient, realise savings and sustainable in the long term. This achieves the guidelines objectives of optimum use of scarce resources, promotion of cost effectiveness and improve services to users.

7. Recommendations

What changes do I suggest? What will the results of these changes be?

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Eat the elephant bit by bit

Focus on one service/programme packaged within the nephrology services at a time e.g insourcing of the acute and chronic haemodialysis instead of clubbing it with other services/programmes which are currently running. As when an element is not looked at in isolation there is a danger of arriving into an incorrect conclusion. Please refer to the business plan dated 18 November 2018. One finds that the staff requirements are higher than that in the draft submitted to National department which only focuses on the in-sourcing. One needs to guard against as might lead to appointment that are needed in year three of the implementation phase. Am I saying we shouldn't look at services as a whole? No, but one should compare apples with apple to be able to reach a correct conclusion.

Appointment of a nephrologist linked to transplant centre

In order to realised the active donor programme. It is crucial to appoint a nephrologist linked to a transplant centre is appointed. By doing so enables immediate initiation of the programme and the guidelines objective of promoting private/public partnership is achieved. The willingness of the specialist to work in the private has been assessed and positive feedback received.

Staff category the service can do without

Currently the peritoneal dialysis is manned by one nephrology nurse and medical officer. Through discussion with her revealed that there is no need for nursing assistants therefore nursing assistance can be removed as well as the operational manager. The medical officer be replaced by the current one. This should ensure efficient use of staff and a further increase of realised the saving. This would not have a negative impact on the quality of service but would ensure efficient use of staff.

All in all the institution should adopt insourcing mode of rendering the services due to its sustainability, efficiency and provide resources for expansion.

8. Action

Immediately

- Share the finding of my first draft PER with my supervisor last week when we were discussing it. He suggested we meet Chief Executive Officer to influence change
- Arrange a meeting with the CEO of the institution to share the findings.
- Present it to the Chief Financial Officer and Head of Department the good thing the contract has expired on 31 April 2019 and is currently on a month to month basis, not exceeding six months. Therefore this gives us five months of implementation
- Include this project in the Departmental efficiency projects in which progress will be reported as per project timelines
-

In a month's time

- Monitoring project implementation implementation
- Assisting in enabling procurement and appointment of staff as the budget is currently the outsource budget is in goods and services and the above happen in other economic classification.
- Assist in fast tracking the appointment approval

Before the end of the year

- Prepare monthly variance reports from October 2019 till year end. To compare budget with actuals to monitor implementation performance, verify the saving realise and understand the cause of deviations.
- Analyse the expenditure trend from September 2019 to February 2020 to track the impact of the insourcing model.

Annexure 1

Annexure 2

Annexure 3