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HPV Vaccination Programme for Girls Aged 9 Years and Older in Gauteng Province 2018/19 Financial Year

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GOVERNMENT SPENDING REVIEWS

Summary

Human Papilloma Virus (HPV) Vaccination programme is a South African government programme aimed at vaccinating girls aged 9 years and older, to prevent cervical cancer. HPV doesn't just cause cervical cancer. It can lead to vaginal warts and contributes to penile, anal, vaginal and throat cancer. Although the incidence of cervical cancer is low in populations of women who are regularly screened using pap smears, one in 40 South African women will get cervical cancer. Cervical cancer is also the fourth most common cancer among women worldwide.

Cervical carcinoma is still the most common cancer of women on the African continent. Mortality remains high worldwide at 50% mainly because of late presentation, advanced stage of disease and absence of a functioning screening process. The cost of treating cancer is forever increasing while preventative care is not being prioritized especially in the African continent. The South African government has started a programme aimed at vaccinating girls aged 9 years and older, with the aim of preventing the prevalence of cervical cancer. The Gauteng department of health is reviewing the expenditure and performance data associated with the roll-out of the HPV programme in the province. I have discovered that the salary/stipend payments, increments for Data Capturers and Professional Nurses are not the same across all districts. There's a potential to save on costs if the planning part of the project can be improved.

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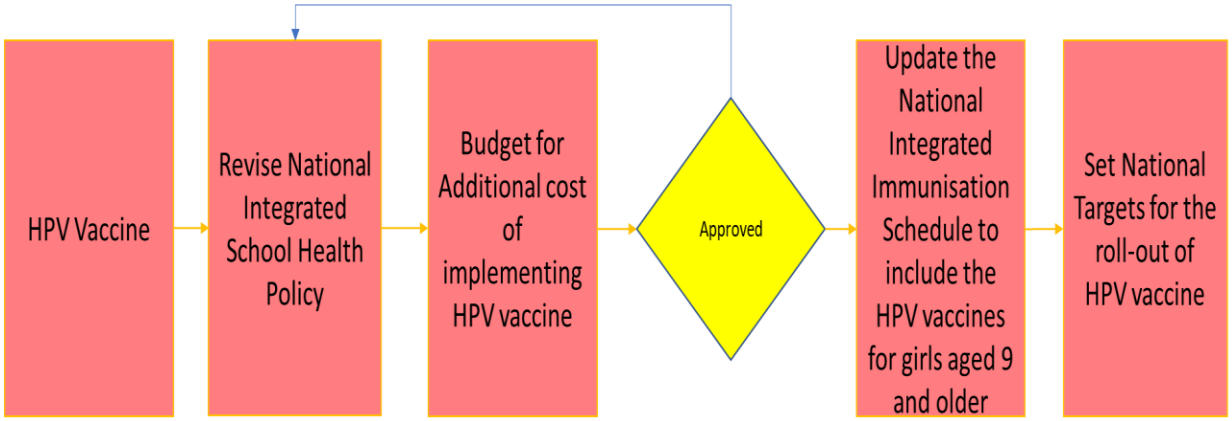
1. Introduction

Cervical cancer ranks as the leading cause of female cancer deaths in South Africa, mainly affecting women in the reproductive age group from 15 to 44 years. In 2008, cervical cancer reportedly accounted for an estimated 81 394 years of life lost (YLL) among women in South Africa. According to research by the University of Cape Town the cost of HPV vaccination programme is estimated at R3 295 per girl, diagnosis and treatment of cervical cancer is estimated at R24 997 for stage one (1), to about R55 997 stage four (4) per woman in South Africa. It is of importance for a developing country such as South Africa to prioritize preventative care to minimize costs of treating cancer in the future. The incidence of cervical cancer in South Africa is reported to be between 22.8 and 27/100 000 women as compared to the global average of 15.8/100 000 women per year. About 3 000 women die each year due to cervical cancer in South Africa. The roll-out of the HPV vaccination programme is the right intervention to minimize HPV in our women and potentially eliminate the risk of contracting cervical cancer.

The HPV vaccination programme was introduced in 2014. it is implemented in phases, the first phase included centralizing of funds (National Health Grant for HPV) and monitoring the expenditure at a national level while implementation takes place at a provincial level through districts. The second phase is the decentralization of funds and management of funds at provincial government level. The vaccine consists of two (2) dosages given to the young girls at different times, both dosages are administered and monitored by the health professionals. The second (2) dosage is specifically administered six (6) months after receiving the first (1) one. The Performance Expenditure Review (PER) for HPV vaccination programme in Gauteng is conducted using expenditure data from Basic Accounting System (BAS) and the provincial HPV vaccination monitoring tool. The challenge with BAS data it has misallocations, which happens when an item is wrongfully recorded under a wrong category e.g Printing exp

recorded as medication. The programme managers are aware of the misallocations, so they verify the BAS data before using it. The data must be cleaned and consolidated, then it is grouped and allocated into expenditure buckets. Which we then analyse and interpret for purposes of planning, monitoring and evaluation of the HPV programme.

2. Policy and Institutional Information

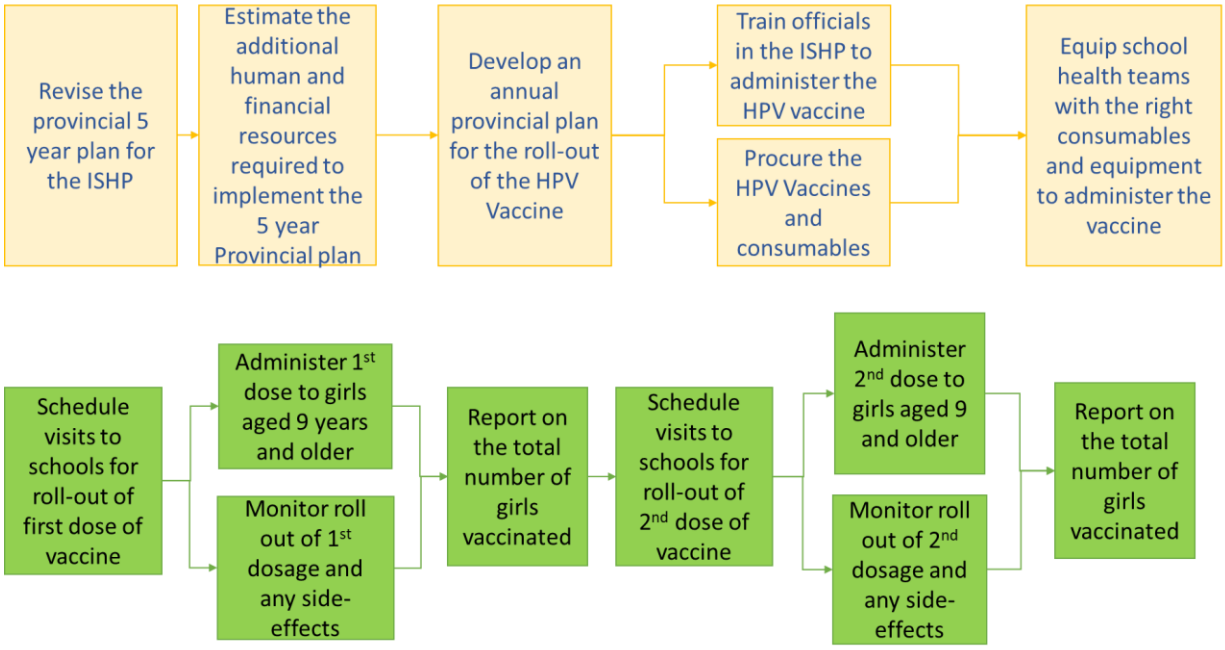


To alleviate the impact of cervical cancer on health and socio-economic development, South Africa needs to implement an all-inclusive cervical cancer prevention and management programme. This entails the implementation of three interdependent strategies, reducing oncogenic HPV infections, detecting and treating cervical pre-cancer, and providing timely treatment and palliative care for invasive cancer. Cervical cancer prevention and control is part of a broad based Sexual and Reproductive Health (SRH) programme implemented by the national Department of Health.

The National Department of Health (NDoH) and National Department of Basic Education (NDBE) are joint custodians of the National Integrated School Health Policy (ISHP) which was revised to include the HPV vaccination of girls aged 9 and older in 2015. These vaccines work best if administered prior to exposure to HPV. Both vaccines prevent over 95 per cent of HPV infections caused by HPV types 16 and 18 and have some cross-protection against other less

common HPV types which cause cervical cancer. One of the vaccines also protects against HPV types 6 and 11 which cause anogenital warts. The positive effect of HPV vaccination on national cervical cancer prevalence is expected to be realized within 20 years. There was extensive consultation on the amendment of the National Integrated Immunisation Schedule to include the HPV vaccines, which involved the public and other stakeholders. The National targets were set at 90% coverage for the population under consideration.

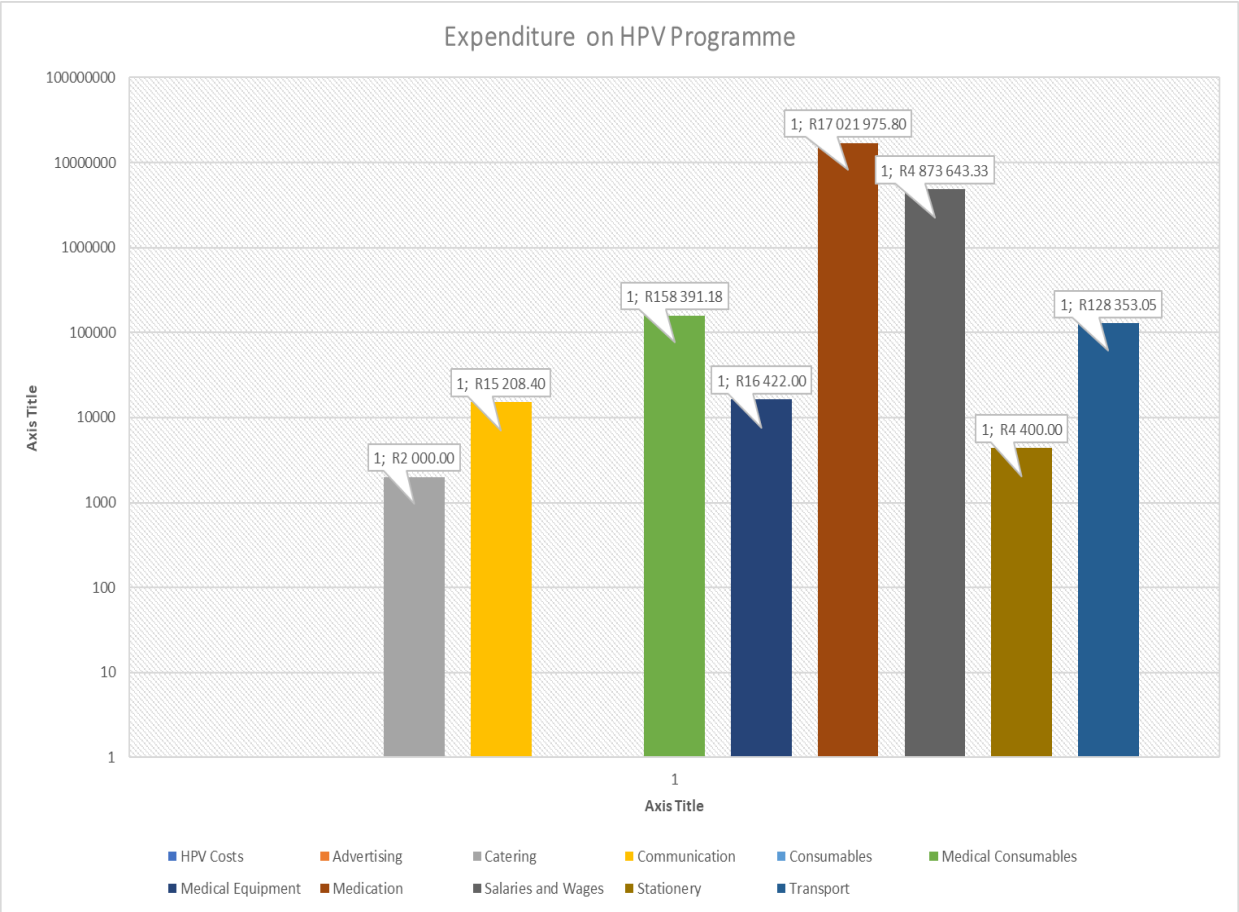
3. Programme Chain of Delivery



Provincial 5-year plan for the roll-out of the ISHP in Gauteng is already in place. The plan was approved by the GDoH Head of Department (HOD) and NDoH. The Gauteng HPV programme manager along with the delegated team leaders per district are responsible for the annual roll-out plan. Step one is to identify the human resources required for the administration of the vaccines, procurement of vaccines and consumables through supply chain management. The HPV team then schedules training of the identified health professionals/ retired nurses for a period of not more than 3 days. The next step is to schedule school visits for the administration of the vaccines both 1st dose and 2nd dosage, this is done so other learners which might have been missed during the first visit are covered.

The health professionals identified then carry out the administration of the HPV vaccines and monitors if there's any side effects. The HPV teams are also tasked with ensuring that the statistics are captured as per prior agreement in a standardized format. Administration of the 2nd dosage is carried out six months after the 1st dosage.

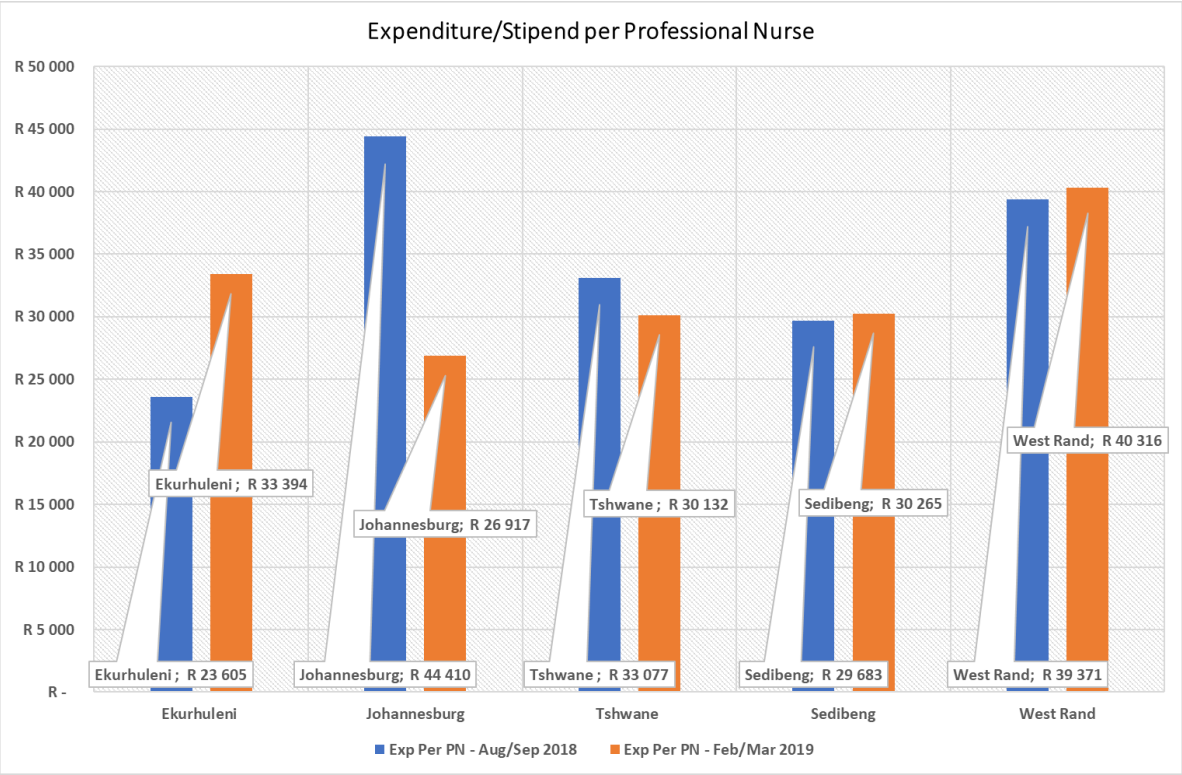
4. Expenditure Observations



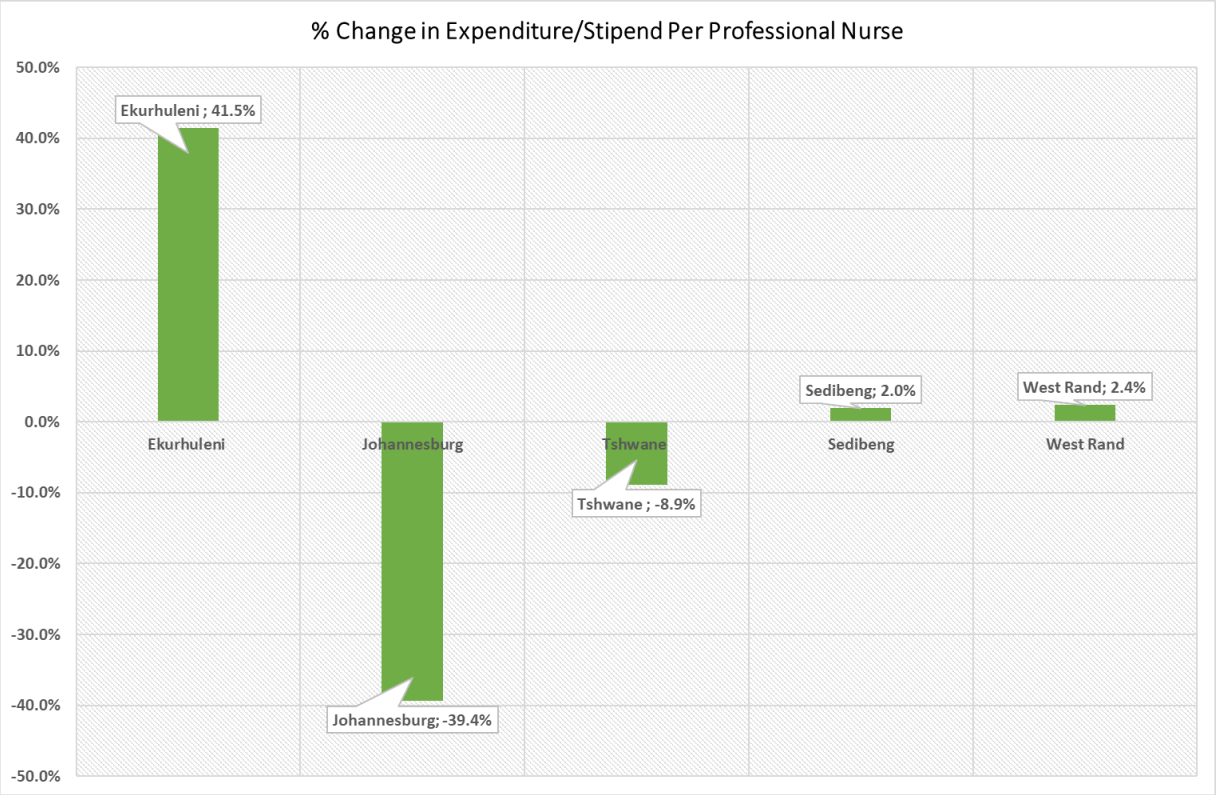
I have found that expenditure for the HPV vaccine/Medication constituted about 76.6% of the total expenditure in 2018/19, followed by 21.9% spent on compensation of employees. Transport and communication expenditure which accounts for 0.6% and 0.1%. There is limited information on expenditure associated with the HPV programme because it's a new project which is only being roll-out fully under the Provincial government as at 2018/19 financial year.

This Integrated School Health programme (ISHP) is carried out through district health services. In 2016/17 and 2017/18, it was in the pilot phase the funds being administrated through the National department of health. In the funds are channelled to Gauteng department of Health (GDoH) as a grant which is ringfenced for HPV administration.

The expenditure information from BAS does not have any performance data such as the number of dosages issued etc. However, it would be very useful to have the number of girls 9 years and older which received the HPV vaccination for the period under investigation. The total expenditure incurred in the 2018/19 financial year amounts to R22 220 394, the expenditure on medication alone accounts for R17 021 976. It would be very useful to have a costing of the project done prior to implementation, other than using the budget allocated as the starting point for allocation of the resources at hand. This would enable the GDoH to easily identify the shortages or non-shortage of the resources in implementing of the programme. Expenditure incurred under GDoH in the 2016/17 and 2017/18 is very insignificant when compared to the expenditure incurred in 2018/19, this makes it difficult to apply the undesirable historical budgeting as a starting point in budgeting for the HPV programme.

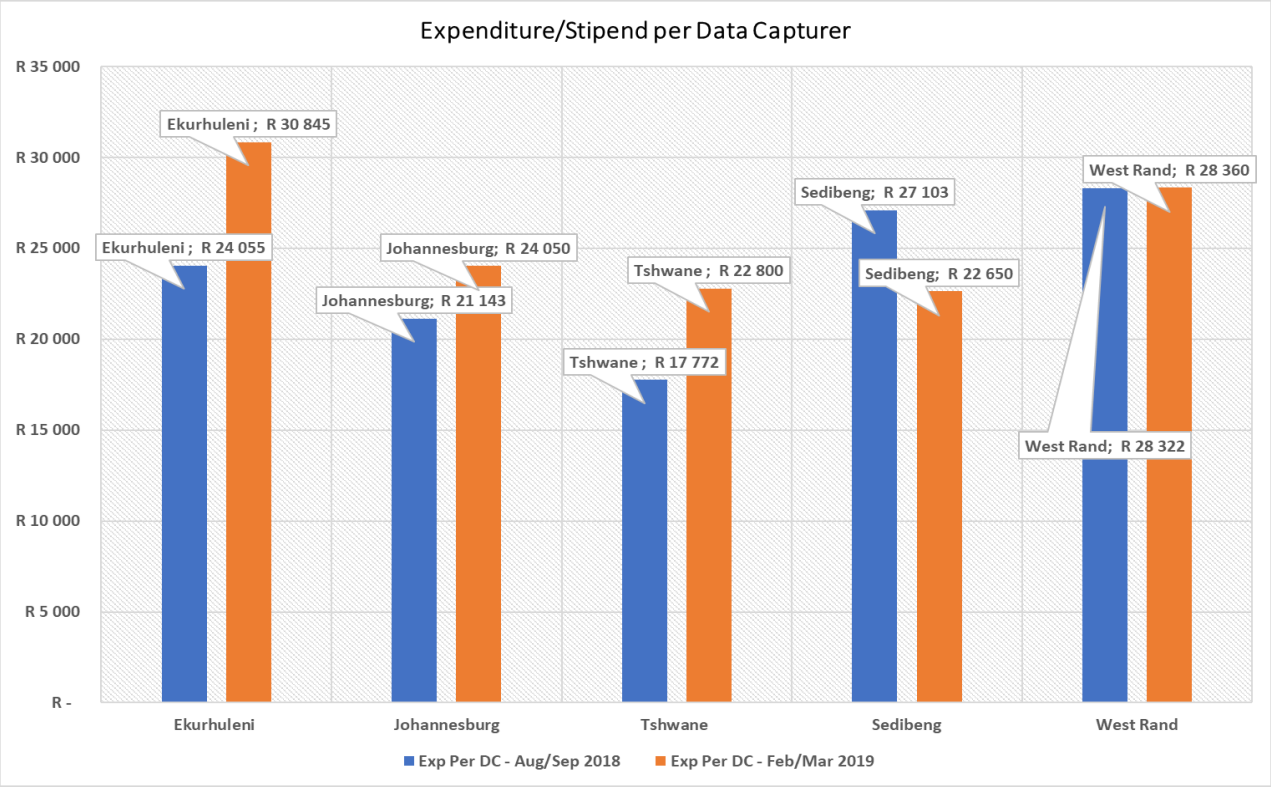


Expenditure from the HPV Annual Report is more detailed than the one from BAS directly, the data was gathered through district managers for HPV programme. Expenditure per Professional (PN) Nurse as calculated using the number of Professional nurses and expenditure/Stipend per campaign period shows that the lowest paid Expenditure per nurse was R23 605 at Ekurhuleni while the highest paid was R44 410 at Johannesburg district in the same campaign period. In the second campaign period the highest paid expenditure per PN was at West Rand with a stipend of R40 316 and the lowest being Johannesburg with a stipend of R26 917, this wage differentials shows that there's a possibility to save on expenditure per Professional Nurse.

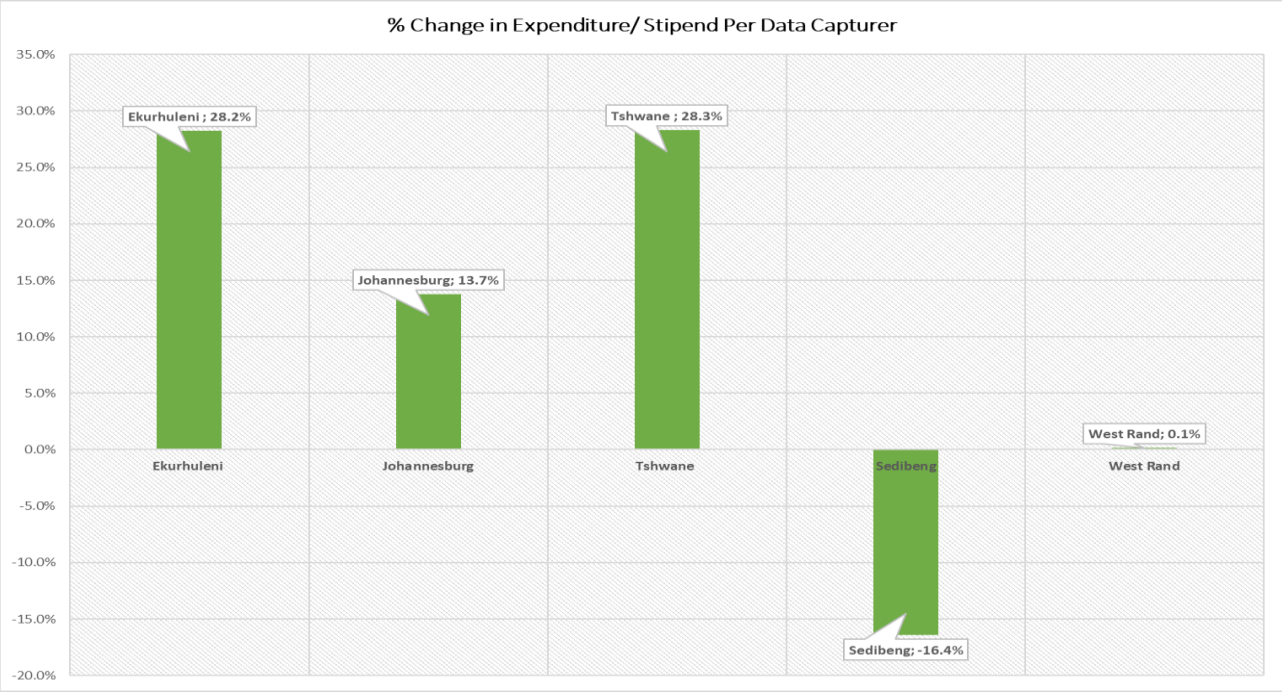


Percentage change in expenditure per PN is inconsistent across districts except for Sedibeng and West Rand even though they are not the same in value in rand value. There's an estimated difference of +- R10 000 in Expenditure per PN paid to Sedibeng and West Rand districts. A decline of -39.4% in Johannesburg district, and an increase of 41.5% in Ekurhuleni district's Expenditure per nurse is a further demonstration that there's a room for improvement in the management of Expenditure per PN across the five districts. There is potential annual

savings of R45 464.14 on expenditure for professional nurses, when all the nurses are paid at R23 605 (Ekurhuleni's Exp Per PN).



The lowest expenditure per Data Capturer (DC) is seen at Tshwane district with a figure of R17 772 and the highest figure is R30 845 at Ekurhuleni district in the second campaign period.



The percentage change in Expenditure per DC is at 28.3% in Ekurhuleni and -16.4% in Sedibeng district. This percentage change cannot be linked to the annual salary increments nor Inflation, it would be advisable to look at standardizing the salary/stipend across all districts.

5. Performance

The recording of performance information is carried out by the HPV teams who provides a weekly summary sheets which is then used to update the Provincial HPV Data Monitoring Tool. The team uses electronic tablets to record the information. The system is managed by Health Information System Programme (HISP).

2019 HPV 1st Round School Coverage per District (Source: HPV Registers, Weekly summary sheets and Monitoring Tool)

Health Districts	Total Number of 2019 Grade 4 Girls	Number of Catch Up HPV 1st doses given during Round 1 in February March 2019 (given to 2018 girl cohorts)	Number of new Grade 4 girls immunised with HPV 1st Doses during Round 1 in February March 2019	Total number of all HPV 1st Doses given during Round 1 in Feb March 2019	HPV 1st Dose Coverage in February March 2019
Ekurhuleni	25 100	1 492	16 487	17 979	71.6%
Johannesburg	29 159	1 004	19 818	20 822	72.3%
Tshwane	22 057	1 066	15 135	16 201	73.5%
Sedibeng	8 431	21	5 479	5 490	65.1%
West Rand	5 669	153	4 977	5 130	90.5%
Totals	**90 416**	**3 736**	**61 896**	**65 622**	**72.6%**

The Gauteng HPV teams managed to cover 72.6% of girls aged 9 years and older, during the first round of dosage in February-March 2019. The Number of Catch Up HPV 1st doses given during Round 1 in February March 2019 represents a cohort of girls who could not be given the vaccine due to the shortage of the HPV vaccine during that time, about 3 736 girls across all districts received the HPV 1st dose catch up which accounts for 6% of girls vaccinated in Feb-Mar 2019 campaign.

HPV 1st Dose Coverage per Health District during February March 2019 (Source: HPV Registers and Weekly summary sheets)

Health Districts	Total Number of 2018 Grade 4 Girls	Total number of HPV 2nd doses given during the 2nd round in Aug Sept 2018	Number of HPV 2nd Catch up doses given during Round 1 in February March 2019 (given to Aug Sept 2017/18 cohorts)	Total number of all HPV 2nd doses given during 2018 Aug Sept and all HPV 2nd catch up doses given during February March 2019	Updated 2018 HPV 2nd dose coverage (incl. HPV 2nd catch up Doses given during February March 2019)
Ekurhuleni	21 654	11 059	6 246	17 305	79.9%
Johannesburg	30 689	14 934	3 971	18 905	61.6%
Tshwane	24 912	12 809	3 592	16 401	65.8%
Sedibeng	7 123	3 985	15	4 030	56.6%
West Rand	6 825	4 230	295	4 525	66.3%
Totals	**91 203**	**47 017**	**14 149**	**61 166**	**67.0%**

The health district managed to update the 2018 HPV 2nd dose coverage for the girls aged 9 and older whom were not covered at the previous round due to vaccine shortage, ill health etc. According the two (2) tables above the total number of girls vaccinated is 126 788 in 2018/19 at a total expenditure of R 33 348 302, which gives us expenditure per vaccinated girl of R 263.

6. Options

One of the options the National Department of Health has is to subsidise the private healthcare to make the vaccine more accessible and affordable to all. According to medi-clinic group the HPV vaccine cost about R800, while the government buys it at R140 per vaccine. It would be beneficial for both government and the private healthcare to negotiate for a standardized price for the vaccines irrespective of the quantities each entity procures.

There's a need to create awareness about the importance of HPV vaccination, this would help familiarize the parents/ guardians so they can give consent for the learners to receive the

vaccine. A lack of buy in from some of the parents/ guardian can be minimized. It would be advisable to keep 50% of the already trained clinical personnel and data capturers from the previous campaigns if possible, this could result in possible savings on training.

Expenditure Basket	Unit cost	Quantity/No. of Personnel	Annual Expenditure 2018/19	Projected HPV Programme/ Costs 2019/20
Professional nurse	R 29 330	32	R 3 371 111	R 938 559
Data Capturer	R 12 107	32	R 2 714 206	R 387 416
Transportation (G-Fleet Vehicles)	R 16 918	32	R 1 573 869	R 541 363
Communication costs			R 158 948	R 181 996
Training/Catering			R 4 400	R 5 038
Consumables			R 165 917	R 189 974
Equipment	R -	-	R 16 422	R 18 803
HPV Vaccine	R 140	113 776	R 25 343 430	R 15 983 000
			R 33 348 302	**R 18 246 150**

Summary	Projected Expenditure	Period/6months Interval	Total Projected Expenditure for 2019/20
Variables Costs	R 2 263 150	2	R 4 526 300
HPV Vaccine	R 140	113776	R 15 983 000
Total Projected Cost			**R 20 509 300**

I used expenditure from 2018/19 FY to make projections for 2019/20 FY. Due to a lack of information on the quantities/Units of certain expenditure baskets I then projected the cost for the 2019/20 FY using CPI of 4.5% for Communication, Training/Catering, Consumables and equipment. Expenditure per PN (R29 330) is the total expenditure on PN divided by the total number of PN's employed in the period concerned. The same principle was applied to arrive at the figures for expenditure per DC (R12 107) and expenditure per G-Fleet vehicle (R16 918). Costs (R15 983 000) and quantities (113 776) of HPV vaccines I obtained them from the RLS01 for the current campaign.

The number of personnel for the current FY was obtained from the HPV programme's plan. According to the calculations above the projected cost of HPV vaccine programme is R20 509 300, if there won't be a need to buy extra vaccines. In the previous 2018/19 FY, the

was additional vaccines which were bought and drove the cost of vaccines above the budgeted amount of R 15 997 500. The number of personnel for the 1st campaign have been reduced from 52 to 32 Professional Nurses and 55 Data capturers to 32, while the number of G-Fleet vehicles have been reduced from 47 to 32.

It would be advisable to relook at the number of vehicles allocated per district, there's a possibility to save on the costs associated with this item. I believe we can minimize on the total number of vehicles to be used for the project, the ratio of 1:2 personnel per car can be adjusted to 1:3 personnel per car thus helping curb expenditure on G-fleet vehicles.

7. Recommendations

- Source human resources used in administering the vaccines from the nursing colleges and have them work together with staff members from the local clinics to minimize on the costs associated with the delivery of the HPV programme.
- Young boys should be given the HPV vaccine as well, to protect and cater for men who engages in sexual relations with men or men who have sexual relations with unvaccinated women as part of preventative care.
- It would be helpful to have expenditure on HPV programme disaggregated in such a way that we can see item by item costs per district.
- The salary/ Stipend for both Professional Nurses and data capturers should be the same across all districts to minimize on the cost of human resources for the programme. This will assist in cutting expenditure on HPV programme.
- Part of planning should include the estimated number of girls eligible for the vaccine, this will help when it comes to procurement of HPV vaccines and other consumables.
- Equipment and other consumables from the previous campaign should form part of the planning phase and the annual reports on the Programme.
- Revisiting previously vaccinated girls to track progress and effects on their overall health.

Actions

- I can be able to assist in the planning phase for the 2nd campaign (Feb/Mar 2020). The resource allocation part will need a bit of work in projecting the number of girls eligible for the vaccine, quantities of consumables required to carry-out the programme per district.
- Assist in making expenditure and salary/stipend increments projections for the 2nd campaign.
- Development of a costing model for the 2020/21 HPV vaccine programme.
- I can assist in improving the tool so that it captures the quantity of consumables used per girl for the 2020/21 FY.