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Cost-benefit analysis of the common teaching platform for the undergraduate nursing degree programme in the Western Cape, South Africa

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Abstract

Post-1994, the South African higher education sector underwent a number of reforms to address issues of inequalities, inefficiencies and fragmentation. Reform in the Western Cape Province included pooling the resources of three universities to form a common teaching platform (CTP). Henceforth training and education of undergraduate nursing students took place at a university in the Western Cape as the main enrolling higher education institution (HEI) for the undergraduate nursing degree. This study examines monetary and non-monetary costs and benefits derived from the CTP compared to the previous teaching platform (PTP), where the universities offered the degree programme in nursing independently of each other. PTP and CTP expenditure reports were the source of data for a monetary cost-benefit analysis (CBA). This was a Medias Res CBA study with some ex-ante and ex-post CBA elements. Non-monetary cost-benefit data were obtained through in-depth semi-structured interviews, focus group discussions and programme review reports. Researchers used qualitative and quantitative methods for analysis of the data. The study concluded that while monetary benefits accrued to sister institutions, this was at the expense of the sole enrolling HEI, and that it was more expensive to produce a nurse graduate with the CTP than with the PTP. Non-monetary findings indicate that the CTP was perceived to have led to a more inefficient system and task duplication, with unsatisfactory psychosocial effects on both students and staff. However, respondents mentioned that the CTP might have led to gradual improvement in nursing student diversity at the enrolling HEI. The analysed data mostly negated the assumption that collaboration through the CTP would improve undergraduate nursing training through sharing expertise between partner institutions, and reduce nursing education and training operating costs. Some recommendations are made to remedy the situation, including possible termination of the CTP in its current form, reviewing the partners' reimbursement strategy, creating a new platform which is equally owned by all partners, or allowing interested partner institutions to offer their own nursing degrees.

Keywords: Common teaching platform, cost-benefit analysis, nursing education and training.

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Introduction

Background of CTP

Post-1994 South Africa witnessed many public and private sector policy reforms, ratified to address the problems inherited as part of apartheid's legacies (Reddy, 2004). South Africa's higher education sector also underwent a number of reforms during this period to address the issues of inequalities, inefficiencies and fragmentation in the educational system. The reforms included mergers, incorporations and collaborations within higher learning institutions (HEIs) (Organisation for Economic Co-operation and Development, 2008).

In 2002 the University of the Western Cape (UWC) and the Cape Peninsula University of Technology (CPUT) received a ministerial mandate that as from 2005 the two institutions would be the only enrolling universities for undergraduate nursing education in the Western Cape (Daniels, 2010). However, in order to tap-in on the existing resources from the University of Stellenbosch and University of Cape Town, the Cape Higher Education Consortium (CHEC) proposed to the minister the establishment of a regional common teaching platform (CTP) to foster collaboration in teaching and training of the nurses jointly by all the universities in the Province. The CTP was given the go-ahead in 2006, with the following aims:

- To address a deficit of approximately 1000 nurses of all categories in the province;
- To improve undergraduate nursing training through sharing of expertise between partners' institutions;
- To create a more diverse and dynamic student body, as stipulated in the national higher education transformation agenda; and
- To reduce nursing education and training costs by improving efficiency through elimination of task duplication.

The concept of cost-benefit analysis

The concept of cost-benefit analysis (CBA) was introduced by Jules Dupuit in 1930. CBAs offer a systematic process for calculating and comparing the costs and benefits of a project. It identifies which among many programmes or interventions provides the most benefits at the lowest monetary cost, and therefore facilitates resource allocation in favour of those policies offering the highest rate of return (Jimenez & Patrinos, 2008). According to the Australian Government Civil Aviation Safety Authority (2007) costs and benefits can be expressed in both monetary and non-monetary terms. Ex-ante, ex-post and Medias Res are the three categories of CBA (Vleugel & Bos, 2008); Medias Res is usually conducted during the course of a project, and informs decision makers whether the policy option is beneficial or not, and if it is worthy of being continued.

Problem statement

Following implementation of the CTP over a period of eight (8) years, undergraduate nursing enrolment in the designated university as the sole enrolling HEI increased from below 300 in 2004 to over 1000 students from 2008 onwards. The collaborating sister institutions also at various times expressed concern about the costs, effort and outcomes expected from the CTP. After years of implementing the educational reforms in South Africa, efforts are also now being made to look at the benefits versus the costs of decisions like the mergers of universities and programmes across the HEIs in the country. The cost and benefits of the CTP for the nursing programme have not been assessed since implementation in the Western Cape. This study therefore forms part of the obligations of providing information on the effectiveness, impact, cost and benefits of the increased enrolment of nursing students at the enrolling HEI, and implementation through the CTP.

The purpose of this study was to assess the cost versus the benefits derived from the CTP collaboration among partners in offering the undergraduate nursing programme at a university in the Western Cape. Specifically, the study was designed to:

1. Establish the costs and benefits of the undergraduate nursing programme prior to the introduction of the current CTP;
2. Determine the costs and benefits of the current CTP for the undergraduate nursing programme at the university in the Western Cape; and
3. Compare the current costs and benefits of the CTP with the previous teaching platform (PTP) for the undergraduate nursing programmes at the university.

Methodology

This study explores both monetary and non-monetary costs and benefits accruing to the universities in the course of implementation of the CTP. Our costs and benefits study boundaries are the partners' institutions and not society as a whole. Time, context and stakeholders were considered when defining the study boundaries, which were also guided by the CTP objectives.

For the purposes of the present study aspects of analysis modelling strategies are borrowed, modified and applied to CBA. Monetary CBA uses the resource cost modelling (RCM) model of White et al. (2005) (Figure 1).

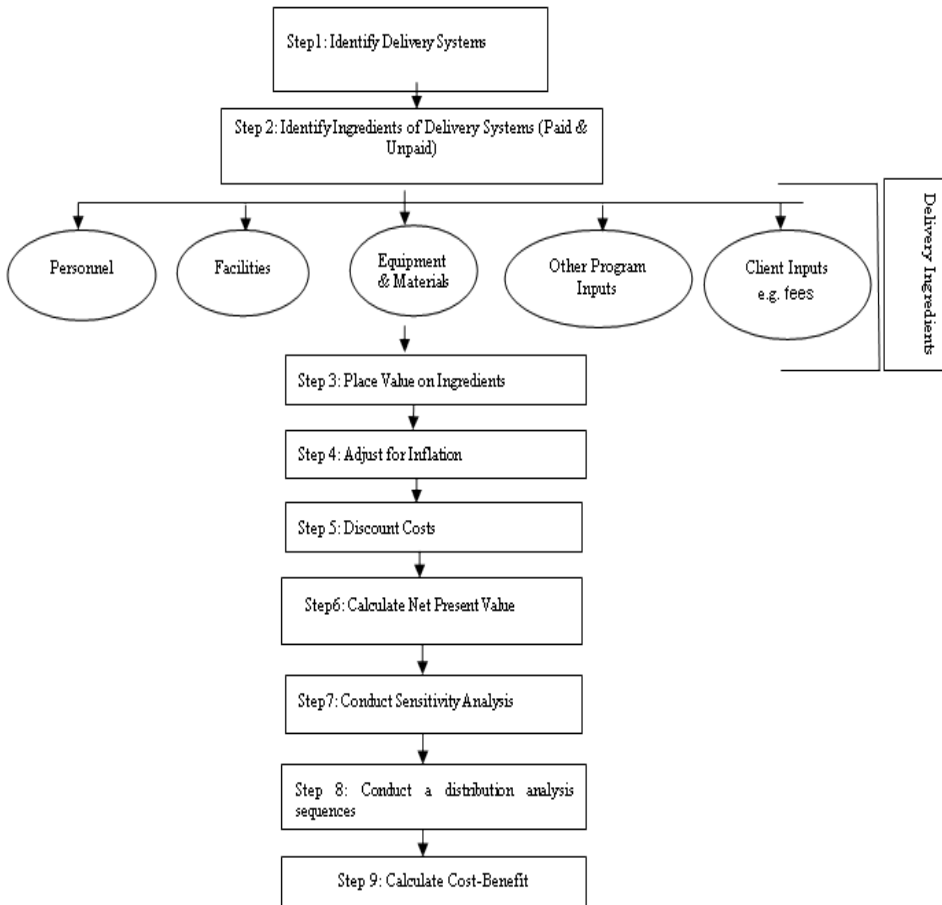


Figure 1: The RCM approach (White et al., 2005).

RCM provided a methodological approach to disaggregate and list all delivery systems that make up each of the platforms under consideration, to determine the resources used by each of the identified delivery systems and assign monetary values to each of these to determine specific programme costs. Lastly, it enables cost projections and simulations as well as cost analysis.

Respondents' provided their views on the sustainability of the CTP, graduate quality, implications for the Western Cape Provincial Government, the CTP implementation decision-making process and its implications, teaching quality, resources adequacy, and efficiency. Lastly all unexpected themes which emerged during interviews and desk review were captured.

The nature of the CBA question determined the form of the analysis, this being a comparative CBA between two delivery models: CTP versus the PTP. Document reviews, interviews with personnel or observations of the interventions are the sole methods of identification of costs and benefits (McEwan, 2012). Only document reviews and personnel interviews were used in determining both non-monetary and monetary costs.

Target population

The study units of observation were the immediate beneficiaries of the intervention, such as students and staff, both from the CTP and PTP, such as School of Nursing (SoN) lecturers, SoN management, the administrator and Western Cape Provincial Government. CTP and PTP documents such as the Memorandum of Understanding (MoU), progress reports and other published studies formed part of our units of observation and sources of evidence. Downstream beneficiaries such as households, communities and any other likely beneficiaries were not included. All key stakeholders in this programme constituted the target population in this study. These included the senior executives of the universities, the deans and head of nursing schools or departments in the three collaborating universities, the lecturers, the nursing students and the provincial nursing services directly involved in nursing planning in the province.

Sample

A purposive sampling method was utilised. The study sample includes all of the vice-chancellors or academic deputies or their representatives, current deans of respective faculties and heads of SoNs from the three collaborating universities who served in both platforms (current CTP and PTP). Sample size for the lecturers and students was determined on a data saturation basis.

Data collection methods

The data collection process used a variety of methods and relevant instruments namely:

1. Desk reviews, as one of the critical stages of CBA to enable both previous and current teaching platform operations costs to be extracted from collaborating universities, using a checklist.
2. In-depth individual interviews were conducted to collect information from several stakeholders. This primarily related to what the participants thought or felt about the cost and benefits of the programme (Hussey & Hussey, 1997). Interview guides were used for this purpose.

6 *Adejumo and Titi*

3. Focus group discussions (FGDs) were used to explore the perceived costs and benefits with teachers and students until data were saturated. FGD guides were used.

Desk reviews

Desk reviews formed a critical stage of the CBA. The following documents were reviewed: Council for Higher Education: The integrated planning framework and MoU (nursing), 2006; A practical approach to systemic collaboration in Western Cape education (discussion paper), 2002; Minutes of the special trustees meeting on nursing – 2003; Minutes for the B.Cur. CHEC management meeting – 2006; Multilateral MoU between Western Cape Department of Health and the HEIs in the Western Cape; 2004 nursing undergraduate demographics; copy of nursing personnel costs; copy of registration, 2005-2012; copy of nursing students' statistics from 1999 to 2012; copy of CTP payments to non-enrolling partners (NEP) in the CTP; nursing personnel costs, 2004-2013; fee payments to partner institutions; subsidy payments to the enrolling institution for CTP; and operational costs of the non-enrolling institutions towards the CTP.

Quantitative data for monetary costs were sourced through the enrolling institution procurement officer, who provided all the monetary data involved in the CTP. The partner institutions were also requested to provide data for their own costs; only one partner university responded with their operational costs. A CBA consultant was employed by this project to facilitate data collection and analysis of the findings. The consultant assisted with the identification, collection and analysis of the data. The monetary data were regularly verified by the enrolling institution's finance and procurement officers.

In-depth interview guides

In-depth interviews were used to collect data from participants in order to find out "what they do, think or feel" (Hussey & Hussey, 1997). In-depth interviews were held with all the heads of SoNs from the three collaborating universities, the registrar and the representative of the Department of Health.

Focus Group Discussions (FGDs) were held with current students, three FGDs with lecturers teaching in the CTP, and one FGD with students from the PTP.

Ethical issues

Project registration and ethics approval by the university were strictly followed. All participants were requested to provide signed informed consent before participation. Permission to use records was requested from the gate-keepers for the records. Participation was voluntary, with assurance of anonymity and

confidentiality of individual or group sources of information. Names of individuals were not linked to specific information provided, and the participants reserved the right to withdraw from the process of the study at any point in time without any form of penalty, before, during and even after the data were collected, before the final report of the study. One participant exercised this right and withdrew from the study after having perused the transcribed FGD, without any consequence. Confidentiality and privacy of students was particularly closely observed and no comments have put students at any risk and are not traceable to them. Permission of participants was sought and approval received before any form of audio interview, and all taped materials will be kept for a period of at least 3 years, accessible only to the researchers before they are finally destroyed.

Data analysis

Monetary benefit, in this study, was defined as a gain by partners resulting from a policy decision and monetary costs as monetised input used to implement the policy. In monetary costs and benefits the study focused on examining direct benefits and costs. Direct costs include costs for such things as personnel, facilities, equipment and material, and administration. In the monetary CBA the study borrowed and used White et al.'s (2005) framework for CBA of an education programme. Our sources of data were programme operating costs reports.

Monetary costs analysis

Two different approaches were used to analyse the benefits and costs of the CPT and PTP. The first was based on the current teaching platform operation costs, and the second on the previous teaching historical operating data to forecast what the current costs and benefits of the PTP could have been. Current and case-based ingredient costs were extracted from historical data, followed by data cleaning. Marginal or incremental costs and benefits of a policy were captured. Cost and benefits were categorised, with subsequent monetising of the programme benefits from 2006 to 2012 in Rand value for every major output or benefit, followed by quantification of cost, discounting costs and benefits to obtain present values for the whole project.

Non-monetary analysis

Qualitative data analysis procedures were used to examine non-monetary costs and benefits. According to Patton (2002) qualitative analysis is the process of transforming data into findings. Only guidance exists, but no formula or recipe for transforming the data. According to Maykut and Morehouse (2001) the process of qualitative data analysis takes many forms, but is fundamentally a

non-mathematical analytical procedure that involves examining the meaning of people's words and actions, findings being inductively derived from these data. The cyclical approach as described in Figure 2 was followed.

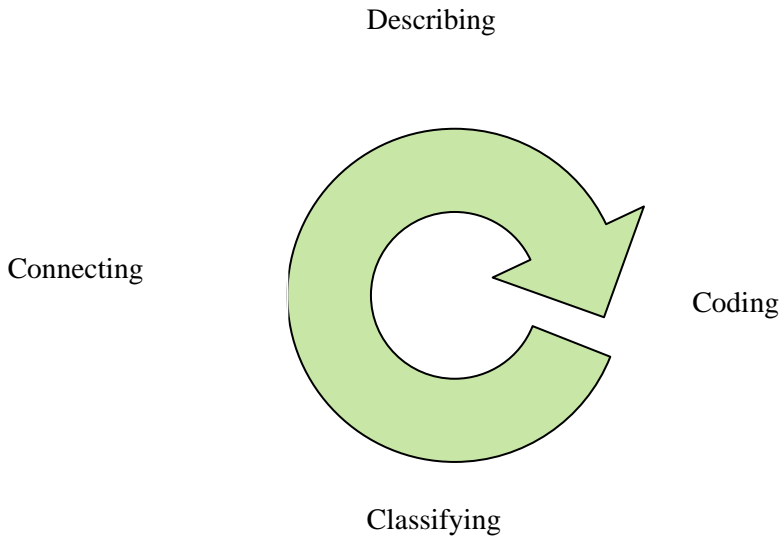


Figure 2: Qualitative data analysis: cyclical approach.

The interviews and FGDs were transcribed and coded after every session. The transcriptions were analysed via Atlas.ti and the team cross-checked each thematic analysis for validity. This approach started with transcribing interview records and thorough reading followed by coding. Coding involves labelling of key segments of the data collected (Paton, 2002). The labelling was guided by the evaluation questions. Codes were then classified into higher-level categories. These categories became the conceptual foundation for the interpretation and explanation of data. Coding was necessary to create order from the mass of confusing and unrelated accounts. Connecting involved identifying associations between the different categories of codes. The process is cyclical because it involves breaking down the data and reassembling it to evaluate questions that the data needed to address. We used computer-assisted software such as Atlas.ti to facilitate the storage, searching, coding, retrieval, comparing and linking of the data, while evaluators carried out the analysis. Connected codes were described, interpreted and triangulated, then reported.

Results

The analysis focused on both platforms' financial expenditure reports to get insight into monetary costs and benefits. An examination of qualitative costs and

benefits using qualitative data collected using interviews, FGDs and desk reviews was implemented. Table 1 indicates the distribution of students registered under the CTP from 2007 to 2012. From the Table it is noted that the CTP has two groups of undergraduate nursing students: the first group is B.Cur with a foundation year (Preliminary year) to make the programme 5 years long, and the second group is B.Cur programme of 4 years duration.

Table 1: CTP total enrolment, 2007–2012

Qualification	2007	2008	2009	2010	2011	2012
B.Cur. (Prelim.)		9				
B.Cur. I (of 5 yrs)		52	125	51	50	56
B.Cur. II (of 5 yrs)		16	29	89	53	52
B.Cur. III (of 5 yrs)			1	42	99	69
B.Cur. IV (of 5 yrs)				5	14	52
B.Cur. V (of 5 yrs)			1		3	11
B.Cur. I	308	310	258	195	304	258
B.Cur. II	264	299	330	253	203	215
B.Cur. III	248	195	226	254	173	136
B.Cur. IV	192	223	170	213	241	155
Total	1012	1104	1140	1102	1140	1004

Data Source: UWC Academic Planning office 2013.

Table 2: Number of students and modules taught by NEP

Module code	Institution	2012	2011	2010	2009	2008	2007
CUR214	NEP1	257	251	251	251	269	218
CUR334	NEP2	91	163	163	163	175	246
CUR336	NEP2	89	92	130	116	0	0
NRS421	NEP2	175	196	196	196	210	0
NRS423	NEP2	161	244	214	170	0	0

Data Source: UWC Academic Planning office 2013.

Table 2 shows the number of students and the courses taught by external partners (NEP). CUR214 is taught by NEP1 whereas NEP2 teaches CUR334, CUR336, NRS421 and NRS423. CUR334 and CUR336 is the same module but has different codes because it is taught in two different semesters.

10 *Adejumo and Titi*

There are two types of payments made by Enrolling Institution to the partners. The first is delivered as fees per students and; the second is delivered from the money Enrolling Institution receives from the government subsidy. Table 3 presents the fees paid by the enrolling institution for each student taught by NEP. The data were extracted from the enrolling institution’s operating costs report.

Table 3: Fee per student (R) paid by enrolling institution to NEP, 2007–2013

Module code	Inst	2012	2011	2010	2009	2008	2007
CUR214	NEP1	5,498.41	4,948.57	4,453.71	4,008.34	3,607.51	3,246.76
CUR334	NEP2	5,498.41	4,948.57	4,453.71	4,008.34	3,607.51	3,246.76
CUR336	NEP2	5,498.41	4,948.57	4,453.71	4,008.34	3,607.51	3,246.76
NRS421	NEP2	5,498.41	4,948.57	4,453.71	4,008.34	3,607.51	3,246.76
NRS423	NEP2	5,498.41	4,948.57	4,453.71	4,008.34	3,607.51	3,246.76

Source: Data extracted from enrolling institution’s operating costs reports.

Table 4 shows the subsidies paid by the enrolling institution for each student taught by NEP. The data were extracted from the enrolling institution’s operating costs record.

Table 4: Subsidy (R) paid to NEP1 and NEP2 per student, 2007-2012

Module code	Inst.	2012	2011	2010	2009	2008	2007	2006
CUR214	NEP1	1710.00	1539.00	1385.1	1246.59	1121.93	1009.74	0.00
CUR334	NEP2	2400.03	2160.03	1944.03	1749.63	1574.67	1417.20	0.00
CUR336	NEP2	2400.03	2160.03	1944.03	1749.63	0.00	0.00	0.00
NRS421	NEP2	3210.00	2889.00	2600.1	2340.09	2106.891	0.00	0.00
NRS423	NEP2	3210.00	2889.00	2600.1	2340.09	0.00	0.00	0.00

Source: Data extracted from enrolling institution’s operating costs reports.

Table 5 and Figure 3 indicate fee payments made by the enrolling institution to NEPs from 2007 to 2012. From year 2007 to 2012 a total of R20,637,736.27 was paid to NEP. Of the total amount NEP2 received R14,180,366.62 whereas NEP1 received R6,457,369.65. Figure 3 was derived by multiplying the fee per student and total number of students taught. Fee per student and total number of students taught are derived from Tables 2 and 3.

Table 5: Total fee distribution (R) made by enrolling institution to NEP 2007–2012

Module code	Inst.	2012	2011	2010	2009	2008	2007
CUR214	NEP1	1,413,091.37	1,242,090.82	1,117,881.74	1,006,093.56	970,419.33	707,792.83
CUR334	NEP2	500,355.31	806,616.75	725,955.07	653,359.57	631,313.69	798,702.01
CUR336	NEP2	489,358.49	455,268.35	578,982.57	464,967.54	0.00	0.00
NRS421	NEP2	962,221.75	969,919.52	872,927.57	785,634.81	757,576.43	0.00
NRS423	NEP2	885,244.01	1,207,450.84	953,094.39	681,417.95	0.00	0.00

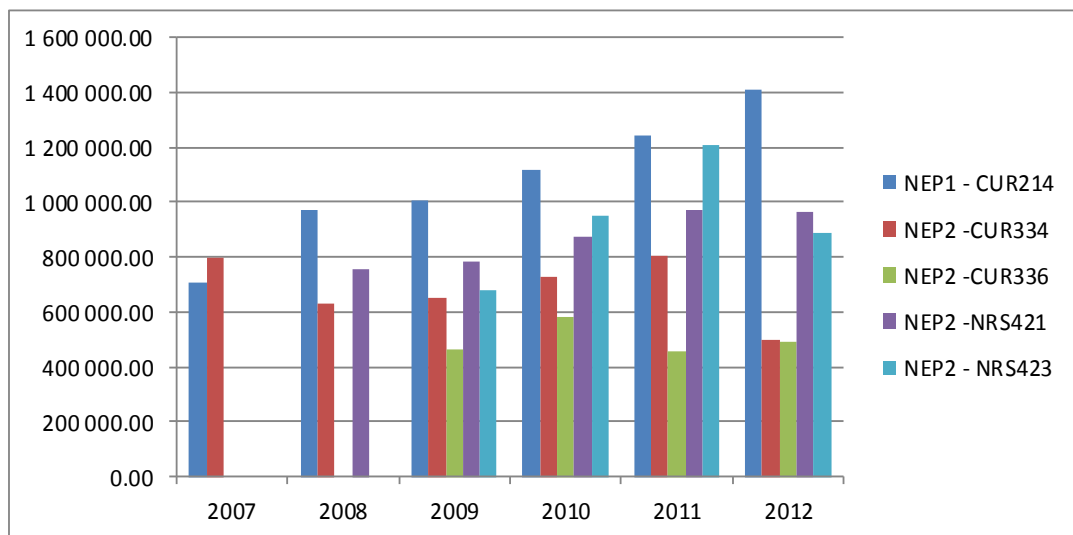


Figure 3: Fee paid (R) by enrolling institution to NEP.

Source: Data extracted from enrolling institution’s operating costs reports.

Table 6 and Figure 4 present the subsidy paid by the enrolling institution to NEP from 2007 to 2012, with a total of R9,464,034.72 paid. Of the total amount NEP2 received R7,343,775.72 and NEP1 received R2,120,259.00. This figure is delivered by multiplying the subsidy per student by the total number of students taught. The total subsidy is an overall subsidy paid to NEP by the enrolling Institution from 2007-2012; subsidy per student and total number of students taught are derived from Tables 2 and 4.

Table 6: Total and annual subsidy (R) paid to NEP.

Module code	Inst.	2012	2011	2010	2009	2008	2007
CUR214	NEP1	439,470	386,289	386,289	386,289	301,799.17	220,123.32
CUR334	NEP2	218,402.73	352,084.89	316,876.89	285,189.69	275,567.25	308,949.6
CUR336	NEP2	213,602.67	198,722.76	252,723.9	202,957.08	0.00	0.00
NRS421	NEP2	561,750	566,244	509,619.6	458,657.64	442,447.11	0.00
NRS423	NEP2	516,810	704,916	556,421.4	397,815.3	0.00	0.00

Source: Data extracted from enrolling institution’s operating costs reports.

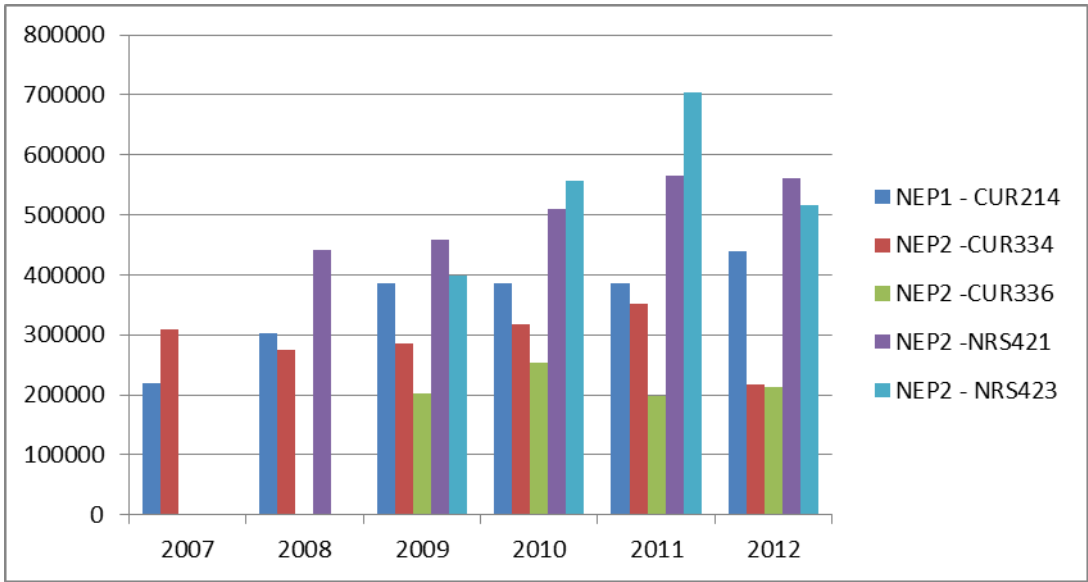


Figure 4: Subsidy payment (R) made by enrolling institution to NEP.

Source: Data extracted from enrolling institution’s operating costs reports

Table 7: Different platforms (enrolling institution, CTP and PTP) total cost and distribution (R), 2007-2012

Year	CTP	Enrolling institution	NEP2	Enrolling institution + NEP2 = PTP
2007	8,065,768.01	5,148,678.80	2,592,456.45	7,741,135.25
2008	9,690,746.58	5,715,033.47	2,85,1702.10	8,560,755.57
2009	16,759,577.54	6,286,536.81	3,136,872.30	9,423409.11
2010	16,965,551.61	6,915,190.50	3,450,559.53	10,365,750.03
2011	22,672547.34	7,606,709.55	3,795,615.49	11,402,325.04
2012	19,147175.62	8,367,380.51	4,175,177.04	12,542,557.55
2007–2012 Total cost	93,301,366.70	40,039,529.64	10,365,750.03	60,035,932.55

Table 7 and Figure 5 present the cost distributions for the enrolling institution (as the only undergraduate nursing enrolling and teaching institution in the Western Cape), CTP and PTP (enrolling institution and NEP2). PTP costs were derived from enrolling institution and NEP2 operating costs (when the two institutions were offering nursing degrees independently). The study used the 2006 enrolling institution (R2,813,958.80) and NEP2 (R2,592,456.45) costs as baseline operating costs. These baseline costs were adjusted to 10% inflation over the period of six years (2007–2012). CTP cost is derived from the CTP expenditure report. From 2007 to 2013 the CTP cost stood at R93,301,366.70, with forecast PTP (enrolling institution and NEP2) standing at R60,035,932.55 – the cheapest being the enrolling institution at R40, 039,529.64. In 2007 both the CTP and PTP posted roughly similar operating costs. From 2008 the cost of the CTP increased dramatically and reached its peak in 2011.

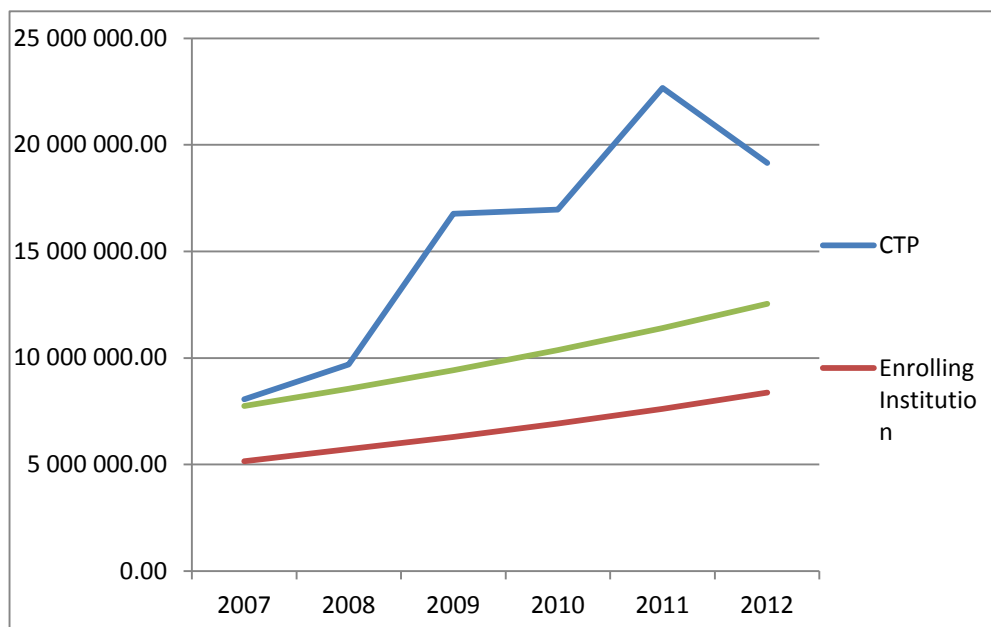


Figure 5: Demonstration of the projected cost distribution for CTP, enrolling institution and the PTP (R), 2007-2012.

Table 8: Average cost (R) per student, 2007–2012

Year	CTP	Enrolling institution	NEP2	Enrolling Institution + NEP2 = PTP
2007	7,970.13	5,087.63	8,970.44	7,029.04
2008	8,777.85	5,176.66	9,867.48	7,522.07
2009	14,701.38	5,514.51	10,854.23	8,184.37
2010	15,395.24	6,275.13	11,939.65	9,107.39
2011	19,888.20	6,672.55	13,133.62	9,903.09
2012	19,070.89	8,334.04	14,446.97	11,390.51

Table 8 and Figure 6 present the CTP, enrolling institution, NEP2 and PTP average cost distribution per student. CTP refers to the model whereby the enrolling institution is the only enrolling institution but the teaching is conducted in collaboration with NEP. The enrolling institution column shows operating costs in a case scenario where the enrolling institution remained the only enrolling and teaching institution in the Western Cape. The PTP column shows average operating costs of the PTP (NEP2 and enrolling institution independently offer undergraduate nursing degrees). The average cost is attained by dividing the total costs by number of students in a particular year. PTP average cost is derived from enrolling institution and NEP2 average costs. For the CTP the average cost per student escalated from R7,970.13 in year 2007 to R19,070.89 in 2012. If the enrolling institution remained the only enrolling institution and teaching institution, the estimated average costs could have remained relatively the lowest at R5,087.63 in year 2007 and R8,334.04 in 2012.

The PTP’s average cost per student remains much lower than the CTP, but not as low as the enrolling institution. These findings conclude that the enrolling institution is the most desirable alternative, as compared to the PTP and CTP.

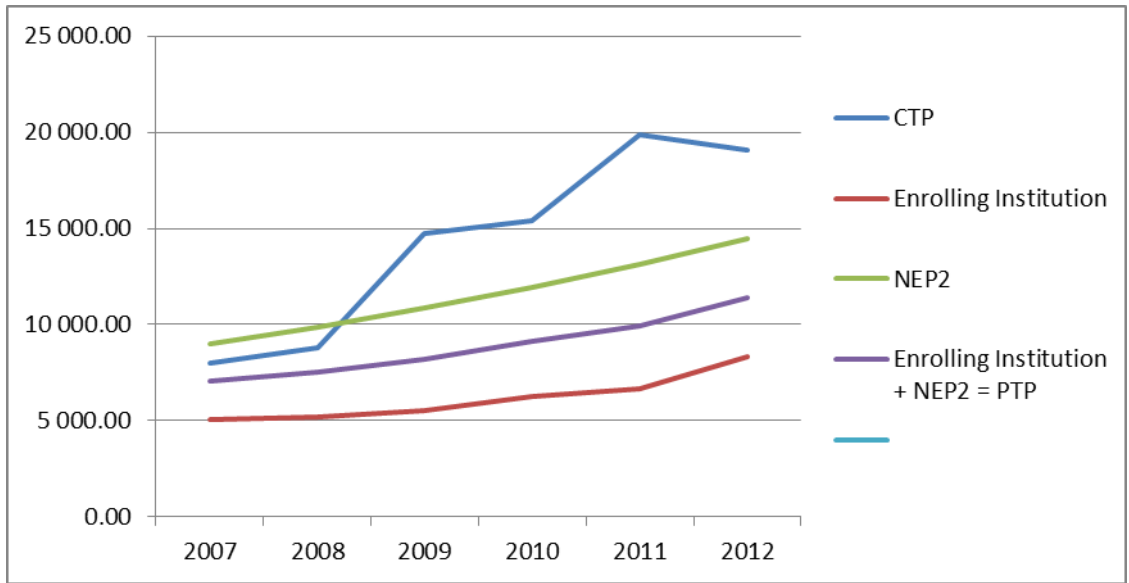


Figure 6: Computed CTP, enrolling institution, NEP2 and PTP average costs distribution per student (R).

Non-monetary costs

In this section we report on non-monetary costs attached to the nursing CTP according to staff and students involved in the CTP. Although the nursing CTP was mandated, there were discussions and deliberations about how this would run. These discussions and deliberations formed expectations about the operations – that is, a belief that something will happen or is likely to happen, or a feeling or belief about how successful the collaboration was. These expectations fed into the running of the CTP and the morale of the teaching staff, and were expressed in relation to increased enrolment, the sharing of resources, diversity in student population and increased enrolment. It was also notable that although participants understood the CTP differently, they all defined and explained it similarly.

CTP not the reason for increased enrolment

Participants interviewed were of the opinion that the CTP may not be linked to the large size of classes from the increased enrolment that accompanied it: “.... I’ll say probably, yes because that was the whole idea. Enrolling institution was training less than 50 students when I came to the Western Cape, now it’s training

more than that. That's a direct answer. But even a blind man can see that one. ... it doesn't say that that increase is happening just because of this CTP. That increase would have still happened. If one said UWC 100, CPUT 100, Stellenbosch 100, UCT [University of Cape Town] 100...it would still be the same. So the CTP does not do anything about increase as such. It's not like we're saying we introduced this to increase the nurses. It's either the same ... if all were given the same amount." (NEP1 lecturer participant 1)

Sharing of resources and expertise

The CTP was mainly introduced so that universities could share expertise, meaning that the best teachers in the profession would come to the enrolling institution and offer modules. However, it did not turn out that way from the perspective of both the students and the lecturers:

"Well this lecturer, in my opinion, I'm sorry if I offend anybody but in my opinion you can't teach in this medium if you do not have experience in this medium. This lecturer teaches a subject. I don't want to say the lecturer's name. And one day I asked him what experience he has in the field and he said that he does not have experience in the field practically. So I was quite upset because I'm going to work in that field someday. So I got my end of year results back. And I did very badly in the subject for some reason." (Student participant 5).

"... The idea according to CHEC was that each institution should bring its expertise to the collaboration. However, I doubt whether that was achieved. Unit management was meant to be presented by the partner institution and there is supposed to be a practical component. This no longer exists, which means that the student now has no clue how to manage a ward. Partner institutions make changes as they wish to make it easier for themselves." (Enrolling institution lecturer participant 2, p. 2).

From this we can see that the expectation of receiving certain expertise from partner institutions was not achieved. On the other hand, partner institutions seemed unsure about the extent to which they should share their expertise:

"My experience was you have your expertise and you want to share. At the end there was a restriction to what you can share, for instance we have our own study guides. How far can we give our property to another university? You see? What can we give and what can't we, you know?" (NEP2 lecturer participant 1). The expectation of receiving expertise from partner institutions is thus not met.

Failed accomplishment of CTP objectives

The objectives of the CTP included filling the shortage of nurses in the province and well as addressing the racial divide in HEIs in the Western Cape. The following quote captures these two most important objectives of the CTP:

“I want to bring another issue as it was understood at this time that there was a nurse shortage in the province. How this shortage was understood is also questionable because the shortage of a thousand nurses was across all categories. Currently, according to the province, we are over-producing nurses. There was also an expectation that we would draw students from diverse backgrounds but our student population does not reflect that.” (Enrolling institution lecturer participant 2, p. 3). This sentiment and observation was shared by the management representative of a partner institution:

“I said at that time that we are not going to draw students as we would like to. If you are a white person and you were part of the struggle like Ruth First, those people will probably enroll their children at the enrolling institution, but you aren’t all suddenly going to get other colours to go to enrolling institution. It’s the same as Zululand University, you’re not suddenly going to have it. They are looking at race, how many blacks, coloureds or whites are being produced, and that’s the reality that we’re facing, and I say it should be all South Africans. At the end of the day they don’t have to look at colour, but the reality is that everyone does not think the way I am thinking.” (Management participant 1)
Others indicated that they had no expectations of the CTP:

“I didn’t have expectations because it wasn’t something that was put forward and consulted as such, because it was imposed. You can’t have expectations on something that’s imposed on you. Rather you say ‘Okay you are imposing this on me, what do you expect of me?’ ... So there was this understanding that you would all be working together to produce this kind of nurse. There was that kind of excitement about being involved in producing the nurse that you want to see, which for me was better because I was involved in developing that curriculum. That’s not even an expectation, it’s more like working with what was imposed on you but making the best of it. ... It was at that time when we looked at the financial model, it looked like it would provide some financial benefit to the offering university ... there is nothing that comes to the Division, but there is something that I know comes to the university...” (Lecturer participant 2)

A lot can be interpreted from this comment, but what stands out is the determination to deliver what is expected by the Department of Education despite the challenges involved.

The 'visitor' effect

The issue of access to resources, i.e. email and mark-uploading systems, and access to premises was one of the most critical points of discussion. For a long time until recently (mid-2013) lecturers of partner institutions did not have consultation rooms where they could meet with students. This issue frustrated both staff and students as it translated into the course delivery to the students, who are the most important parties in the CTP:

“I think for me it starts from the entrance, when I enter enrolling institution. If the gates are open I can just drive through. I’ve been there since 2006 and I am still a visitor. So I must ask the security guard to open the gate. I don’t have an access card. I feel we are on the peripheries. Don’t we teach? Don’t we play such an important role in the academic development of the students? Yet we’re pretty much still on the periphery. I think because we work together, a lot of our work is consistent...” (academic participant 2)

“Adding to that from the perspective of the student, for instance previously fourth-year students went to the University of Stellenbosch [US] to the Tygerberg Campus for lectures in Research Methods and Gender-based violence. For students to get into the US premises it was a whole process ... and the students were not treated well as they were treated as though they did not belong. It took lots of correspondence for students to gain entry. They were treated as visitors, as if they did not belong there.” (Academic participant 4)

From the onset one would ask the question, ‘Were these logistics not preplanned, agreed to and fit into the agendas of all the universities involved’, because this same issue was a factor at the enrolling institution. A lecturer from a partner institution commented as follows:

“...We consult with students in the venue ... in the car ... under a tree. This is not a joke. When the lecture is finished ... between 1 and 4 ... we are still available and we are there to consult.” (academic participant 2)

Naturally, teaching affected both the lecturers and students, causing frustration for both parties:

“You immediately know which lecturer he is talking about. If offices were at Groote Schuur, he would say that he has an open-door policy but you must come to Groote Schuur, and that is not showing access.” (Student participant 7)

“A very recent response from students would be that they see the lecturers from other institutions as guest lecturers.” (Academic participant 5)

“Lecturers from other institutions should start by having offices around here. I don’t know how that is going to be possible. I have noticed that third-year lecturers have offices around here. They spend a day and it’s not enough. If I have missed her that day, then I will only see her next week again.” (Student participant 1)

The CTP is too costly and labour-intensive

Respondents generally believed that the CTP has increased enrolment for the enrolling institution; that money spent on paying the partner institutions in the CTP can be used by the enrolling institution to employ full-time lecturers, since the partner institution employs contract staff; and that the CTP involves a lot of administrative work, that inevitably falls back upon the enrolling institution. Having considered this, it seems that the CTP is too expensive in all ways. This is illustrated in the comments below:

“At that time in 2005, enrolling institution got the mandate to be the only enrolling university of undergraduate nurses in the province. My memory of that particular time is that because we were moving from 100 students to 300, we had a shortage of staff to manage all the students, and the decision was that some of the modules be presented by (NEP1) and (NEP2). Due to the lack of capacity the decision was that there must be a partnership with other institutions, and that came at a great cost because of the cost we are paying to (NEP1) and (NEP2) to teach those modules. I believe that money could have been used to put permanent staff at the enrolling institution and perhaps benefit the enrolling institution to have more resources, instead of paying that large amount of money to other universities.” (Management participant 1)

“From where I am sitting at the moment in terms of acting management, the amount of money I am signing off to be paid to partner institutions I think could be better utilised at enrolling institution for own use. We could have contracted or hired the staff, which could have worked out cheaper instead of paying that kind of money to other institutions.” (Management participant 2)

The views expressed in the above quotation spell out two clear views: the CTP is taking up a lot of time and it costs the enrolling institution too much money on resources that they have and can manage on their own. The administration and preparation of lectures involved does what the CTP objectives did not want – which is bring in replication. Now, instead of replication of modules or teaching, the replication is in terms of coordination and administration:

“... for example, Stellenbosch offers certain courses and then the marks are late ... delay of marks submission is a result of different operational frameworks of partner institutions.” (Enrolling institution academic, p. 4)

“I want to agree with the previous speakers, especially with the amount of time we had to spend on administration and the delay due to the marks not being received on time. Then more staff become involved, which is unnecessary as the mark submission could have been managed by the original person responsible for it.” (Enrolling institution lecturer participant 3, p. 2)

“The challenges continue as the people from outside institutions do not have access to our mark admin system and we have to administrate marks from other institutions. I see them as guest lecturers as they only come in and lecture and set up exam papers. It affects the students as we are overloaded by admin and we have to deal with all the queries and mark adjustments. In terms of quality assessments, the other universities hold up our entire process. These are access to our online platforms and more. And these discussions are ongoing.” (Graduate nurse participant 1, p. 6)

All of the above quotations speak to the unnecessary and unpleasant administration that is involved in the CTP, which takes up a lot of time that could be saved if there was one clear system.

The CTP does not have equal social representation

Among the goals of the CTP was to bring racial balance in nursing education and training. Be that as it may, participants are of the opinion that the CTP did not achieve racial diversity as envisaged in the MoU, and it further forced students to identify with one social group:

“Yes and no. I think that every university still has their ethos. Stellenbosch has the white Afrikaans student and UCT has the English white student. And enrolling institution has everyone else [*participants laughing*] and me being like an English white person is in the minority, but I’m not treated as a minority. Which is fine, but you’ve got to note people’s differences. For instance, when we do case studies it’s always so and so lives in a shack. She doesn’t have any running water and has to walk 10 miles to get to the nearest clinic. So you are not equally represented. That is not equally spreading what you are meant to know. None of us will know how it is to work in the private sector where there is a completely different set of issues you deal with. But you are just told how it is to work in the community where they are so poor that they can’t even buy a loaf of bread.” (Student participant 7)

On the nursing transformation agenda a management representative responded as follows:

“The numbers dropped and the preference of people to go and register at a certain university and sometimes they want to go into a specific course in health,

20 *Adejumo and Titi*

okay, but then they would rather go to UCT, for example. They changed their decision to be a nurse as they were forced to go to the enrolling institution.” (lecturer participant 2)

“No. We didn’t achieve that goal, that’s why I started off to say we didn’t get there. It’s difficult to change people’s minds suddenly.” (Academic participant 12)

An issue which arose was around staff preparedness to deal with diverse students, where white students felt victimised because of their race in class:

“Just as an example, to sum up his attitude, he told me he doesn’t like white people. [*participants laugh*] I’m far from being a racist. There are three white people in the class.” (Student participant 7)

“To my face. And if I said something, he would say ‘Blonde just keep quiet’.” (Student participant 7)

Non-monetary benefits

In this section we discuss the benefits attached to the CTP across all of the collaborating universities. The benefits associated with the CTP were not expressed in terms of the enrolling institution alone but across all of the partnering institutions. Respondents from NEP1 spoke fondly about the student experience and how fulfilling it was to be able to teach and positively impact students. What was striking for the University of Stellenbosch was the cultural diversity and the opportunity to market their institution. The students also spoke fondly about how enriching it is for them to have different universities involved in their training. Although quantitative data are presented in Table 9 on racial diversity in the CTP compared to the PTP, it is presented to demonstrate one of the benefits of the CTP.

Benefits of the CTP on student racial diversity

Among the goals of the CTP was to bring about racial balance in nursing education and training. Participants are of the opinion that the CTP didn’t achieve racial diversity as envisaged in the MoU. Respondents gave different reasons as to why the goal was not achieved. For example, lecturers and the enrolling institution leadership felt that the failure resulted from the historical background of the enrolling institution. They pointed out that the enrolling institution was never the first choice of academically good students until recently. Others explained that all over the world brighter and academically prepared students choose where they want to study. Students had different views around the enrolling institution not being popular with other ethnic groups, and that mostly the institution focuses its recruitment on the previously

disadvantaged community with no efforts undertaken to expand its recruitment reach.

Figure 7 and Table 9 below indicate the student diversity (CTP) profile during the years 2005 through 2012. Between 2005 and 2012 there was an inadequate, gradual increase in white students and a slight decrease among coloured and Asian students.

Table 9: Student admission racial profile

Year	Coloured	African	Asian	White	Other
2007	425	581	13	27	8
2008	284	640	13	38	18
2009	364	726	9	35	16
2010	330	722	4	42	17
2011	320	754	4	52	19
2012	315	679	6	68	9

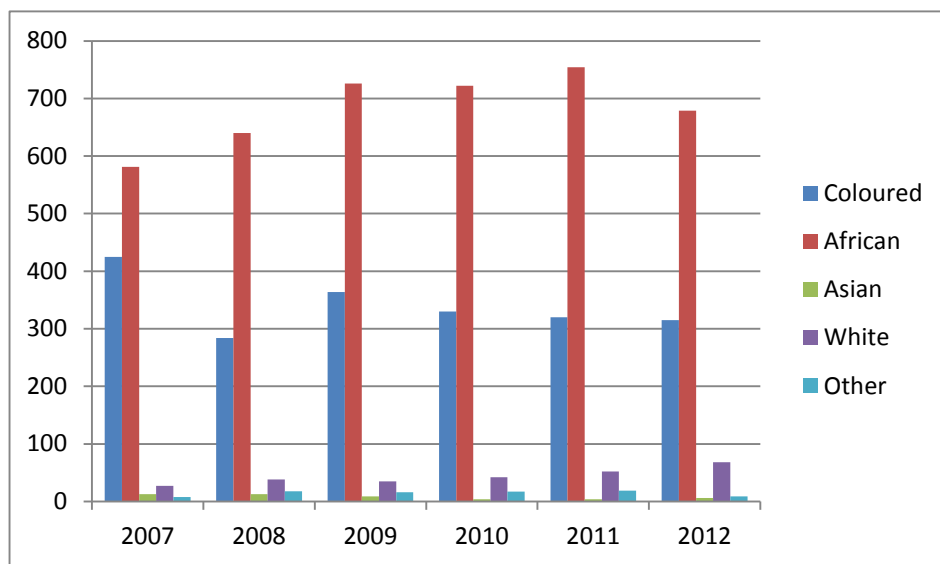


Figure 7: CTP undergraduate nursing students' racial profile.

Marketing of partner institutions' postgraduate programme and scholarship increase

Others considered the CTP as having aided in growing the postgraduate intake of their institutions and giving students who may not have naturally considered their institutions the opportunity to study there as well as being exposed to diverse cultures:

22 Adejumo and Titi

“I think that students who wanted to study at Stellenbosch then have the opportunity to come here.” (Lecturer participant 1)

“CTP is part of it. There has been an increase since 2008.” (Lecturer participant 3)

“For me it’s the diversity which I like.” (Lecturer participant 5)

A broader perspective for both student and staff

The issue of race and diverse students was a significant one. Some staff reflected and spoke in great detail about the “unmet expectation” of the CTP to draw in a more diverse student population, while others believed they experienced diversity to be positive experience of the CTP:

“But in our class when we started nursing we were 300 students and 5 in the class were white. And obviously it’s changed in the other years. But obviously we’ve moved on.” (Student participant 7, p. 9)

“I think we look beyond race. It is not a barrier anymore.” (Student participant 2, p. 8)

“They teach you to look beyond those things from first-year level already. We look beyond that.” (Student participant 1, p. 9)

“Well it would be difficult to say and we’re all in a class and in the event of any executive decisions. It doesn’t bother you as you don’t look whether it’s a black, blue, or red person. It’s something which is not visible.” (Student participant 6, p. 9)

These excerpts show that there is a palpable experience of increase in the representation of white students among the students. Figure 7 nevertheless confirms a gradual increase in racial diversity in student enrolment.

Positioning of enrolling institution

The enrolling institution has benefitted from the CTP in that it is now placed in a strategic position as a university and is now enjoying exposure, whereas before they were not known. Because the enrolling institution is the only enrolling institution, there is now a realisation that it is a good institution, and can benefit from exposure. The following comments were made in this regard:

“... one advantage is that the CTP has placed enrolling institution at a right point” (Management participant 3)

“I enjoy the teaching and the exposure to enrolling institution as I had never been there. I never knew enrolling institution at all as I only knew it from the news and papers.” (NEP2 lecturer participant 6)

“They should push nursing. I never knew about nursing when I was at school. I attended Rhenish Girls High, English, semi-private, white school. I wanted to go to Stellenbosch, but only once I reached enrolling institution I realised that this is where I want to be, and they should say come join us, come to the party...” (Student participant 7)

Discussion

Monetary costs and benefits

The above findings indicate that the CTP total average cost per student is R14,432.45 and that of the PTP stands at R10,303.76 (refer to Table 8 and Figure 6). This indicates that the PTPI is much cheaper than the CTP, by R844.82 per student. This finding is subject to all of the conditions, such number of students enrolled and expenditure-related costs, being adjusted to inflation of 10%. One of the reasons for the drastic increase in CTP cost is that after the introduction of the CTP and the drastic increase in student numbers, purchase of goods and services also increased. Key evidence to support this is the calculation in Table 7 indicating that without the CTP the average cost per student from 2007–2012 could have been R7617.87.

It could be deduced from Table 8 that if the enrolling institution opted out of the CTP, but still increased the intake, the average cost could have stood at R11,148.58. As the years went by, the costs could have decreased. From these findings it may be concluded that the CTP is costly compared to the PTP as well as a scenario where the enrolling institution opted out of the CTP.

Non-monetary costs and benefits

What was immediately notable was that there was an uncommon understanding about what the CTP was meant to achieve. Most respondents immediately associated the CTP with increased enrolment. It is therefore to be expected that the expectations would not be met, as correctly identified by Daniels and Khanyile (2012), because the main purpose of collaboration was not achieved because of the lack of a common understanding of the collaboration and its purpose, readiness to collaborate and sharing of resources. On the other hand, there was the issue about how to deliver the courses, as each institution had its own ethos and approach to teaching and learning which could be conflicting and impede programme delivery, as the lecturers of partner institutions would not be forced to teach according to a particular approach that they did not necessarily

believe in. If the different institutions had different expectations of the CTP, the role-players would therefore not equally invest in it, which in turn would affect the morale of other parties. This was evident in the partner institutions opting out of clinical teaching, deferring expected duties and staff preparedness to accommodate students in terms of consultation, and the strained communication between lecturers of partner institutions and students.

In addition, the tasks of administration and logistics involved in the CTP are quite costly when measured in terms of time and money. The concept of task costs is well documented in Rice and Malen's (2003) study 'The human costs of education reform: The case of school reconstitution'. They explained that task cost is time and effort that individuals in the organisation expend to meet work demands. In this study external lecturers indicated that simple tasks such as coordinating lecture theatres takes a lot of time. Similarly, students had to spend excessive time to access external lecturers, while additional staff that were hired and not familiar with the environment had to spend time to adjust. Similarly, internal lecturers and administrators spent plenty of time to accomplish simple tasks such as accessing students' marks from external lecturers. Participants believe that the CTP is efficiency costly compared to the PTP. Respondents indicated that the CTP has led to a longer chain of decision making compared to the PTP which was a one-stop-shop as everything was addressed under one roof (department level); under the CTP simple things have to go through systems of the different institutions. This has led to consumption of time and resources which could have been dedicated to other crucial issues such as research and publication.

From the whole data collection process only three significant benefits of the CTP were noted. These were the fact that the driving force behind the lecturers is the students' welfare, the rich diverse culture that those from a partner university are experiencing, as well as the fact that the CTP provides them with a platform to market their postgraduate programmes.

On the issue of diversity, there are conflicting views between the students, lecturers and management. The students acknowledge the increase in racial diversity, whereas the lecturers are asking 'Where are the white students?'. Enrolment statistics in Table 9 however, indicate the increase in racial diversity at the enrolling institution. The concern of the minority students, however, is that the social diversity that the CTP created did not provide for inclusiveness. One student cited the example of the type of case studies given at the enrolling institution, where the focus is on the underprivileged with not much that the other groups could identify with, as South African citizens. Students feared that they were only being trained to work with non-white or the non-affluent societies.

Study limitations

This study focuses only on costs and benefits gleaned from participants from the Western Cape undergraduate nursing CTP, but not the overall CBA of the nursing CTP in other settings. It has also not taken into consideration other sources of monetary income into the universities that may be related to the undergraduate nursing programme. It has also not projected into the future what the benefits might be to the graduates and other precarious benefits or costs that may accrue to individuals, their families and the society in future.

Recommendations

In view of the findings of this study, the following recommendations are made to address address the unintended costs of the CTP.

Termination of the CTP

This is a practical recommendation from all stakeholders. Termination of the CTP implies that the enrolling institution will no longer be compelled to get assistance from the partner HEIs for the implementation of the undergraduate nursing programme. This will reduce the administrative and decision process-related costs, as well as eliminate costs paid to partner institutions for teaching services.

Review partners reimbursement strategy

The current reimbursement strategy is beneficial to external partners at the expense of the enrolling institution. External partners accrue more benefits, while the enrolling institution carries most of the responsibilities. The review of the reimbursement to partners should be based on hours or time spent on teaching. For example, clinical modules require more input and time than modules without a clinical component. Such factors were not considered in the reimbursement decision. This is evident, as it is noted that partner institutions are paid an equal amount in fees per student without considering the amount of input and time required for each module.

Create a new platform which is equally owned by all of the partners

This will involve creating an SoN owned by all partners. Students will be enrolled by all three partners and budget for nursing managed by all partners. In this model the degree certificate will indicate that a student is a graduate from all of the partner institutions. In this model all administrative functions, budgets and salaries will be centrally coordinated.

Allow interested partner institutions to offer nursing degrees

Another recommendation is for interested partner institutions to offer nursing degrees separately. By so doing, as with the PTP, this will reduce costs and the financial burden. This may imply that institutions revert back to the situation before the ministerial decision. The implication, however, is that this might have an effect on student diversity, taking us back to the pre-1994 era where one university had predominantly white students and another had predominantly black and coloured students. To address this challenge, partners or each institution will need to develop internal policies and strategies to attract students from diverse backgrounds.

Conclusion

From the overall findings it appears the respondents attribute everything negative happening to them as an outcome of CTP – that the CTP was to blame for the low publication records, poor quality of graduates, and unsatisfactory levels of communication among staff, with a very strong indication that the CTP would continue to be confused with increased enrolment and the subsequent heavy workload of staff. In utilization-focused studies it is critical to take stakeholders' recommendations into consideration. The enrolling institution highlighted that the CTP is too costly to them, and this is confirmed in the findings on operating costs. One source of the problem is the costing model used in reimbursing external partners, which is fee per student based and not output-quality oriented.

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