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Value of the Nurse Led Stoma Care Clinic

**Royal Glamorgan & Ysbyty Cwm Rhondda
Hospitals**

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Introduction

The Royal Glamorgan Hospital Stoma Care Service has been established since 1992 and since that time the development of clinical patient centred services has been its primary focus. With the establishment of this progressive nurse led service, the audit function and clinic service provision of the service has become more developed.

The Stoma Care Service is led by a CNS Stoma Care, supported by a Stoma Care Nurse and an administrator/coordinator; Monday to Friday 8.30am-4.30pm. The Stoma Care Nurses provide pre and post-operative information, stoma siting, education, support/counselling and therapeutic treatments to patients of all ages, from babies to the elderly, in hospital, community and clinic settings.

The Stoma Care Service is utilised by Consultant/ Nursing staff, GP/ District Nurse, other hospitals and allied health care professionals. It has an open access policy for new and existing stoma patients.

Living with a stoma is life-changing for the patient, relatives and carers. This change also impacts on society as a whole as it may be associated with increased absence from work due to illness/complications or need to permanent reduce working hours or stop working , all of which are significant health-economic burdens (Martins et al 2012).

The aim of the Stoma Care service is to provide continuity of care and support in order to rehabilitate the patient (and their families/carers) back to previous lifestyle or palliation. The Stoma Care Service provides two types of nurse led clinics in RGH and YCR to detect and treat problems, anxieties and complications.

The Follow Up Clinic is for the new patients to be reviewed at timely intervals; 3 weeks 2, 5, 8 and 12 months postoperatively. The Annual Review Clinic (ARC) is for the established, existing patients of over one year postoperative. The aim of both 45 minute clinic sessions is to assess patients:

- Stoma
- Peristomal skin
- Stoma Output
- Psychological status
- Social status
- Sexual Activity/Function
- Stoma appliance (surplus stock)
- Method of supplies and satisfaction of method of obtaining their supplies

The Stoma Care Department has received formal recognition for providing a high quality service to patients (Quality Initiative Awards for Service Developments) and education/training to staff members (Training Audits various 2009-2012) and is acknowledged by patients and carers as playing a vital role in providing compassionate, quality care (Patient Satisfaction Surveys 2012, 2014). The Stoma Care Nurses are valued as a key member of the Colorectal Multi-disciplinary Team,

often leading the way in effective and informed communication with patients, relatives and all the team members.

In the current economic climate Cwm Taf University Health Board (CTUHB) cannot rely solely on word of mouth commending the stoma care nurses` worth and positive effect on patient care. This report aims to present robust evidence that the Nurse Led Stoma Care Clinic is also an effective and efficient use of resources.

The report begins with a Pathway to Outcome mapping; included to articulate from the perspective of outcomes, the importance of the Nurse led Stoma Care Clinic in Royal Glamorgan Hospital (RGH) & Ysbyty Cwm Rhondda (YCR). This will be followed by the financial considerations of setting up and running the clinic and the Quality, Productivity and Prevention benefit considerations the nurse led clinic has on Patients, Stoma Care Nurses and CTUHB.

Please note all costs were originally measured in 2013, but will be expressed in 2015. Costs up-rated according to the Bank of England inflation of 2.5%, compounded annually.

Input	Activities & Outputs	Groups Targeted	Outcomes
<p>Direct</p> <ul style="list-style-type: none"> • 1x WTE Band 8a Clinical Nurse Specialist Nurse in Stoma Care* • 1x WTE Band 6 Stoma Care Nurse* • 1x18hrs Band 2 Administrator/Coordinator* • IT equipment i.e. PCs x3, Software, Database (MIME)* • Mobile phones* • Travel expenses* • Clinical Systems e.g. for test, histology results, Myrddin • Stationary • RGH – Office/ Treatment Room • YCR – Clinic Room with IT facilities • YCR – OPD receptionist • Referrals from patients &MDT e.g. Consultants, GPs, ward/OPD staff • Structured pre & post op follow up program of support & care <p>Direct Costs with an asterisk are met by Coloplast Ltd sponsorship</p> <p>Indirect</p> <ul style="list-style-type: none"> • Support Garment Fitter (Monthly; free service by SupportX) • Stock of appliances /accessories (companies provide free of charge) 	<p>Activities</p> <ul style="list-style-type: none"> • Assessment of patient physical, psychological, social and sexual needs. Develop plans of care • Provide information on living with a stoma, support networks. Impart bed news e.g. histology results. Discuss and explain treatment plans • Surveillance of patient rehabilitation to return to previous life style with monitoring tool including periodic appliance costing. Use evidence based flows to treat complications • Identify high risk patients from developing complications. • Health education/promotion e.g. diet/exercise • Counselling • Stoma care education to patients and staff • Stoma siting • Refer/signpost to other Health Professionals • Expedite OPD/investigations/Write letters to GP & other • Educating/training health professionals e.g. student nurses <p>Outputs</p> <ul style="list-style-type: none"> • Lead clinical care; providing specialist plans of care according to patients' individual needs. • Empower patients to return to previous lifestyle • Prevention of health deterioration • Clinical information to GP/MDT re progress of patients & appliance management • Partnership working with pre- assessment staff to achieve service target of 5 day length of stay 	<p>For Intervention</p> <ul style="list-style-type: none"> • Stoma Patients • Stoma patient Family <p>For Partnership</p> <ul style="list-style-type: none"> • GPs • Consultants • Dieticians • Physiotherapists • District Nurses • Colorectal Specialist Oncology Nurse/ Macmillan/ Palliative Care team • Pharmacists/ Chemists • Appliance distributing companies/ Appliance home delivery Pre –Assessment team • Student Nurses • Ward Nurses • Social Services Nursing Home Staff <p>For Delivery</p> <ul style="list-style-type: none"> • The Stoma Care Department Team 	<p>Staff Outcomes</p> <ul style="list-style-type: none"> • Autonomy of role • Enhance team working within department & MDT. • Effective service time management • Job satisfaction – quote “making a difference to patients lives” <p>Patient Outcomes</p> <ul style="list-style-type: none"> • Patients in control of stoma care management to return previous lifestyle • Receive continuity of care in a safe, supportive healing environment e.g. access to evidence based treatments .Follow up post-surgery program for one year at 2 week, 1,2,5,8,12 month & then annual review clinics • Early diagnosis and prompt treatment • Single point of specialist contact • Patient satisfaction i.e. reduced anxiety, improved quality of life, resolution of problems/concerns • Open access • Local service in two hospitals • Facilitation of Consultant appointments/hospital admissions <p>Organisational Outcomes</p> <ul style="list-style-type: none"> • Skilled knowledgeable HCPs • Clear patient pathway- no inequality of service provision • Patient driven quality service; meets targets e.g. Colorectal Guidelines, 1000 lives • Avoidance of patient contact with GP/ Consultant & referrals to District nurses • Reduce re-admission to hospital • Reduce unscheduled patient contacts • Appliance Usage reviews - reduce inappropriate use and cost of appliances/accessories

The Financial Considerations include the

1. Set Up Costs and
2. Running Costs

1. Set Up Costs consist of

- IT costs
- Facilities
- Staff Costs

IT Costs

(Source of data provided by Coloplast Ltd in 2013)

A one off payment fully funded by Coloplast Ltd to get the service up and running. The following is a breakdown of the IT equipment and training necessary for the effective management of the clinics.

<i>Equipment</i>	<i>Cost</i>
3 PCs	£1,735.50
2 monitors	£190.00
1 scanner	£240.00
Software database - MIME	
MIME Training - 4 days	£4,000.00
Total in 2013	= £6,165.50

Total expressed in 2015 value = £6,477.63

Facilities:

Indirect costs are not directly attributable to University Health Board.

Premises i.e. office space, clinic rooms and stationery provided as an in kind contribution by Cwm Taf University Health Board. The Stoma Care Department is based in the RGH which consists of an office and a designated treatment room. An existing outpatient clinic room is used In YCR.

Staff Costs

There were no specific set up costs for staff. Staff costs have always been funded by various stoma appliance companies. The Stoma Care service is an established service, which has been running in various forms for over 20 years, provided by:

- Two highly trained, experienced specialist nurses who each undertake 27% working time (10 hours) in planned clinical activity per week.
(Emergency clinic activity, administrative time e.g. making referrals, arranging products is not included).

- One administrator /coordinator who undertakes 50% working time in the organising and arranging clinic appointments and preparing GP clinic letters.

No other costs incurred as a result of setting up the service.

Running Costs

Total Running Service Costs (Appendix 1 gives a clear overview of staff costs)

Staff and travel direct running costs for the Stoma Care Clinics are paid by the Coloplast Ltd. Sponsorship, this includes:

- Staff Costs of £39,781.9
- Travel Costs of £1,074.2

Stoma Appliance Costs for use in hospital (supplier company funded and NHS purchased) £45,318.32

Total Running Costs expressed in 2015 value = £86,174.42 per year

These costs are broken down as follows:

Staff Running Costs

(Source of data provided by Coloplast Ltd 2013)

The following is a breakdown of the staff running costs for **clinic only**; paid by the Coloplast Ltd. sponsorship

Staff Establishment	WTE	Salary	%working time	Clinic Cost	22.5% on-costs for 1 year	Clinic Cost
CNS Stoma Care (8A)	1.00	£55,454	£14,972	£14,972	£3,368.70	£18,340.70
Stoma Care Nurse (6)	1.00	£40,661	£10,972	£10,972	£2,468.70	£13,440.70
Administrator/ coordinator(2)	0.5	£9,932	£4,966	£4,966	£117.35	£6,083.35
Total Staff costs 2013				£30,910		= £37,864.75

Total expressed in 2015 value = £39,781.9

Cost for Specialist Training for the Stoma Care Nurses is not included because both nurses completed their specialist education over 10 years ago.

Costs for training other staff in the stoma care clinics e.g. RGN ward/community, student nurses, pharmacists are not included. Cwm Taf release staff from their work place for professional development and Stoma Care Nurses make no charge for training other staff.

Travel Costs:

Two clinic sessions are held in RGH and similarly YCR per week. Travel expenditure, paid by Coloplast Ltd. sponsorship is calculated for the mileage incurred by both nurses; each nurse undertakes one clinic session per week in YCR.

Total Travel Costs 2012 – 2013 = £1,022.4

Total expressed in 2015 value = £1,074.2

Stoma Appliance Costs

(Source of data provided annually by all companies)

This is an indirect running cost to Cwm Taf University Health Board because whilst the patient is in hospital, cost of the majority of appliances are currently provided **free of charge** from various stoma appliance companies

Stoma Companies	2007	2008	2009	2010	2011	2012	2013	2014
CLINIMED	645	1946	725	1663	3749	1557.86	2220.26	1382.07
COLOPLAST	4840	4837	8092	22650	25596	27813.96	21474.55	23347.11
CONVATEC	1132	679	1100	1074	1677	2480.62	2561.22	1787.44
DANSAC	746	11013	5026	2830	3954	3871.86	3797.61	3415.20
HOLLISTER	109	1386	894	780	1483	4655.6	2007.2	1899.43
INDEPENDENCE						34.9		65.98
OAKMED		223	1196			132.34		
OSTOMART	173	11	232	472	115.68		58	
PELICAN		1194	1010	1051	2049.08	734.06	1700.46	3277.73
SALTS		1490	3593	1251	2386.28	1985.02	2352.35	3484.70
B. BRAUN		754	871	225	237.74	375.74	1313.88	103.22
Other company			1031.19		503.22		90.92	1492.79
Other Company					152.1			
Total saving Avoided costs to Cwm Taf, through equipment supplied by companies	£7645	£23533	£23789	£35451.4	£41902.22	£43,689.96	£37576.45	£40255.17

	2012-2013	2013-2014	2014-2015
Cost of appliances provided <i>free of charge</i> to the NHS	£43,690	£37,576	£40,255
Cost of ordered appliances i.e. wound managers (unadjusted for inflation to today's rates)	£1,433	£2,771	£3,958
Total Stoma Appliance costs for use in hospital (supplier company funded and NHS purchased)	£45,1234	£40,347	£44,213

Total expressed in 2015 value = £45,318.32

RGH and YCR Nurse Led Stoma Care Clinic: Benefits Considerations

The Stoma Care Clinic provides benefits/ key positive outcomes which can be categorised under 3 main headings: 'Quality', 'Productivity' and 'Prevention' and apply and discussed to the three main stakeholder groups i.e. Patients, Stoma Care Nurses and Cwm Taf organisation, as outlined in Appendix 2. These reflect specific positive outcomes for patients with stomas as highlighted within national strategy documents and research (see references provided in report below).

Quality

Quality benefits apply to all three stakeholder groups, although it is not possible to monetise (i.e. assign a financial value) to every benefit with the data available to this project.

Patients

The Stoma Care Clinic enhances the quality of care for patients because it delivers evidence based structured follow up programme of care and support.

Patients receiving therapeutic relationships and timely interventions with a Stoma Care Nurse have improved patient`s quality of life; help the patient to cope and recover, avoid or manage problems, reduce the psychological sequel of stoma surgery and increase optimal independent functioning (High Impact Actions for Stoma Care 2010). Patients receive local, single point expert specialist treatment, help and support in a safe environment to enable adaptation and acceptance to life changing event. This minimises the risk of fragmented, disjointed care by different, unskilled (without specific stoma care training, accredited by the RCN) members of staff giving conflicting information, advice & support.

Patient satisfaction surveys show that:

100% Patients satisfied with the outcomes of their annual stoma care review (2010, 2013)

100% Patients satisfied with stoma care service provision (2013)

100% Patients satisfied with stoma care service provision (2014)

It has not been feasible to monetise these important quality benefits for this current report.

Stoma Care Nurses

The longevity of the Stoma Care Nurses` service to the department could be regarded as a quality benefit because of their long-standing experience, expertise, and relationships with other services and professionals. Some assumptions can be made regarding this via staff retention (there has been no turnover of staff for 13 years) and job satisfaction resulting from commitment, team working, reviewing clinical practices and positive clinical outcomes of service interventions from patients. While reductions

in staff sickness and turnover are, in some instances, monetisable benefits, monetisation has not been attempted here as we have no comparison with length of service and continuity in other services. Should this type of information be available, a 'counterfactual' may be constructed which can support analysis and monetisation of comparative performance in staff sickness and turnover.

An additional further benefit of the SCN is improving the culture of learning and education to other staff, although cannot be monetised, supports professional and career development. Skilled knowledgeable HCPs improves quality care to patients, enhances personal job satisfaction and misuse of appliances/accessories.

The assumption being educating unskilled, ward & community nurses in stoma care management, to recognise and treat stoma complications, share expertise of stoma appliances and accessories reduce the adverse outcomes of the impact of complications and misuse of appliance and accessories which can be financially to NHS costs.

In addition, educating patients about stoma care yields tangible benefits. There are significant additional costs incurred when patients cannot manage their stoma effectively. The cost of appliances and accessories for a patient managing their stoma effectively varies between £780 and £1800 per year. In situations where there are difficulties this can rise above £6000 (High Impact Actions for Stoma Care, Coloplast 2010)

Audit of student day placements with SCN (2010 - 2013)
100% learning needs were met.

Learning Outcomes included - very informative on types of stomas, surgical operations, complications, management of stomas. Application into clinical setting - very practical information, less apprehensive in dealing with stomas on a daily basis, increased ability when explaining to patients.

Wider Organisation

Through Nurse led stoma care clinics, the organisation receives an efficient, evidence based, patient centred clinic. This enables Cwm Taf UHB to meet key targets, policies and guidelines i.e. National Institute for Health & Care Excellence (NICE) Colorectal cancer: The diagnosis and management of colorectal cancer (2014), Enhanced Recovery After Surgery ERAS (1000 Lives 2010). The clinics meet RCN accredited clinical guidelines, which are an indicator of their quality (although one that cannot be directly monetised in this report).

A clear benefit to the organisation is the cost effective management of stoma care appliances and accessories. This is because the Stoma Care Nurses maintain stock levels and order supplies as required. Specialist knowledge is required to maintain optimal stock levels across Royal Glamorgan sites, without stock-piling or running out of key supplies. Other staff could not know what to order or anticipate demand, in addition to having no access to the stock ordering system. It is important to ensure patients have the right supplies in hospital at the right time. Appliance companies

supply majority of stock free of charge; this helps to minimise the cost to Cwm Taf UHB.

Productivity

Productivity benefits for Patients, Stoma Care Nurses and the Organisation can be monetised in a number of ways.

Patients

With regards to patients there are two ways:

- 1.1 Estimated Costs Avoided in value of Hospital Ward Staff Time, as a result of SCN support
- 1.2 Estimated Costs Avoided in value of Community Staff Time, as a result of SCN support
2. Estimated Cost Avoided through Management of Peristomal Skin Complications

1.1 Estimated Costs Avoided in value of Hospital Ward Staff Time, as a result of SCN support

The following sensitivity analysis is based on conservative estimates, taken from typical practice.

The SCN team`s expertise and time delivered to stoma patients frees up the ward nurses time to spend with other patients` care, support and interventions. In 2014, based on audit findings, the SCN team freed up 720.75 hours (based on 85 patients @ 45 minutes activity). The following costs would be incurred if the SCN did not exist at a:

Total estimated ward staff time costs avoidance in 2015 value = £25,746.05

To facilitate a stoma patient discharge from hospital, the patient must be assessed competent in stoma care management. It is my clinical professional judgement ward staff can provide a basic level of assessment, but do not have the specialist knowledge and skills or offer the dedicated time and expertise, to reassure, prepare and discharge patients appropriately. The SCN, whereas, has undertaken specialist training and has the time to empower patients to be stoma care independent and return to normal lifestyles. The SCN ordinarily spends approximately 45 minutes (activity lasts between 30 minutes and 1hr) a day with a patient; this includes face to face patient contact, documentation and briefing other staff, consulting families.

As preparation for leaving hospital can be a stressful time for patients (Porrett,T, McGrath A 2005) the SCN post-operative aims include:

- to monitor for stoma complications
- to teach the patient stoma care management skills i.e.
 - when to empty or change appliance

- how to open and close the appliance if using a drainable appliance, how to look after the skin around the stoma
- knowledge of how to correctly dispose of equipment in the community
- explaining how the stoma will affect their daily life e.g. diet, hygiene, clothing, returning to work and social activities, changes in physical appearance, support groups
- Informing correct storage of appliances
- informing how to obtain supplies at home in the community

A patient's discharge can be delayed when the patient or carer is unable to demonstrate stoma appliance independence (i.e. unable to change their own appliance) even when assessed by the doctor medically fit to go home.

Stoma formation surgery is either carried out as an elective (planned event) or as an emergency (unplanned event) procedure. Elective stoma formation surgery - the patients are medically fit for their surgery and their expected length of stay is 5 days post-operative (1000 Lives the all Wales Enhanced Recovery after Surgery programme). The majority of elective patients have access to pre-operative stoma management, appliance change education, support and information about lifestyle issues from the SCN in the Stoma Care Clinic or on the ward.

Emergency stoma formation surgery - the patients are critically ill, medically compromised (often in a life threatening condition) and consequently there is no expected length of stay. From experience these patients usually will take longer to recover post operatively and have a longer hospital stay. Also these patients go to theatre with very little or no preparation for life with a stoma and take longer to come to terms with their change of body image, function and stoma appliance management.

From the analysis of the table below:

In 2014, 85 patients had stoma formation surgery

- 43 patients had an elective procedure where discharge is expected within 5 days. Of these 43 patients :
 - 19% (8) of elective patients were discharge compliant
 - 81% (35) of elective patients were not discharge compliant either because of surgical complications, other health conditions, poor mobility or social circumstances – i.e. elderly, living alone.
- 42 patients had an emergency procedure

For example:

The estimate costs avoided can be modelled and represented for the 8 elective patients as follows:

8 elective patients @ 45 minutes total visit time x 5 days (225 minutes per patient) x = 1800 minutes/60 = 30 hours estimated input per annum.

PSSRU Unit Costs Health and Social Care 2013-2014 gives an hourly unit cost for ward nurse time at £34 per hour (for a qualified ward nurse), therefore An estimated cost avoidance of 30hrs x £34 per hour in 2013 = £1020 per annum.

An estimated cost avoidance of 30hrs x £34 per hour expressed in 2015 value = £1,071.63 per annum

2014 Stoma Care Patient Hospital Length of Stay (Post Surgery)

(Total Time attended: average LOS x minutes visited (45mins) / 60 x number of patients = hrs)

Elective Surgery - 43 patients		Total Time Activity	Qualified ward nurse at £34 per hour (Source of data PSSRU 2013-2014)
No of Patients	Discharged Home Day		
8	5	30hrs	£1,020
29	6-15 (average10)	217.5hrs	£7,395
6	16+	72hrs	£2,448
Total Hours Activity for 43 patients		319.5hrs	
Total estimated ward staff time: costs avoidance:			£10,863
Total expressed in 2015 value			= £11,412.93

Emergency Surgery - 42 patients		Total Time Activity	Qualified ward nurse at £34 per hour (Source of data PSSRU 2013-2014)
No of Patients	Discharged Home Day		
1	5	3.75hrs	£127.5
21	6-15 (average10)	157.5hrs	£5,355
20	16+	240hrs	£8,160
Total Hours Activity for 42 patients		401.25hrs	
Total estimated ward staff time: costs avoidance:			£13,642.5
Total expressed in 2015 value			= £14,333.15

Total estimated ward staff time: elective and emergency costs avoidance in 2015 value:		= £25,746.05
Total Hours on 85 patients (319.5 + 401.25)		= 720.75 hrs

1.2 Estimated Costs Avoided in value of Community Staff Time (District Nurses, as a result of SCN support

The following sensitivity analysis is based on conservative estimates, taken from typical practice.

The SCN team`s expertise and time delivered to stoma patients frees up the District Nurses` time to spend with other patients` care, support and interventions. In 2014, based on audit findings, the SCN team freed up 127.5 hours (based on 85 patients at 90 minutes activity). The following costs would be incurred if the SCN did not exist at a:

Total estimated District Nurse time costs avoidance in 2015 value = £5,224.23

The SCN community follow up service programme aims to assess how well the patient is adapting and highlight any potential problems that can be acted upon promptly. This includes monitor patient`s:

- stoma care management skills at home
- feelings and emotions towards their stoma
- coping skills
- interaction with family/friends
- resumption of work/recreational/social/sporting activities
- sexual relationships
- stoma complications ;diagnosing stoma complications e.g. parastomal hernias, prolapse, stenosis and treating promptly
- eating and elimination habits

Also to:

- Minimise/Prevent long term complications/health deterioration.
- Facilitate Consultant/GP appointments, hospital admissions
- Refer to other health care professionals
- Empower appliance selection or alternatives to wearing an appliance i.e. colostomy irrigation/plug
- Provide samples of appliances until the patient`s select the most suitable

The SCN ordinarily in clinic spends approximately 45 minutes (activity lasts between 30 minutes and 1hr) per patient; this includes face to face patient contact, signposting, referrals and documentation. Community stoma care follow up by the District Nurse would ordinarily happen if not provided by the SCN. It is my clinical professional judgement District Nurses can provide a basic level of assessment, but do not have the specialist knowledge and skills or offer the dedicated time i.e. existing work load would not allow the time to provide an effective follow up supportive programme to stoma patients.

The transition from hospital to home can be stressful period for the stoma patient Porrett, T, Mc Grath A (2005). Community stoma care follow up is very important (Borwell 2009). Stoma surgery brings changes that require patients to re learn self - care skills with regards to elimination and readapting to their normal life style. Body image and self-esteem can often be negatively affected when a stoma patient is

learning to cope with his/her newly formed stoma; this can in turn affect the patients coping and rehabilitation (Borwell 2009). The patient needs encouragement, support and counselling to learn how to integrate stoma care into his/her daily life (Pontieri-Lewis, 2006).

In the current stoma care service model, the SCN notifies the District Nursing of a patient discharge and unless there is a problem, which requires daily interventions by the District Nurses the SCNs deliver all the routine follow up care and support. All stoma patients are reviewed in their home within their first week of discharge; SCN usually spending between 30 minutes to 1hr. Stoma patients then receive 5 clinic follow up appointments lasting 45 minutes for the first year. It can take up to a year or more before the patient has fully adjusted to life with a stoma (Porrett, T, Mc Grath A 2005, Wade 1989). Typically, patients supported this way do not require any support from District Nurses unless a complication arises.

NHS Cost Avoidance based on a conservative 3 Community Follow up visits by District Nurse with a time lasting 30 minutes for 85 patients
(Source of data PSSRU 2013-2014)

From the analysis of the table below patients having access to stoma clinic avoids additional costs to the NHS. The Stoma Care Nurses promotes confidence; patients return to their daily living activities/lifestyle and independently manage their condition which otherwise may fall onto District Nurses

In 2014, 85 patients had stoma formation surgery, based on a conservative 3 community follow up visits at 30 minutes per visit, estimated potential costs avoided for community staff would be:

		Potential NHS cost avoidance for 85 patients
2015		£5,224.23
2013 District Nurse	Mean average cost for a face to face contact £39 per hour (without travel costs)	Cost for 1patient £19.5 x 3=£58.5 Cost for 85 patients = £58.5 x 85 = £4,972.5

NHS Cost based on a conservative 3 Community Follow up visits by SCN with a time lasting 30 minutes for 85 patients
(Source of data PSSRU 2013-2014)

		NHS cost for 85 patients
2015		£6,831.68
2013 SCN	Mean average cost for a face to face contact £51 per hour (without travel costs)	Cost for 1patient £25.5 x 3=£76.5 Cost for 85 patients = £76.5 x 85 = £6,502.5

From the tables above, comparing the SCN against the District Nurse, the SCN is the more expensive service of care, support and treatment, however this increased cost of delivery results in improved long term outcomes as discussed in this report.

2. Estimated Cost Avoided through Management of Peristomal Skin Complications (PSC)

The following benchmarking analysis is based on conservative estimates, taken from typical practice. A comparison has been made of the Annual Stoma Care Review PSC rate and subsequent NHS cost against the lowest reported PSC rate of 18% and subsequent NHS cost.

2010 - 2012 PSC audits support the value of the Nurse Led Stoma Care clinic by reducing the rate of PSC by 40% and the estimated cost to the NHS by 90% in 2 years.

Total Estimated Cost Avoided in 2years in 2015 value = £157,996

Surveillance of patients' peristomal skin by the SCNs in the stoma clinic, as well as being very important for patient quality of life, is to ensure that appliances can adhere securely to prevent leakage, skin excoriation and psychological distress which prevents additional costs for the NHS.

Peristomal skin complications (PSC) are the most common complication for patients with a stoma (Nybaek et al 2010). Various studies have reported a PSC rate from 18-60% (Colwell et al 2001; Nybaeck & Jemec, 2010; Martins et al 2011); accounts for more than one in three visits to a SCN (Jemec & Nybaeck, 2008) and creates significant cost for the NHS(Martins et al 2012).

For the purpose this analysis is made against PSC rate of 18%; the optimal recorded percentage rate. It is unrealistic to use 0% as a SCN cannot prevent all peristomal skin problems.

The cost of appliances and accessories for a patient managing their stoma effectively varies between £780 and £1800 per year (High Impact Actions for Stoma Care 2010). For the purpose this analysis £1290 per year is used; £107.50 the cost of box of 30 drainable appliances per month. In situations where there are difficulties this can rise above £6000 (High Impact Actions for Stoma Care 2010). For the purpose this analysis £3000 per year is used.

Most recent data (2012) indicate that the RGH PSC rate is 19.6%. The table below indicates since commencement of the Annual Stoma Care/ Appliance Usage Review Clinic in 2010 there has been a significant improvement in the PSC rate and it is likely that associated costs of care for the NHS have been avoided.

It is expected the 19.6% PSC rate will remain stable as in 2010 uptake of patients attending clinic was high. This was the first clinic of its kind and many `old` case patients had not seen a stoma care nurse for many years. It was evident, as several studies have shown, a high percentage of patients were not aware they had a PSC (Scarpa et al, 2004; Martin et al 2011; Erwin - Toth et al, 2012).

**Benchmarking Annual Stoma Care Review PSC Rate & NHS Appliance/Accessories Cost v
Lowest Reported PSC Rate of 18% & NHS Appliance/Accessories Cost**
(Source of data provided by High Impact Actions for Stoma Care 2010)

Year	Data Time	No. of Patients	No. of patients with no PSC	Annual Cost of appliances at £1290	No. of patients with PSC	Annual Cost of appliances at £3000	Estimated Annual Cost of appliances with a 18% PSC rate of total No of patients at £3000	Extra Cost to the NHS	Total Cost to the NHS 2015	Estimated Cost Avoided 2015
2010	3 month	44	52% (23 patients)		48% (21 patients)					
2010	12 month	176	52% (92 patients)	£118,680	48% (84 patients)	£252,000	£93,000 31 @ £3000 (18% of 176)	£159,000 (£252,000 - £93,000)	£174,508	
2011	12 month	138	72% (99 patients)	£127,710	28% (39 patients)	£117,000	£72,000 24 @ £3000 (18% of 138)	£45,000 (£117,000 - £72,000)	£49,670	£124,838 (£174,508 - £49,670)
2012	12 month	265	80.4% (213 patients)	£274,770	19.6% (52 patients)	£156,000	£141,000 47 @ £3000 (18% of 265)	£15,000 (£156,000 - £141,000)	£16,152	£33,158 (£49,670 - £16,152)
Total Estimated Cost Avoided in 2years in 2015 value										£157,996

2010 ARC audit - 176 patients

Data were taken over a typical three month period. This has been multiplied by 4 to represent a twelve month period, giving 176 patients.

48% (84 patients) had PSC. Taking an estimated conservative appliances and accessories cost figure of £3000 per year the cost for 84 patients with PSC at £3000 = £252,000 per year

52% (92 patients) had healthy peristomal skin at an appliances and accessories cost figure of £1290 (mean cost £780 and £1800) = £118,680

Benchmarking the £252,000 cost of 48% patients with PSC (84 patients) against reported patients studies of 18% (31 patients :18% of 176) at a cost of £93,000 results in an extra NHS cost (2015) of £174,508.

2011 ARC audit - 138 patients

Data was taken over a twelve month period - 138 patients

28% (39 patients) had PSC

Taking an estimated conservative appliances and accessories cost figure of £3000 per year the cost for 39 patients with PSC at £3000 = £117,000 per year

72% (99 patients) had healthy peristomal skin at an appliances and accessories cost figure of £1290 (mean cost £780 and £1800) = £127,710

Benchmarking the £117,000 cost of 28% patients with PSC (39 patients) against reported patients studies of 18% (24 patients :18% of 138) at a cost of £72,000 results in an extra NHS cost (2015) of £49,670

2012 ARC audit - 265 patients

Data was taken over a twelve month period - 265 patients

19.6% (52 patients) had PSC

Taking an estimated conservative appliances and accessories cost figure of £3000 per year the cost for 52 patients with PSC at £3000 = £156,000 per year

80.4% (213 patients) had healthy peristomal skin at an appliances and accessories cost figure of £1290 (mean cost £780 and £1800) = £274,770

Benchmarking the £156,000 cost of 19.6% patients with PSC (52 patients) against reported patients studies of 18% (47 patients: 18% of 265) at a cost of £141,000 results in an extra NHS cost (2015) of £16,152.

2.2 Estimated Cost of Stoma Care Clinic v Home visit for treating PSC reduces cost per patient

(Source of data PSSRU Figures 2013-2014)

Using 2010 - 2012 PSC audits Stoma Care Clinic is a more productive and cost effective setting for treating patients with PSC. Running clinics frees up the SCN to review more patients or undertake other responsibilities. 40% more patients can be seen in clinic

Total Estimated Cost Avoided in 3 years in 2015 value = £9,878

The time taken by SCN treating a patient with PSC in Stoma Care Clinic/ Home is 45 minutes (30 minutes consultation and 15 minutes administration).

Normally patients require two episodes of care to treat PSC

A clinic session last 3.5 hours therefore on average 5 patients can be reviewed. Whereas, in the same period of time, only 3 home visits can be achieved (allowing for travelling time).

Cost of SCN per 7.5 hour day - £51 per hour x 7.5 hrs = £382.5

In two clinic sessions 10 patients can be reviewed in one working day of 7.5 hours.

Whereas during home visit only 6 patients (allowing for travelling time) can be reviewed in one working day of 7.5 hours .

Therefore 40% increase in the numbers of treated patients with PSC in clinic.

	No of Patients	Time taken in clinic to resolve PSC	Cost of SCN Clinics	Time taken in home visits to resolve PSC	Cost of SCN Home Visits	Cost Difference	Estimated Cost Avoided to the NHS 2015
2010	84 patients 48%	16.8 days 84 x 2 sessions =168 to see patients Review 10 in 7.5hrs	£6426 £382.5 per day x16.8 days	28 days 84 x2 sessions =168 to see patients Review 6 in 7.5hrs	£10710 £382.5 per day x 28 days	£4284 (£10710 - £6426)	£4845
2011	39 patients 28%	7.8 days 39 x 2 sessions =78 to see patients Review 10 in 7.5hrs	£2983.5 £382.5 per day x7.8 days	13 days 39 x2 sessions =78 to see patients Review 6 in 7.5hrs	£4972.5 £382.5 per day x 13 days	£1989 (£4972.5 -£2983.5)	£2193
2012	52 patients 19.6%	10.4 days 52 x 2 sessions =104 to see patients Review 10 in 7.5hrs	£3978 £382.5 per day x 10.4 days	17.3 days 52 x2 sessions =104 to see patients Review 6 in 7.5hrs	£6617 £382.5 per day x 17.3 days	£2639 (£6617 - £3978)	£2840
Total Estimated Cost Avoided in 3 years in 2015 value							£9,878

Organisation

With regards to the organisation there are two key productivity benefits:

1. Estimated Cost Sustained as a result of Appliance Usage Reviews in Stoma Care Clinic; the cost values being comparable to the national average.

The Appliance Usage Reviews carried out in the Nurse led Stoma Care Clinic effectively manages stoma care appliance prescribing and NHS stoma appliance expenditure. The SCN monitors patient appliance usage by comparing the recommended quantities of appliances patients should use in one month, as reported by patients, the amount of ordered appliances. Patients GPs are sent a clinic letter detailing stoma appliance requirements.

Appliance review audit (2012) showed comparable costs on patient discharge, 5 months & 1 year post-operative (patients with no complications). These costs fall within the national average of Stoma Care Product Guidelines (High Impact Actions for Stoma Care 2010).

Cost per 30 closed bags range between £43.20- £98.88 (mean value £72)
Cost per 30 drainable bags range between £43.20- £133.18 (mean value £88)
(Source of data provided by British National Formulary 2012)

2012 UK Average cost of supplies for a colostomy patient (with no complications) changing appliance twice a day = **£1728** (mean appliance value £72 x2 x12)

2015 value =£1860

2012 RGH Average cost of supplies for a colostomy patient (with no complications) changing appliance twice a day = **£2016** (cost of appliance £84 x2 x12)

2015 value = £2169

2012 UK Average cost of supplies for an ileostomy patient (with no complications) changing appliance once a day = **£1056** (mean appliance value £88 x 12)

2015 value = £1136

2012 RGH Average cost of supplies for an ileostomy patient (with no complications) changing appliance once a day = **£1128** (cost of appliance £94 x12)

2015 value = £1213

2. Estimated Cost Avoidance of not routinely using stoma accessories in Stoma Care Clinic = £1354.98 per year

Since 2012 there has been no routine use of accessories i.e. medical adhesive remover and deodorant spray. This decision was made as a result of scoping exercise of Stoma Appliance Prescriptions (2011) revealed 11% of patients stock piled and misused accessories. Prior to this time all patients were prescribed a medical adhesive remover (one or more) and deodorant spray.

An accessory audit was carried out in 2013 on 85 new stoma patients:

70 patients not prescribed a medical adhesive remover £10.75 x70 = £752.50.

15 patients prescribed a medical adhesive remover spray (proven to be valuable in the prevention of skin stripping) £10.75 x15 = £161.25.
Therefore cost avoidance of £752.50 per year

Total Estimated Cost Avoided in 2015 value = £810.35

85 patients were not prescribed a prescribed deodorant spray (household air fresheners is sufficient in most cases) £5.95 x 85= £505.75
Therefore cost avoidance of £505.75 per year

Total Estimated Cost Avoided in 2015 value = £544.63

Adding together cost avoidance of £810.35 + £544.63 = £1354.98

Cost of Medical Adhesive Remover Sprays range between £8.56 - £12.95
(mean value (£10.75)

Cost of Deodorant Sprays range between £3.21 - £8.69
(mean value £5.95)

(Source of data provided by British National Formulary 2012)

Prevention

With regards to the organisation, as a consequence of interventions by the nurse led Stoma Care Clinic there are two examples of the likely costs avoided for the organisation:

1. Estimated Cost Avoided by stoma care clinic preventing patient admission in 2015 value = £1,854.53 per 6month

2. Estimated Cost Avoided by stoma care clinic preventing patient appointments with GP in 2105 value = £21,028 per year

In 2011, over a six month period, an audit was carried out to examine the number of:

1. Prevented hospital admissions by the SCN
2. Patient complications contacts treated by the SCN in clinic. The assumption is these contacts would have required GP appointments in the absence of the Nurse led Stoma Care Clinic
3. Referrals made by the SCN to other professionals e.g. patient consultant, GPs

1. The results showed the SCN, in a 6 month period, prevented 2 patients with intestinal obstruction and 1 patient with high output stoma from hospital admission

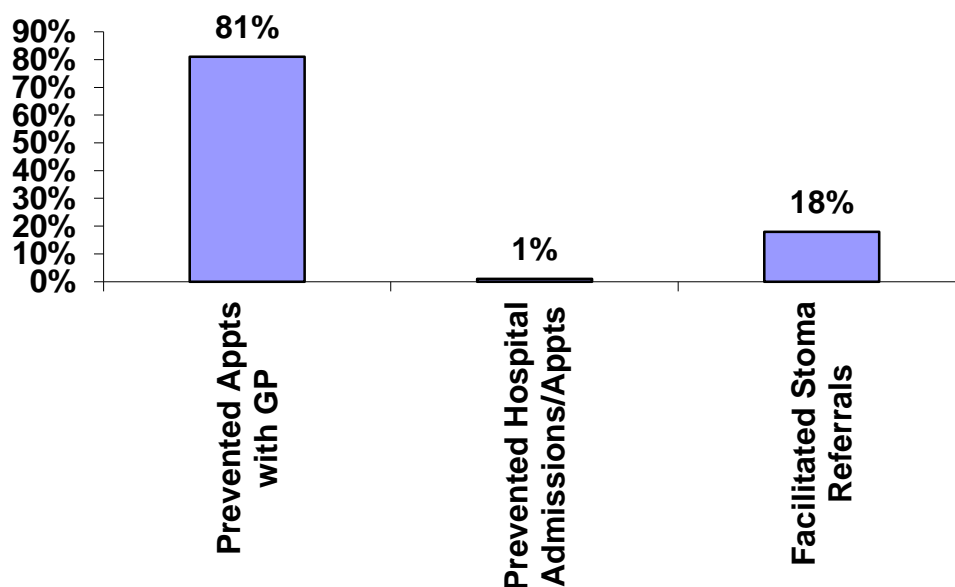
Providing a review and advice by the SCN to patients with high output stomas, intestinal obstruction supports early intervention and prevents escalation of physical, psychological symptoms which may result an emergency admission to hospital for high level intervention and potential haemofiltration. High level assessment of patient's dietary and fluid requirements and providing information to support patients informed

choice regarding the timely introduction of certain foods, fluids , medicine management and fitting of high output appliances (High Impact Actions for Stoma Care 2010).

Cost of one overnight stay in a surgical ward is £560.04
 (Source of data Betsi Cadwaladr University Health Board Figures .BCU average cost per General Surgery bed day for 2011/12 was £560.04, expressed in 2015 values)
 For 3 patients, per 6 month, at £560.04 x3 = £1680.12

Total Estimated Cost Avoided in 2015 value = £1,854.53 per 6month

2. The results showed, in a 6 month period, there were 275 patient complication contacts in the Nurse led Stoma Care Clinic; 81% (223) patient complication contacts were prevented appointments to GP surgeries.



- ✚ 32% of contacts relating to skin problems
- ✚ 19% of contacts relating to leakages
- ✚ 18% of contacts relating to physical stoma problems- retraction, prolapse, stenosis
- ✚ 15% of contacts relating to parastomal hernia
- ✚ 7% of contacts relating to stoma or rectal output problems
- ✚ 7% of contacts relating to unrelated stoma problems e.g. wound care, feeling unwell, Abdominal pain, black faeces
- ✚ 1% of contacts relating to Sexual dysfunction problems

Estimated Cost Avoided by stoma care clinic preventing patient appointments with GP in 2105 value = £21,028 per year

223 stoma complication appointments to GP surgeries x £46 =£10,258
 for 6 month period
 Potential Cost avoidance £10,258 x2 = £20,516 per year
 (Source of data PSSRU 2013/2014 unit cost data; GP consultation - £46 for 11.7mins)

There are other likely cost avoidances and efficiencies through the stoma care nurse led clinic, but not have been feasible to monetise e.g. reducing hospital appointments. It is highly likely that SCN interventions have avoided clinical complications or follow-up which would otherwise have required referral to Consultant Outpatient Clinics. By avoiding these referrals, SCN clinics are likely to have saved valuable consultant time and effort, and increased capacity in Consultant led outpatient clinics for conducting other activity that cannot be more appropriately managed in other clinics or settings.

Patients' stoma related problems and complications are assessed and treated effectively in the follow up and annual review stoma clinic. The SCNs initiating evidence based treatment plans avoids the need of patients seeking advice and treatment from consultants and their teams, GPs, Districts Nurses etc. and thereby decreasing their workload.

Long term complications have been reported in up to 39% colostomists and 55% of ileostomists/urostomists (Nasto et al 2010). Complications can undermine the person's self-management or adaptation and can lead to repeated hospitalisation for treatment (Lee & Morris 2003). There is an increased risk of developing complications over time following surgery (Nasto et al 2010).

Conclusion

This report has provided robust evidence of the value of the Nurse led Stoma Care Clinic, in terms of economic benefits to RGH and the wider healthcare system, and high quality of care and good clinical outcomes for patients. The Stoma Care Nurse, although a more expensive service than a District Nurse, provides improved long term outcomes. This report has shown the SCNs are effective at managing supply and demand of the correct stoma supplies and can attain cost savings for the Trust.

The Nurse led Stoma Care Clinic ensures a well-defined pathway to support patients. It provides a patient -focused approach to diagnose, care planning, treatment provision, follow up, and continuity of care. The holistic care and timely interventions provided in Stoma Care Clinic avoids costly care episodes and saves Consultants, GPs, Districts Nurses time which can be used appropriately for other activity.

The quality benefits include:

- Patients and families receive direct advice and support by experienced, specialist nurses
- Patients and families receive an evidence based, structured follow up programme of ongoing care and follow up services delivered in the community/at point of need
- Education of health and social care professionals
- Cost effective use of appliances and accessories
- Peristomal Skin Complications (PSC) rate reduced from 48% to 19.6%

The productivity benefits include:

- Estimated cost avoidance of other nursing professionals
 - in value of Hospital Ward Staff Time, as a result of SCN support in 2015 value **£25,746.05**
 - value of Community Staff Time, as a result of SCN support in 2015 value **£5,224.23**
- Estimated cost avoidance through management of PSC in 2 years in 2015 value **£157,996**
- Estimated cost avoidance of treating PSC in Stoma Care Clinic and not in the patients` homes in 3 years in 2015 value **£9,878**
- Cost effective use of appliances and accessories; the cost values being comparable to the national average.
- Estimated cost avoidance of not routinely using stoma accessories in 2015 value **£1,354.98**

The prevention benefits include:

- Estimated cost avoidance by stoma care clinic preventing unnecessary patient hospital admission/readmission in 6 month readmission in 2015 value **£1,854.53**
- Cost effective use of stoma care clinic of freeing up of Consultant, GP, District Nurse appointments and allowing time for other patients
Estimated cost avoidance by stoma care clinic preventing patient appointments with GP in 2105 value **£21,028**

Recommendations and Service Development Opportunities

- To maintain current staffing levels in order to continue to achieve the positive clinical and quality outcomes set out in this case study, as well as attaining the levels of cost efficiencies evidenced here.
- Annual appliance review by the SCN within GP surgeries to enable an empirical comparison between the recommended quantities of appliances patients should use in one month against the patients` appliance prescriptions.

Audit and working practice has shown that patients stockpile usually because of fear of being without an appliance or of an unreliable, steady supply of appliances. Whilst it is unrealistic to avoid all stock piling, however it is possible to make some assumptions about possible savings e.g. no unnecessary use of accessories, patients having the correct appliance for type of stoma, cost effective management of stoma complications.

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PSSRU Unit costs health and social care 2014 (Table 14.4 Nurse, 24hr ward-hour ward

(includes staff nurse, registered nurse, registered practitioner)

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*This case study was completed by **Sheila Jones** CNS Stoma Care Stoma Care Department, Royal Glamorgan Hospital in **December 2015**.*

Sheila successfully completed a collaborative learning programme designed to empower nurses to understand, generate and use economic evidence to continuously transform care.

The programme was delivered by the Royal College of Nursing and the Office for Public Management, funded by the Burdett Trust for Nursing and endorsed by the Institute of Leadership and Management.

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Appendix 1

Real Costs - Nurse Led Planned Stoma Care Clinics in RGH & YCR 2013 (excluding emergency clinic activity)

An established service provided by highly trained, experienced specialist nurses

Figures in:

Black - AfC; non review body pay grade 01.04.13

Red- Coloplast Sponsorship 2013

Direct costs		Assumptions	Adjustments
CNS Stoma Care Band 8a 1WTE	£47,088 p.a £55,454 p.a.	Lead Nurse; undertakes 10 hours of clinical activity per week. 27% of time clinical activity 27% of £55,454 p.a. = £14,972.00 Not included: Administrative time e.g. making referrals, arranging products Emergency clinic patient contact time	2015 Costs up-rated according to the Bank of England inflation of 2.5%
Stoma Care Nurse Band 6 1WTE	£34,530 p.a £40,661 p.a.	Undertakes 10 hours of clinical activity per week. 27% of time clinical activity 27% of £40,661 p.a. = £10,972.00 Not included: Administrative time e.g. making referrals, arranging products Emergency clinic patient contact time	2015 Costs up-rated according to the Bank of England inflation of 2.5%
Administrator/coordinator Band 2 0.5 WTE	£8,712.5 p.a £9,932.0 p.a	Organises and arranges all clinic appointments. Draft preparation of GP letters 50% of £9,932.0 p.a = £4966.00	2015 Costs up-rated according to the Bank of England inflation of 2.5%
IT Equipment	£2165.50 One off payment	3 PCs £1,735.50 2 monitors £190.00 1 scanner £240.00 Software - database MIME	2015 Costs up-rated according to the Bank of England inflation of 2.5%
IT Staff Database MIME Training	£0 Provided free, part of sponsorship	Training & support is provided by Coloplast as an ongoing basis; either on site as required by the department or by a dedicated Coloplast telephone help desk.	2015 Costs up-rated according to the Bank of

	contract Approx cost £ 4,000 for 4 sessions	<i>Department training cost approx £1000 per day{ includes consultancy fee, hotel costs, fuel etc)</i>	England inflation of 2.5%
Stationery		'In kind contribution' by Cwm Taff Health Board	


Appendix 2

Benefits of Nurse Led Stoma Care Clinics in RGH & YCR 2013			
Quality		Assumptions Why is it plausible?	Adjustments
Patients	Improved quality of life to patients undergoing life changing colorectal surgery with the formation of stoma.	<ol style="list-style-type: none"> 1. Therapeutic relationships and timely interventions with a SCN will help patients cope and recover, avoid or manage problems; reduce the psychological sequel of stoma surgery and increase the patients optimal independent functioning. 2. Counselling to enable patients to explore their feelings towards a stoma and adapting to an altered body image. 3. Information giving, support and advice on how best to manage these issues; how to manage their stoma around their day to day activities, in order to review or achieve acceptable quality of life. 4. Recognising and referring patients at risk for specialist psychological support. <p>Stoma surgery has profound physical, psychological, social and sexual effects resulting in change of body image, reduced interaction with others and inability to return to normal lifestyle. 20% of ostomists experience clinically significant psychological problems 3 months post operatively e.g. major depression, anxiety disorders. Patients who are depressed or anxious 10</p>	<p>Implications:</p> <p>The cost of psychological care in the NHS is significant. Psychologist consultation is estimated to cost £150 and the cost of treating depression and anxiety quoted as in excess of £1000, which increases if the patient develops a chronic, ongoing condition.</p> <p><u>No 1 ARC audit 2009 three month data - 44 patients</u> 14% (6 patients) had major psychological issues which may require GP input</p> <p><u>No 2 ARC audit 2011- 138 patients</u> 26% (36 patients) experienced psychological issues Of the 36 patients 55.5% (20 patients) worried about their stoma management; the most common psychological problem. No GP input required. The remaining 16 patients 11.5% had major psychological issues which may require GP input</p>

		weeks after their operation are more likely to experience psychological problems at after one year.	
Quality		Assumptions Why is it plausible?	Adjustments
Stoma Care Nurses	Increased job satisfaction	<ol style="list-style-type: none"> 1. Autonomous nurses 2. Lead clinical care 3. Provide holistic care 4. Enhanced team working ; team decision making, periodic review of clinical practices 5. Staff retention 	<p>Implications:</p> <p>Measurement and evaluation of the positive clinical outcomes of service interventions</p> <p>100% Patients satisfied with the outcomes of their annual stoma care review (2009,2013)</p> <p>100% Patients satisfied with service provision (2013)</p> <p>No turnover of staff for 13 years</p>
Organisation	Efficient, evidence based, patient centred service meeting targets, policies, guidelines i.e. NICE Colorectal Minimum Standards, 1000 lives Colorectal Enhanced and ensures cost effective prescribing and product usage.	<ol style="list-style-type: none"> 1. Patients receive local, single point expert specialist treatment, help and support; not fragmented, disjointed care by different, unskilled members of staff giving conflicting information, advice & support. 2. Provision of a clear patient pathway- no inequality of service provision 3. Reduce clinical risk to patients; RCN accredited clinical guidelines 4. Patients use appropriate appliances and accessories. 5. Minimal cost to Cwm Taf for purchasing of appliances/accessories 	<p>Implications</p> <p>Positive impact on the patients/relatives experience.</p> <p>Patient Satisfaction Audit 2010/2011/2012/2013 included:</p> <p>Understood information</p> <p>Opportunity to ask questions</p> <p>Disability communication needs met e.g. hearing</p> <p>Treated with respect and politeness</p> <p>Personal issues addressed</p> <p>Family involvement</p> <p>Advice /Support</p> <p>Assessment of stoma & peristomal skin</p> <p>Piece of mind/reassurance</p> <p>Referral to other health care professionals</p> <p>Review /Update of appliances</p>

		The SCN in collaboration with the MDT to improve outcomes for colorectal patients; considering the relevant treatment options for the patients. Such choices between open and laparoscopic surgery or in suitable cases permanent stoma and ileo anal pouch .	Comments included excellent, valued expertise, very professional, very good attention, always available Appliance companies supply stock free of charge. 2012-2013 Cost of stock of appliances if purchased - £43,690.0 2012-2013 Cost of ordered appliances i.e. wound managers £1433.0
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Productivity		Assumptions	Adjustments
Patients	Return to previous lifestyle, in control of their stoma management and not dependent on social services/district nurse.	<p>Access to SCN pre & post-operative continuity of care programme increases patients' confidence to return to their daily living activities/lifestyle and independently managing their condition.</p> <p>SCN:</p> <ul style="list-style-type: none"> ✚ Nurse led discharge planning ✚ Recognising and diagnosing stoma complications e.g. parastomal hernias, prolapse, stenosis and treating promptly ✚ Preventing long term complications/health deterioration. ✚ Facilitating Consultant/GP appointments, hospital admissions ✚ Referring to other health care professionals ✚ Empower appliance selection patients or alternatives to wearing an appliance i.e. colostomy irrigation/plug 	<p>Implications</p> <p>Cost of social services/home care assistant (Band 2))</p> <p>Cost of district nurse (Band 6)</p>

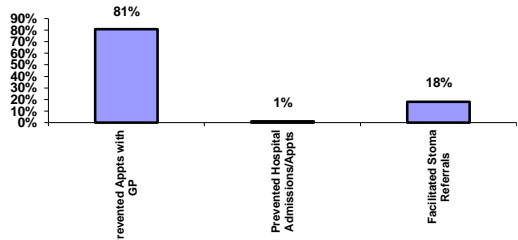
		 Providing samples on appliances until the patients select the most suitable products patients The Stoma Care Nurse using: <ul style="list-style-type: none"> • Assessment/Observation Tool; physical, psychological, social and sexual assessment • Monitoring Tool • Evidence Based Clinical Treatments x 20 (modified RCN accredited Best Practice Guidelines) • Electronic Patient Record Keeping (MIME) • Clinical information (verbal and written) to GP/MDT re patient condition, progress 	
Productivity		Assumptions	Adjustments
Patients	Integral peristomal skin to ensure that appliances can adhere securely to prevent leakage, skin excoriation and psychological distress	Combination of regular SCN interventions & appropriate product selection will reduce peristomal skin conditions and reduced unplanned bag changes and condense the need for accessories. 61% patients will have skin problems and reacting to peristomal skin complications accounts for more than one in three visits to a SCN(Jemec & Nybeck, 2008) and create significant cost for the NHS(Martins et al 2012).	Implications <u>No 1 ARC audit 2009 three month data - 44 patients</u> The cost of appliances and accessories for a patient managing their stoma effectively varies between £780 and £1800 per year. In situations where there are difficulties this can rise above £6000. <u>No2 ARC audit 2011- 138 patients</u> <u>No3 ARC audit 2012</u> <u>Clinic v Home visit</u>

Patients	Improve the positioning of stoma sites	<p>Patients who have their stoma sited by the Stoma Care Nurse experience fewer post-operative complications such as poorly fitting appliances which can result in skin excoriation, leakage and odour; resulting in psychological, social problems and impaired rehabilitation.</p> <p>A well placed stoma reduces the cost of appliances and accessories whilst reducing the risk of complications that may result in an increased use of products and accessories, extended hospital stay and continued reliance on district nurses, social care services.</p>	<p>Implications</p> <p>Impact of a poorly positioned stoma cost £3000- £4500 (depending whether a patient requires further surgery to re-site or refashion their stoma). If an ostomist cannot see their stoma, and is unable to manage themselves, their independence curtailed. This results in a reliance on carers or community nursing staff.</p>

Productivity		Assumptions	Adjustments
Stoma Care Nurses	Improved work efficiency	Improved productivity ; 1home visit instead of 3 Improved clinic contacts (Second/third home visit undertaken in clinic) Improved unscheduled patient drop in clinic contacts Improved conflicting patient demands	Implications <u>Home Visit Cost</u> Cost of a Stoma Care Nurse undertaking one home visit <u>Clinic v Home Visit Cost</u>
Productivity		Assumptions	Adjustments
Organisation	Improved culture of learning and education to other staff Supporting professional and career development	Educating unskilled, ward & community nurses in stoma care management, to recognise and treat stoma complications, share expertise of stoma appliances and accessories reduces the adverse outcomes of the impact of complications which is clinically challenging to staff. Skilling knowledgeable HCPs improves quality care to patients and enhances personal job satisfaction	Implications The cost of appliances and accessories for a patient managing their stoma effectively varies between £780 and £1800 per year. In situations where there are difficulties this can rise above £6000. Audit of day placements with SCN (2010 - 2013) 100% learning needs were met. Learning Outcomes included - very informative on types of stomas, surgical operations, complications, management of stomas. Application into clinical setting - very practical information, less apprehensive in dealing with stomas on a daily basis, increased ability when explaining to patients
Organisation	Improve appropriate use and cost of	Structured Appliance Usage review and costing of appliances on the patients `discharge, 5 month and one year post-operative with report sent to GP.	Implications <i>No routine use of any accessories since 2012</i> Cost of medical adhesive remover - £10 Cost of deodorant spray- £5

	<p>appliances/accessories to Cwm Taf Health Board</p>	<p>Monitoring Tool recording assessment of stoma, peristomal skin, output, psychological, social, sexual rehabilitation, stoma appliance (surplus stock), method of obtaining supplies/satisfaction</p> <p>Scoping exercise of Stoma Appliance Prescriptions 2011 showed 11% of patients stock pile and misuse accessories.</p> <p>Prescribing of stoma appliances in primary care cost Cwm Taf Health Board £1.3 million in 2009/2010.</p>	<p>Based on 80 new patients a year</p> <p>RGH Average cost for a patient managing their stoma Audit of appliance costs on patient discharge, 5 month & 1 year post-operative - Two Hospitals in Cwm Taf: Royal Glamorgan & Prince Charles. Assuming RGH & PC have approximately the same number stoma patients 50% of £1.3 million = £650,000 RGH: 11% of £650,000 = £143,000 cost to Cwm Taff South for stock piling and misuse accessories.</p>
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Prevention		Assumptions	Adjustments
Staff			
Organisation	Reduce time in hospital to achieve service target of 5 day length of stay (1000 lives Colorectal Enhanced Recovery After Surgery) and compliance with Colorectal Minimum Standards.	Partnership working with pre- assessment team and MDT will improve patient outcomes and accelerate recovery after surgery. Preoperative preparation, stoma care information and education results in the patient being more proficient to manage their stoma in a shorter time after surgery and therefore can leave hospital sooner. Coloplast teaching pack and prosthesis tool and Dansac video - how to change your appliance are effective aids to enable patients to manage their stomas.	<p>Implications</p> <p>Coloplast preoperative teaching pack - £0 (supplied free of charge)</p> <p>Dansac video- £0 (supplied free of charge)</p> <p>It is estimated that it costs approximately £400 per day to keep a patient on a surgical ward, indicating real financial benefits to reducing length of stay.</p>
Organisation	Prevent re- admission to hospital	<p>Assumptions</p> <p>Providing a review and advice to patients with high output stomas, intestinal obstruction supports early intervention and prevents escalation of physical, psychological symptoms which may result an emergency admission to hospital for high level intervention and potential haemofiltration. High level assessment of patient's dietary and fluid requirements and providing information to support patients informed choice regarding the timely introduction of certain foods, fluids , medicine management and fitting of high output appliances.</p>	<p>Implications</p> <p>2011 Audit Complications following stoma surgery</p> <p>Prevented 3 stoma complications from hospital admission in 6 month period</p> <p>Cost of Overnight stay in a surgical ward approximately £400 x3 = £1200 per 6 month</p> <p>Cost Saving (based on the above figure)= £1200 x2 = £2400 per year.</p>

<p>Organisation</p>	<p>Prevent GP/ Consultant appointments & District nurses for stoma complications</p>	<p>Patients` stoma related problems and complications will be recognised early in follow up and annual review clinic. Putting into place an effective management plan will avoid /decrease workload on consultants & their teams and GPs, Districts Nurses etc .</p> <p>Long term complications have been reported in up to 39% colostomists and 55% of ileostomists/urostomists (Nasto et al 2010) Complications can undermine the person's self-management or adaptation and can lead to repeated hospitalisation for treatment (Lee & Morris 2003). There is an increased risk of developing complications over time following surgery (Nasto et al 2010).</p>	<p>Implications</p> <p>2011 Audit Complications following stoma surgery Prevented 223 stoma complication appointments in 6 month period to GP.</p> <p>Results</p>  <table border="1"> <caption>2011 Audit Results: Stoma Complications</caption> <thead> <tr> <th>Category</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Prevented Appts with GP</td> <td>81%</td> </tr> <tr> <td>Prevented Hospital Admissions/Apps</td> <td>1%</td> </tr> <tr> <td>Facilitated Stoma Referrals</td> <td>18%</td> </tr> </tbody> </table> <p>The Stoma Care Nurses:</p> <ol style="list-style-type: none"> Prevented 81% (223) stoma complication appointments to GP surgeries. This included: <ul style="list-style-type: none"> 32% skin problems <ul style="list-style-type: none"> 19% leakages 18% physical stoma problems- retraction, prolapse, stenosis 15% parastomal hernia 7% stoma or rectal output problems 7% -unrelated stoma problems e.g. wound care, feeling unwell, abdominal pain, black faeces 1% Sexual dysfunction problems Prevented 1% (3) stoma complication hospital admissions/ OPD appointments 	Category	Percentage	Prevented Appts with GP	81%	Prevented Hospital Admissions/Apps	1%	Facilitated Stoma Referrals	18%
Category	Percentage										
Prevented Appts with GP	81%										
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			3.Facilitated 18% (48) stoma complication referrals to OPD/A&E, GP
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