TUEN MUN HOSPITAL

New Territories West Cluster

新界西醫院聯網
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Community Nursing Service - KPI Evaluation

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Introduction

A set of key performance indicators (KPI) for monitoring of Community Nursing Service (CNS) has been developed to evaluate the effectiveness of CNS in 2010.

Objectives

1. To evaluate the effectiveness of CNS in chronic disease home care management.
2. To develop a set of valid key performance indicators for monitoring of service quality.

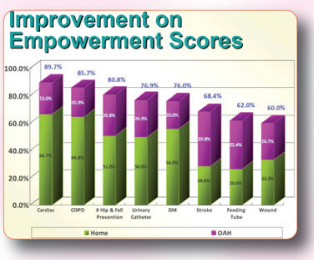
Methodology

A prospective multi-centre cohort study was employed. Patients with Diabetes, Hypertension (HT), Stroke, Chronic Obstructive Pulmonary Disease (COPD), Heart Failure, Hip Fracture, Neoplasm and Chronic Renal Failure (CRF), referred to CNS for home care management and empowerment from 1 November 2009 to 7 March 2010 were recruited. The community nurse provided comprehensive need assessment, risk factor management, direct nursing care, drug information, monitoring clinical well-being and respond to treatment, coaching for symptom management, individualized behavior counseling, self-care empowerment and support, liaison and mobilization of service. Socio-demographic data, diagnosis, three-month pre-post-intervention effect on Home Care Empowerment Scores, MRC Dysponea Scale, Forced Expiratory Volume in one second (FEV1), the distance and SpO2 in Six-Minute Walk Test, Modified Functional Ambulation Category (MFAC), Modified Bathel Index (BI-20), fall incidence, duration of wound healing, incidence of wean-off urinary catheter or nasogastric tubes, laboratory data (HbA1c and serum albumin) and service outcomes (pre-post-90 & 180 days) were studied.

	Mean	
Age (Years)	78.3	
Gender	**No.**	**(%)**
Male	373	(52)
Female	340	(48)
Residential Setting		
Home	434	(61)
Old Aged Home	279	(39)
Diagnosis		
Hypertension	282	(40)
Diabetes	227	(32)
CVA	166	(23)
COPD	107	(15)
Heart Disease	98	(14)
Hip Fracture	97	(14)
Neoplasm	44	(6)
Chronic Renal Failure	23	(3)

Results and Outcomes

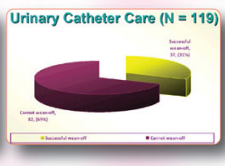
Seven hundred and thirteen (713) patients were recruited, mean age 78.3, 52% male, 48% female; 39% lived in residential homes. For self-efficacy on the chronic disease management, there was significantly increased in Home Care Empowerment Scores including Diabetes, Cardiac, COPD, Stroke, Fracture Hip, Chronic Wound, Urinary Catheter and Feeding Tube Care ($p < .05$).

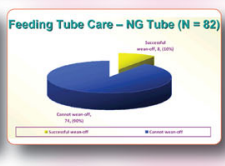


		Pre Mean (SD)	Post Mean (SD)
COPD			
MRC Dysponea Scale	(n:81)	3.22 (1.19)	2.93 (1.15)
FEV1	(n:34)	43.28 (15.35)	49.77 (18.26)
Fracture Hip			
MFAC	(n:104)	3.84 (1.6)	4.44 (1.91)
No. of Fall	(n:106)	1	0.03
Stroke			
MFAC	(n:97)	2.91 (2.15)	3.15 (2.31)
BI	(n:97)	7.25 (7.42)	8.01 (7.83)
Cardiac			
6MWT : SPO2	(n:51)	96.8 (1.97)	97.38 (1.47)
Distance (m)	(n:51)	136.66 (101.59)	199.45 (142.3)
p<0.05			
Diabetes			
HbA1C	(n:24)	8.78 (1.87)	8.45 (1.93)
On Feeding Tube			
Serum Albumin	(n:28)	35 (6.41)	33.75 (6.07)
p>0.05			

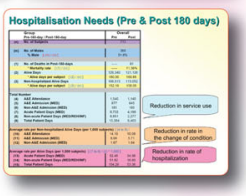
The health status (MRC Dysponea Scale and FEV1) and functional capacity (walking distance, SpO2, MFAC and BI) were also significantly improved ($p < .05$). The number of fall after three months was decreased among the ambulants with hip fracture (mean 1.5 to 0.03). No significant difference on laboratory data (HbA1c and serum albumin).

Outcomes on nursing interventions were significantly better, 39% of patients with ulcers were healed within 3 months. 31% & 10% of patients with urinary catheter and nasogastric tube were weaned-off respectively.





Further, it had showed significant reduction in service use: A&E attendance 1,540 to 1,140 A&E admission 877 to 645, total bed days 13,384 to 6,463 and non-A&E admission 181 to 185. Assuming each bed day cost $3,000, total $12,136,590 health care cost was saved. There is an insignificant increase in clinical admission after 180 days.



Conclusion

The CNS is effective in providing chronic disease home care management and empowerment to patients and carers. With the development of KPI in CNS, it helps to monitor and evaluate the service.

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