

Haematology Unit, Medical & Geriatrics Department,
PRINCESS MARGARET HOSPITAL

**The effectiveness of an enhancement
program on management of febrile
neutropenia in haematology patients to
reduce unplanned emergency hospital
admission**



Introduction



Neutropenic sepsis is a potential fatal Haematological emergency in patients with:

- ☀ Marrow failure either primary or secondary to disease progression
- ☀ Immunosuppressant therapy
- ☀ Cytotoxic chemotherapy
- ☀ Haemopoietic stem cell transplantation





Prompt management is essential in life-saving and can prevent irreversible outcome through a structured and readily accessible service.



Problem Identified

- Lack of communication and coordination
- Lack of ad-hoc accessible services
- Lack of management system for the patients
- Lack of staff awareness
- Lack of carer's awareness



OBJECTIVES



An enhancement program was developed in 1Q2012 which aims to :

- ✦ Reduce unplanned hospital admission through Accident & Emergency Department (AED)
- ✦ Provide preventive measures through patient education and assessment
- ✦ Provide immediate intervention and advice through telephone help line in the Nurse-led clinic



Design



The enhancement program applies to discharge patients with:

1. Post chemotherapy
2. Neutropenia - related to Haematological disease
3. Post Haemopoietic Stem Cell Transplantation



METHOD

Enhance in-service training
Patient education

Nursing Assessment upon discharge
Accessible service - Nurse-led clinic / Haematology day ward & AEDs - Guideline on Management of Neutropenic sepsis

Reengineering team work



Outcome Measures



Post 12 months' implementation review on:

1. The number of unplanned admission through AED
2. The effectiveness on patient education and nursing assessment by the number of calls to help-line

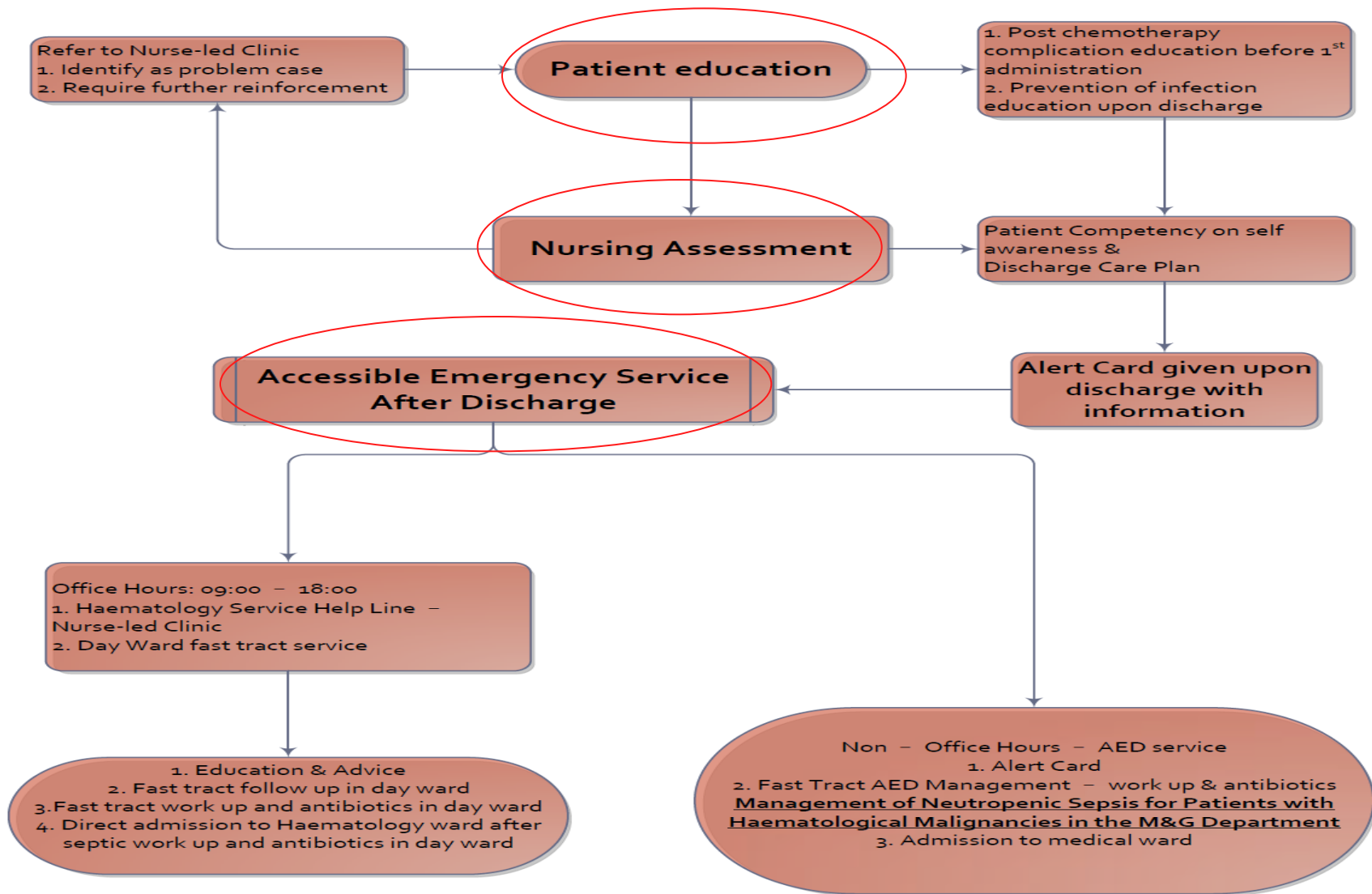




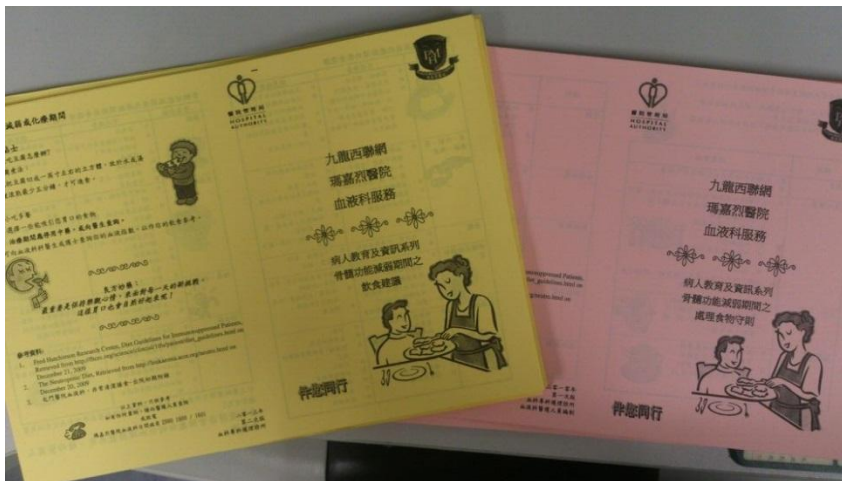
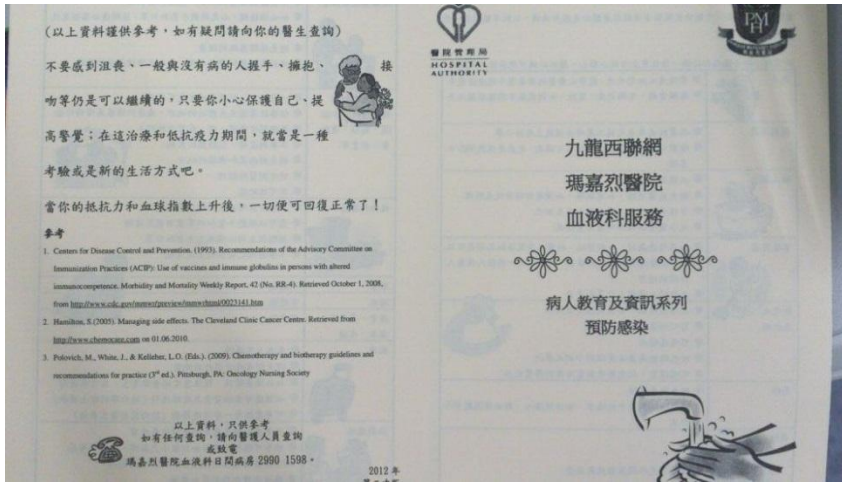
CLINICAL PATHWAY FOR MANAGEMENT ON PATIENT WITH FEBRILE
NEUTROPENIA TO DISCHARGED PATIENTS



Clinical Pathway for Management of Febrile Neutropenia – Discharged Patient



Education Pamphlets



Patient Home Care Empowerment Score & Discharge Care Plan

Haematology Unit, M&G
Princess Margaret Hospital

Affix Patient's Gum Label

Diagnosis: _____

Name of Chemotherapy Protocol: _____

Planned cycle: _____

Date of Chemotherapy Commence: _____

Plan End of Chemotherapy Period: _____

Neutropenic status: _____ Latest WBC count: _____

Post Chemotherapy / Neutropenic Patient Home Care Empowerment Score (I)

No.	Items	Date							
1.	Physical care	Verbalize understanding on complications of chemotherapy and its interventions.							
2.		Physically and mentally competent on caring at home.							
3.		Carer is available for assistance.							
4.	Coping Skill	Able to maintain self or being assisted on monitoring on body temperature and other signs of infection symptoms.							
5.		Identify early signs for Neutropenic sepsis.							
6.		Understand the importance of wearing of mask during Neutropenic stage.							
7.	Catheter Care	Verbalize and/or use stress relieving technique to avoid psychosocial disturbance.							
8.		Patient / carer accept the disease process, and participate in the care.							
9.		Verbalize awareness on early signs & symptoms of exit site infection.							
10.	Home Environment	Demonstrate ability in following nurses' advice on exit site care.							
11.		Demonstrate effective technique on handling & care on exit site and external catheters.							
12.		Patient or carer is aware on keeping clean & tidy environment.							
13.	Medication	Understand the awareness in home environment in avoiding pets, and recreation							
14.		Show competent in taking prophylactic antibiotics as prescribed correctly.							
15.		Maintain well balance & clean diet.							
16.	Oral Care	Maintain only eat well cooked food and boiled water as instructed.							
17.		Maintain adequate daily fluid intake.							
18.		Maintain daily oral flushing with appropriate oral hygiene method as instructed.							
19.	Food Safety	Understand to observe for oral ulcer and seek medical advice when necessary.							
20.		Understand importance on food safety.							
21.		Maintain observation on daily bowel habit and awareness on constipation and diarrhoea.							
22.	Elimination	Inspect skin daily e.g. skin redness, tenderness, rash, itchiness							
23.		Able to maintain good personal hygiene e.g. daily shower or bathing, change of dirty clothing.							

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Post Chemotherapy / Neutropenic Patient Care Empowerment Score (II)

No.	Items	Date							
24.	Activity & Exercise	Maintain minimal exercise and daily activities as usual.							
25.		Self restriction and avoid traveling during Neutropenic.							
26.		Show understanding and able to avoid going out to public places such as markets, swimming pools, karaoke, cinema, parties...							
27.	Emergency support	Understand the available access during emergency situation.							
28.		Understand the usage of Chemotherapy Alert Card.							
29.	Follow up	Intensive follow up appointment is scheduled.							
30.		Competent in attending follow up as scheduled.							
31.	Community support	Inform day ward nurse if too weak to attend follow up and seek advice from day ward.							
		Verbalize and / or use community resources and support e.g. home help service, social worker, support group e.g. 心法會 / 心法會							

Total score = 1 mark for 1 item / 31 - No. of NA item

Crucial points : 13

Rank & Name

Signature

P.S. / Pass, * - failed, N.A. = not applicable. Crucial elements to achieve standard patient / care empowerment. Initial assessment to be conducted to all patients undergo 1st dose chemotherapy upon discharge or during Neutropenic phase. Patient should achieve all pass in all items. Re-assessment should be performed during next visit if not passed.

Nursing Discharge Care Plan

Items	Care Plan								
1.	Patient achieved all pass in the empowerment score demonstrated self / carer support in physical and psychological care at home has been achieved.								
2.	Empowerment score : _____ requires phone follow up / referral to CNS.								
3.	Medical follow up within _____ days has been arranged to patient in day ward on (Date): _____								
4.	Further education on the following items has been reinforced. Awareness of signs of Neutropenic infection Catheter care Home environment Administration of medication Nutrition and hydration : by nurses / referred to dietitian Personal hygiene Activities Emergency support - further explained on use of alert card, hotline and AED service								
5.	Nurse coordinator has been informed / arranged for phone / nurse clinic follow up.								
6.	Carer's name and telephone no. _____								
7.	Others: _____								

Rank & Name

Signature

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病人須知

如有以下情況
可致電本院血液科熱線
或
盡快前往 就近急症室 求診

- 發燒
(攝氏38度或100.4華氏度以上)
- 感染症狀例如:嚴重咳嗽、喉痛、呼吸困難、暈眩、發冷及顫抖等
 - 昏睡、甚至神智混亂
 - 皮下出血或皮膚出現瘀斑
 - 嚴重嘔吐或腹瀉
 - 導管發炎症狀

瑪嘉烈醫院
血液科熱線電話：
2742 9121

辦公時間：
星期一至五
上午九時
至
下午六時

非辦公時間：
請即前往
就近急症室
求診，
並出示此警示卡

此卡經蓋醫院印章後
方為有效：

瑪嘉烈醫院血液科
低白血球症
病人警示卡

病人

診斷為

目前在本院接受化療
療程為：
 最近一次化療於：(日期)

I	II	III	IV
/ /	/ /	/ /	/ /
V	VI	VII	VIII
/ /	/ /	/ /	/ /

或於 / / (日期)
 已接受骨髓移植

或接受治療中，
 正處於低白血球時期

發日期： / /

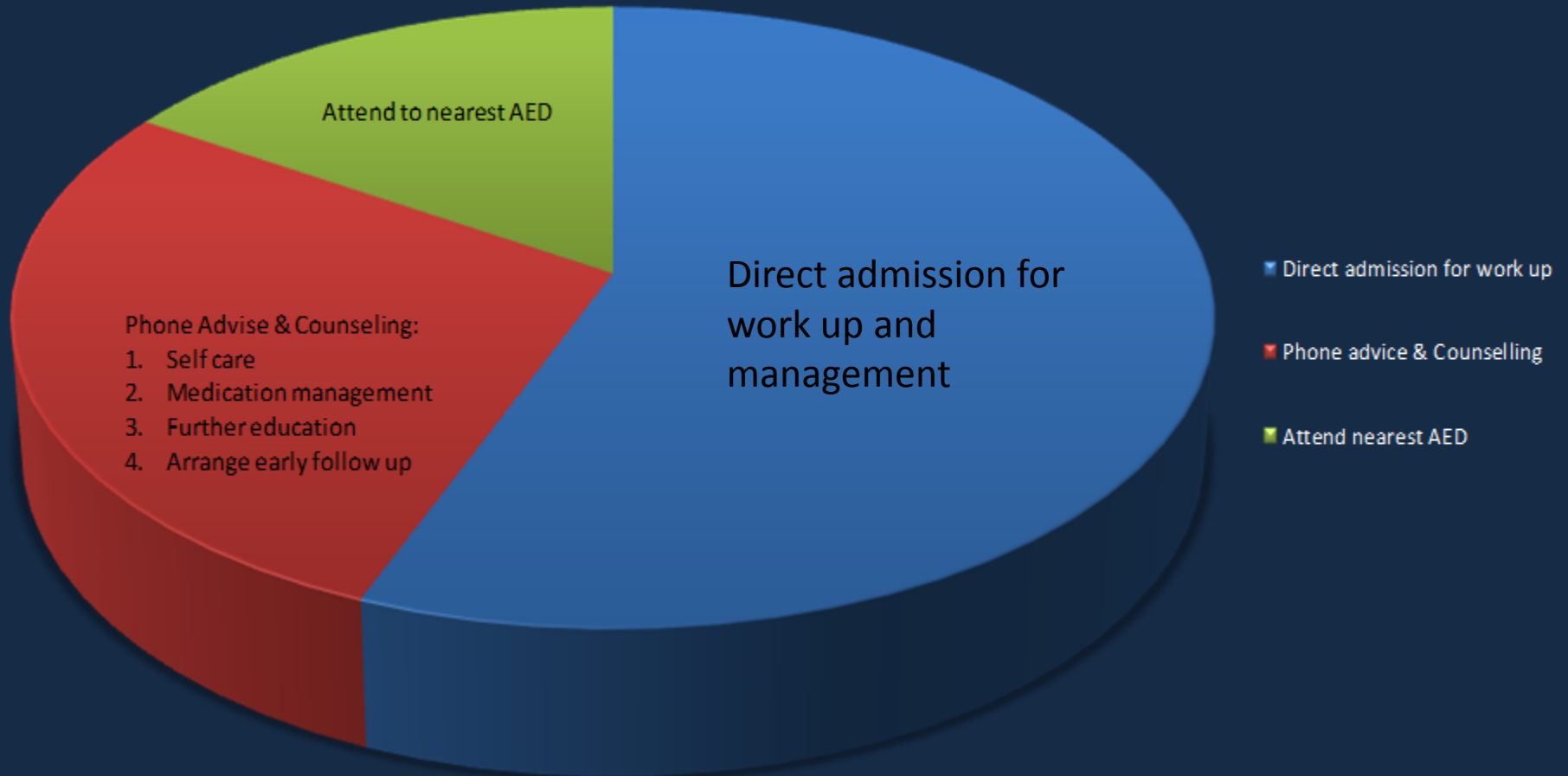
醫護簽署：

文件編號： 0023

Outcomes Before and After the Program

	Before	After
Patient Education	By Nurse - specialist when available	Pre-chemotherapy education , education on discharge, continuous review by ward / day ward Haematology nurses
Nursing Assessment	By Nurse- specialist when available	Chemotherapy home care competency assessment upon discharge by nurses working in Haematology ward or day ward
Alert Card	NIL	Available
Help Line	NIL	122 calls Available 09:00 - 17:00 (Mon - Sat)
No. of admission through AED (Neutropenic related)	67	38
Triage as clinical admission	16	69 (56% of all calls)

Help Line Calls



What the Help-line calls reflects??

1. Patient understand the importance on self awareness
2. Trust & rapport has been



What happens to those patients finally admitted for Febrile Neutropenia without calling??



Patient not compliance to advice....

Emergency during non-office hour

Too ill to call - strictly go to A&E by ambulance

OVERALL RESULTS

- Life saving
- Increase patient self awareness
- Enhanced accessible service during emergency
- Provided efficient patient management
- Reducing cost – given the cost of each AED admission of

HK\$2659 x 69 cases = clinical admission = \$183,471





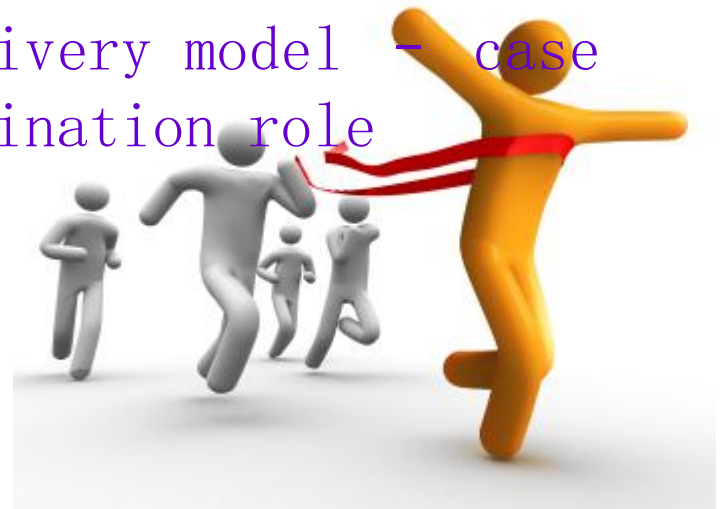
Nursing Perspectives:

Enhanced a systemic management and continuity of care to patients

Enrich and promote team work

Job satisfaction - increase autonomy in patient management by standing protocol in the Nurse-led clinic

Modernizing care delivery model - case management and coordination role



Future Enhancement

1. Extended to in-patient program on timely management of febrile neutropenia
2. Review on effectiveness of the help-line and the time from work up to antibiotics (door to needle)
3. Enhancement on nursing skill on help-line enquiry by developing an assessment checklist





Acknowledgment:

- Haematology ward and day ward nurses
- Department DOM, PMH
- Haematologists PMH

Thank you!