The National Healthcare Group Advance Care Programme (NHG ACP)

An end-of-life care programme for advanced COPD, end-stage heart failure & end-stage renal failure

How it all started…

- Concept of "Chronic Disease Management" was well-established in the USA, UK and Australia in the 1990s.
- CDM is a multidisciplinary, continuum-based approach to healthcare delivery; it proactively identifies populations with, or at risk of established chronic medical conditions.
- CDM emphasizes on prevention of worsening, utilising cost-effective evidence-based practice guidelines and patient empowerment strategies.
- NHG adopted CDM in Aug 2000 to manage the rise in incidence of chronic diseases.
- A small project team was started to develop, drive and coordinate the implementation of CDM programmes within NHG

How it all started…

- NHG's CDM programme has been focusing largely on at-risk and stable patients since 2000.

- Studies have shown that adding ACP for EOL patients by mobilizing routine and urgent services to the home and having hospice care available at home yield further improvement in reducing exacerbations and costs (Lynn, Schall, et al. 2000).

- The idea of a pilot project to look into EOL care of patients with advanced chronic illness was mooted in 2007.

Programme

- 3-year duration: Dec 2007 to Nov 2010
- Institutions: AH, NUH and TTSH
- Total funding: S$3,166,258 (HSDP)
- Programme Director: Dr Wu Huei Yaw
- PC physicians: Dr Angel Lee
  Dr Angeline Seah
  Dr Wu Huei Yaw
- Staff strength: 2 Medical Officers
  3 Nurse Clinicians
  2 Counsellors
  1 MSW
  1 Admin Assistant

Objectives

1) Integrate palliative care into curative care practices early in the disease trajectory

2) Help patients manage & control pain and symptoms at home

3) Support patients' care at home

4) Improve patients' quality of life through the relief the physical, emotional, social and spiritual discomforts in the last phases of life

5) Reduce the need for re-hospitalizations and ED visits for management of exacerbations

Emphases of Programme

3 'E's:

- **E**arly identification of patients at the end of life
- **E**mpowerment of patient and family through education and ACP
- **E**ngagement of patient/family and intervention to prevent crises and assistance in deterioration

Key Components

- Interdisciplinary Programme
- Collaboration between the primary physicians and the palliative care team with referral of appropriate patients
- Home care
    - ✓ Rapid response team 24/7
    - ✓ Home hospice support
    - ✓ Telephone surveillance
- Advance Care Planning
- Grief and bereavement support

Guiding Principles

- Respect and enable patients to die with dignity and in a setting of their own choice

- Respect for patient's and family's wishes

- Aging with Dignity's 5 Wishes for:
  -The person I want to make care decisions for me when I can't;
  -Kind of treatment I want or don't want;
  -How comfortable I want to be;
  -How I want people to treat me; and
  -What I want my loved ones to know

Guiding Principles

- 7 C's of the Gold Standards Framework (NHS End of Life Care Programme):
  - C1 – Communication
  - C2 – Co-ordination
  - C3 – Control of symptoms
  - C4 – Continuity including out of hours
  - C5 – Continued learning
  - C6 – Carer Support
  - C7 – Care in the Dying Phase

- Shared decision making

Roles of Personnel involved

Primary Physicians

- To identify patients who meet the inclusion criteria
- Continue to serve as the primary physician if the patient is readmitted to the hospital
- Initiate end of life care and ACP
- Introduce the EOL programme to patient and offer recruitment

Roles of Personnel involved

Case Managers of respective chronic disease

- To assist the primary physicians in carrying out the duties mentioned
- Liaise with the EOL programme nurse clinicians

Palliative Care Physicians

- To provide leadership, education and mentorship of the home care team
- To screen through referrals
- To provide palliative care support when patient is hospitalized and ensure continuity of care between hospital and home care team
- To monitor the outcome measures
- To report to project directors

Roles of Personnel involved

Medical Officers and Nurse Clinicians

-make home visits in management of patients

-assist in education of patients and family

-participate in audit of care and multidisciplinary team meetings

-join Hospice team in call rota for after-hours cover

Medical Social Worker/ Counsellors

-identify and assist in psychosocial and spiritual issues

-assist in case management

-assist in ACP

-bereavement support

Roles of Personnel involved

Admin Assistant

- Data collection and entry
- Receives referrals and notifies palliative care physician for screening purposes
- General admin support for the team

Inclusion Criteria for ESHF

I) Evidence of end organ failure (all of A-E)

A. LVEF <30%

B. Marked LV systolic dysfunction

C. NYHA Class 4 or Class 3(if above 75 years) at stable state

D. Optimally treated with diuretics, vasodilators, beta-blockers and spironolactone as indicated and tolerated

E. Other factors contributing to poor prognosis (at least 1 below):

a. symptomatic arrhythmia
b. history of cardiac arrest an resuscitation or syncope
c. cardiogenic brain embolism
d. concomitant HIV
e. elevated serum creatinine > 120umol/L
f. hyponatraemia (<130umol/L)
g. anaemia <10g%
h. systolic BP < 100mmHg
i. hypoalbuminemia <25g/L
j. cachexia (unintended weight loss of >10% over past 6 months)

II) Evidence of progression of disease (either A and B or C)

A. Clinical evidence of progression based on radiological, physician assessment or laboratory tests

B. >/= 3 hospital admission or ED visits (or home visits) in the last 12 months

C. Decline in 3 of 6 ADLs at stable state

Both I & II must be satisfied

Inclusion Criteria for Advanced COPD

Fulfils 2 out of the 3:

1. Evidence of severe airway obstruction ie. FEV1 <30% predicted

2. Severe dyspnoea ie. patient is too breathless to leave the house or when dressing/undressing

3. Meets criteria for LTOT

Inclusion Criteria for ESRF

1. GFR </= 15ml/min per 1.73m^2 and
- patient declines renal replacement therapy, or
- patient is inappropriate candidate for RRT because of co-morbid conditions

2. Patients who withdraw from dialysis

Exclusion Criteria

- Patients who do not fulfill inclusion criteria
- Patients with co-morbid conditions of poorer prognosis eg. advanced malignancy, advanced HIV, advanced neurological conditions
- Patients who refuse participation in the programme
- Patients with psychiatric/cognitive disorders who will not comply with medical instructions or self-care

Exclusion Criteria

- Patients who are to be admitted into an inpatient hospice
- Patients who do not have a reliable caregiver
- Patients in nursing homes
- Patients whose heart failure (eg. thyrotoxcosis, anaemia) or renal failure are due to secondary and treatable causes

Discharge Criteria

Patients who enter an inpatient hospice or nursing
home facility

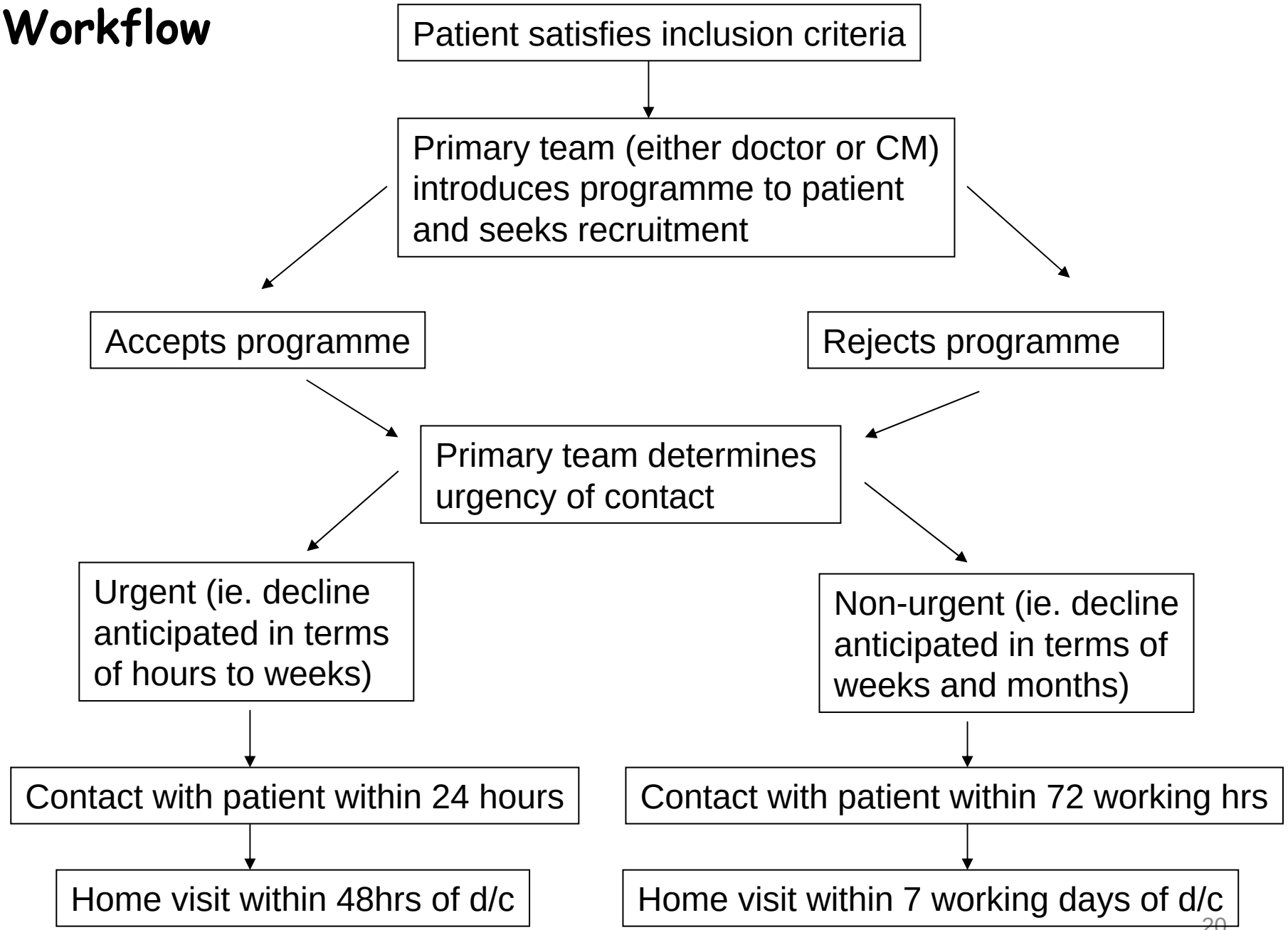
For HF, patients:

- referred for heart transplant

For ESRF, patients:

- change his/her mind and opt for RRT

Workflow


Patient satisfies inclusion criteria
Primary team (either doctor or CM) introduces programme to patient and seeks recruitment
Accepts programme
Rejects programme
Primary team determines urgency of contact
Urgent (ie. decline anticipated in terms of hours to weeks)
Non-urgent (ie. decline anticipated in terms of weeks and months)
Contact with patient within 24 hours
Contact with patient within 72 working hrs
Home visit within 48hrs of d/c
Home visit within 7 working days of d/c

- Flowchart of Patient Care.doc

Initial Projection

Intervention	COPD	HF	ESRF	N (total)	%
RRT only	110	90	70	270	77.1%
RRT + HC	35	45	0	80	22.9%
Total	145	135	70	350	100%

RRT: Rapid Response Team HC: Home Care

Revision of Projection

- Over-projection of figures

- Realistically, each nurse can only handle 30-35 patients at any one time

Referral Sources

- 3 Restructured Hospitals:
  -Alexandra Hospital
  -National University Hospital
  -Tan Tock Seng Hospital

- Renal service, Heart failure service, Respiratory physicians/COPD nurse clinicians, Internal medicine physicians

- Both inpatient and outpatient

Referral Form

NHG ACP Referral form.pdf

Reviews

- All patients are categorized based on the severity of their condition.

- The frequency of home visits will depend on the severity of their condition.

Classification	Frequency of visits
S1A	4-8 weekly
S1B	2-4 weekly
S2	Weekly to fortnightly
U1 (unstable)	2-3 per week
U2 (deteriorating)	EOD or daily
H (hospitalized)	-

Outcome Measures

Process indicators

1. Pain and symptom assessment
   -documentation of pain and symptom assessment and evaluation

2. Grief and bereavement support
   -documentation of assessment of risk of complicated grief and offer of grief and bereavement support

3. Continuity of care
   -documentation of having received information about the availability and benefits of palliative or hospice care and other community resources

4. Advance care planning
   -documentation of ACP

Outcome Measures

Utilisation indicators

5. Average LOS in hospital
6. Average cost per inpatient admission
7. Average hospitalisation bill size
8. Readmission within 15 days of discharge
9. ED visits

Outcome Measures

Outcome indicators

10. Family satisfaction
    -mortality follow-back bereaved family's satisfaction of care

11. Symptom management
    -pain and symptom control throughout disease trajectory and in terminal phase

12. Compliance with advance care plan
    - percentage of patients who have their EOL preferences and place of care honoured

Equipments

- Graseby syringe drivers
- CADD pumps
- Pulse oximeters
- BP sets
- Nebuliser machine
- Suction machine

Education material

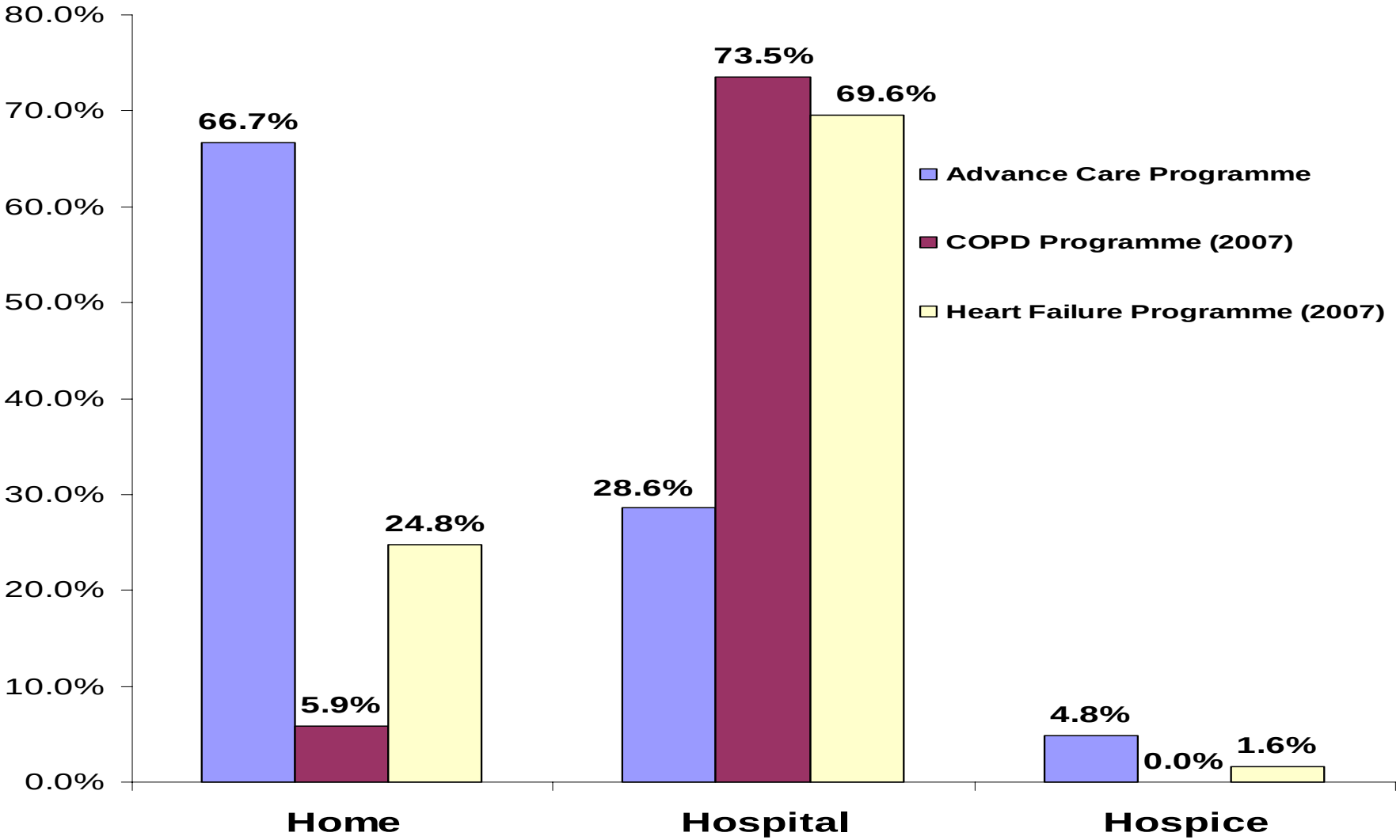
- Pamphlets
  - specific disease
  - symptoms
  - management/control of condition
  - patient/family's roles eg. monitoring fluid intake
  - advance care planning

"Statement of Wishes & Preferences" Form

Public Education

- Public forums

Place of death of patients under Advance Care Programme (May – Dec 2008), COPD & Heart Failure Programmes (Jan – Dec 2007)



Challenges

- Unable to recruit permanent doctors
- Depended on a common pool of medical officers which changed every 6 months
- Annual projected number of patients to be recruited was higher than what the team could realistically manage

Challenges

- Patient's condition can be unpredictable; deterioration/exacerbations frequently happened after office hours
- Referrals made from outpatient setting cannot be carefully screened
- No proper control group for data comparison

Challenges faced in ACP discussion

- Language barrier
- Patient/family emotionally/mentally not ready to discuss
- Portability between different care settings
- Inadequate medical knowledge to initiate specific discussion eg. complications of mechanical ventilation
- Primary physician not initiating ACP discussion