Changi General Hospital
SingHealth

Supporting Diabetes in the Community – Experience with a Disease Management Unit

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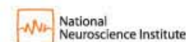
service
education
research

PATIENTS. AT THE HEART OF ALL WE DO.

Members of the SingHealth Group



Disease Management Unit (DMU)

What do we aim to do?

- Chronic Disease Management
- Keep patients healthy in the community
- Keep them out of the hospital
- Keep their condition well under control through education and self-management

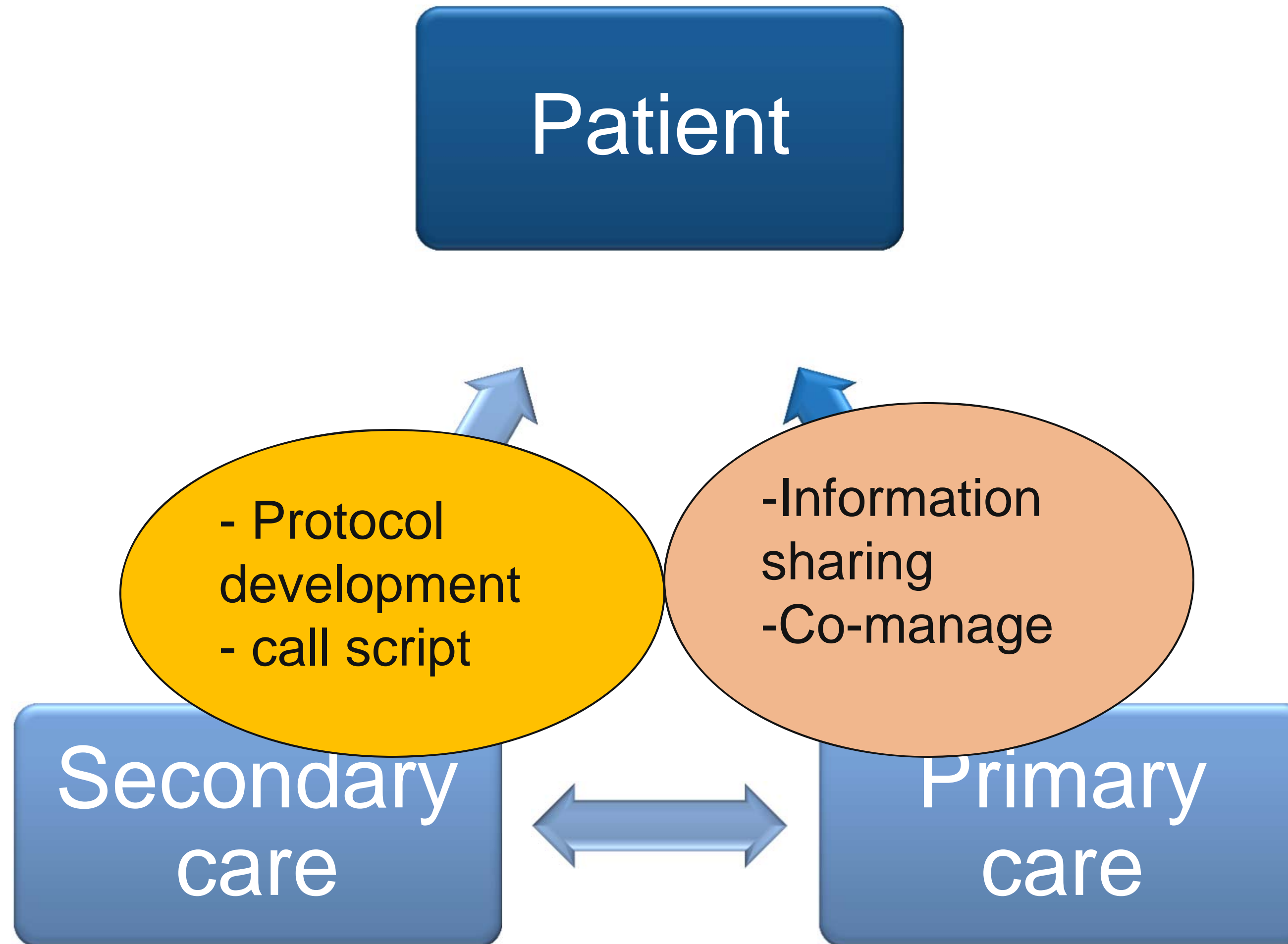
Elements of Disease management programme

- Patient education
  - Knowledge of disease and medication
- Coaching
  - Encourages patients to overcome psychological barriers that impedes autonomy
- Monitoring
  - Disease manager monitor clinical markers of patients
- Care coordination
  - Reminds patients of upcoming appt or important aspects of self care
  - Inform primary physician about complications or therapeutic recommendations

Disease Management Unit: structure

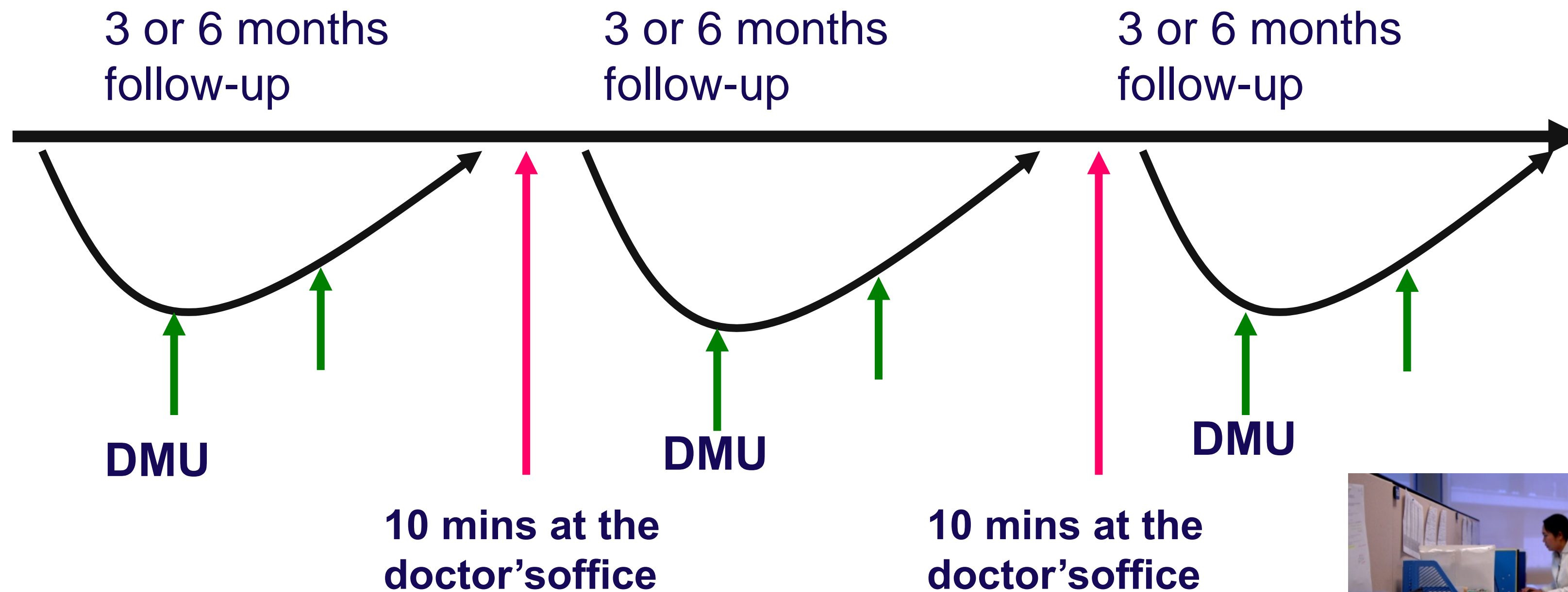
- Telecarer manages patients through outreach telephonic means
  - Educate patient
  - Detect signs of deterioration
  - Recommend practical changes in diet and lifestyle
- Telecarers follow structured call script to evaluate patient's understanding of the disease and adherence to advice given.
- Supported by Patient Relationship Management (PRM) IT system which enables Telecarers to access past clinical indicators and information, as well as to capture each interaction with the patient.
- Clinically supported by Resident Physician and Specialists

Partnership between primary and secondary care

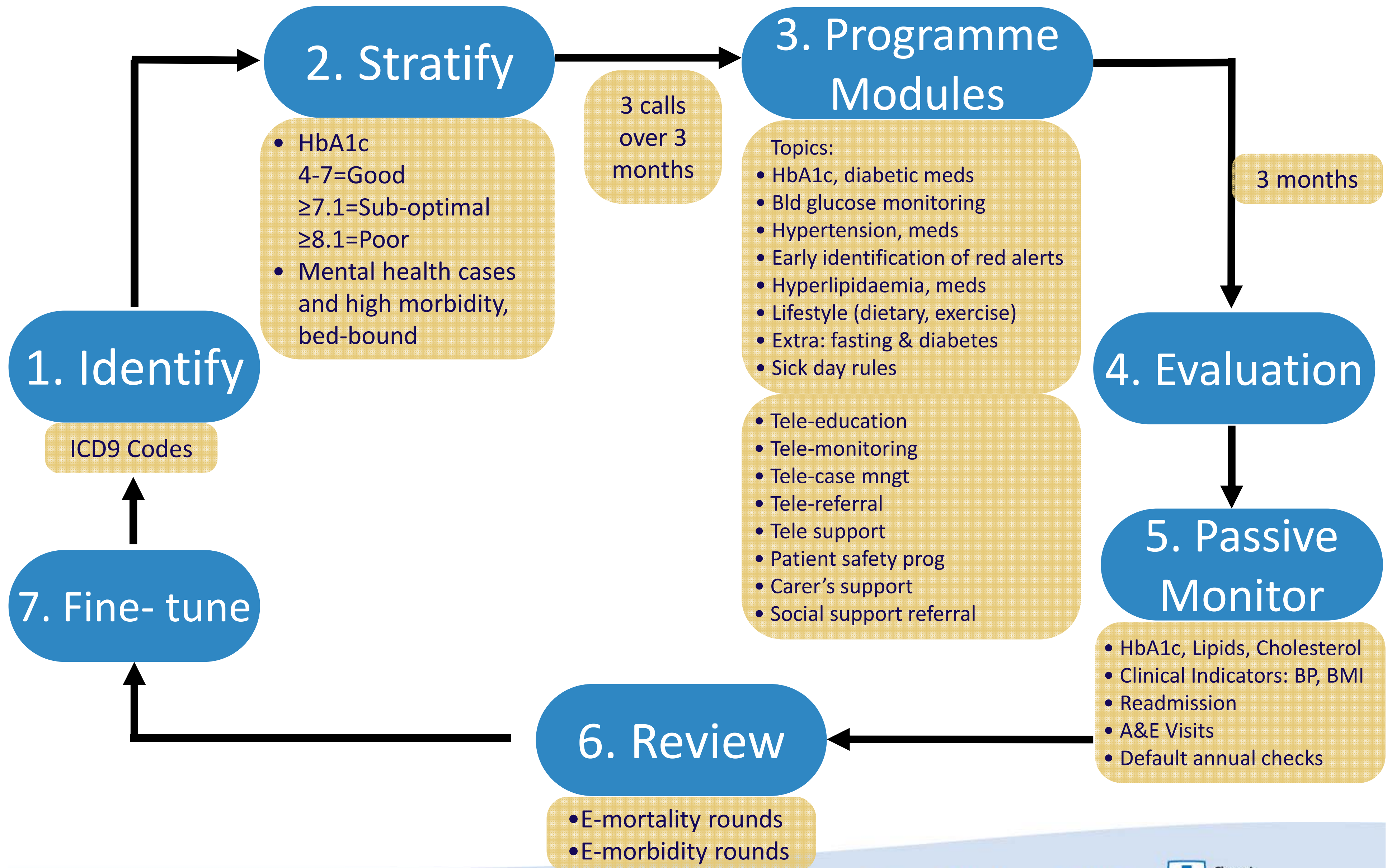


Disease Management Unit (DMU)

– helping the patients in their journey to manage their chronic conditions



DMU Model of Care (Diabetes)

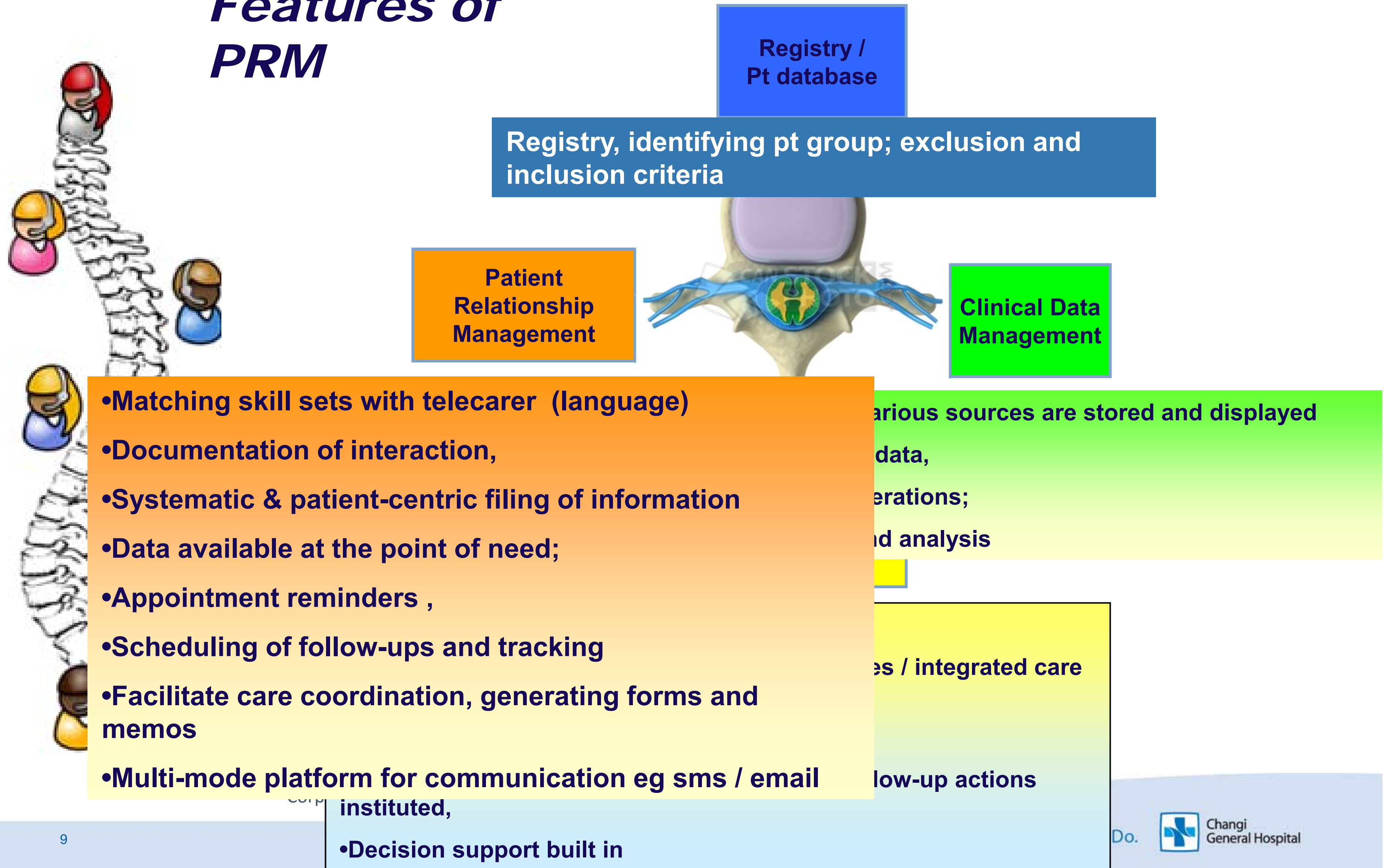


Patient Relationship Management (PRM)

IT system which enables Telecarers to access past clinical indicators and information, as well as to capture each interaction with the patient

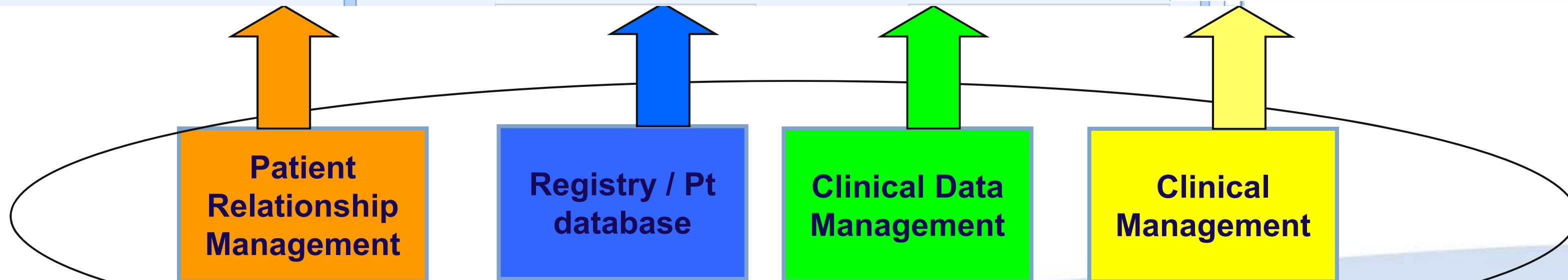
Changi General Hospital

Patient Management System (PRM)

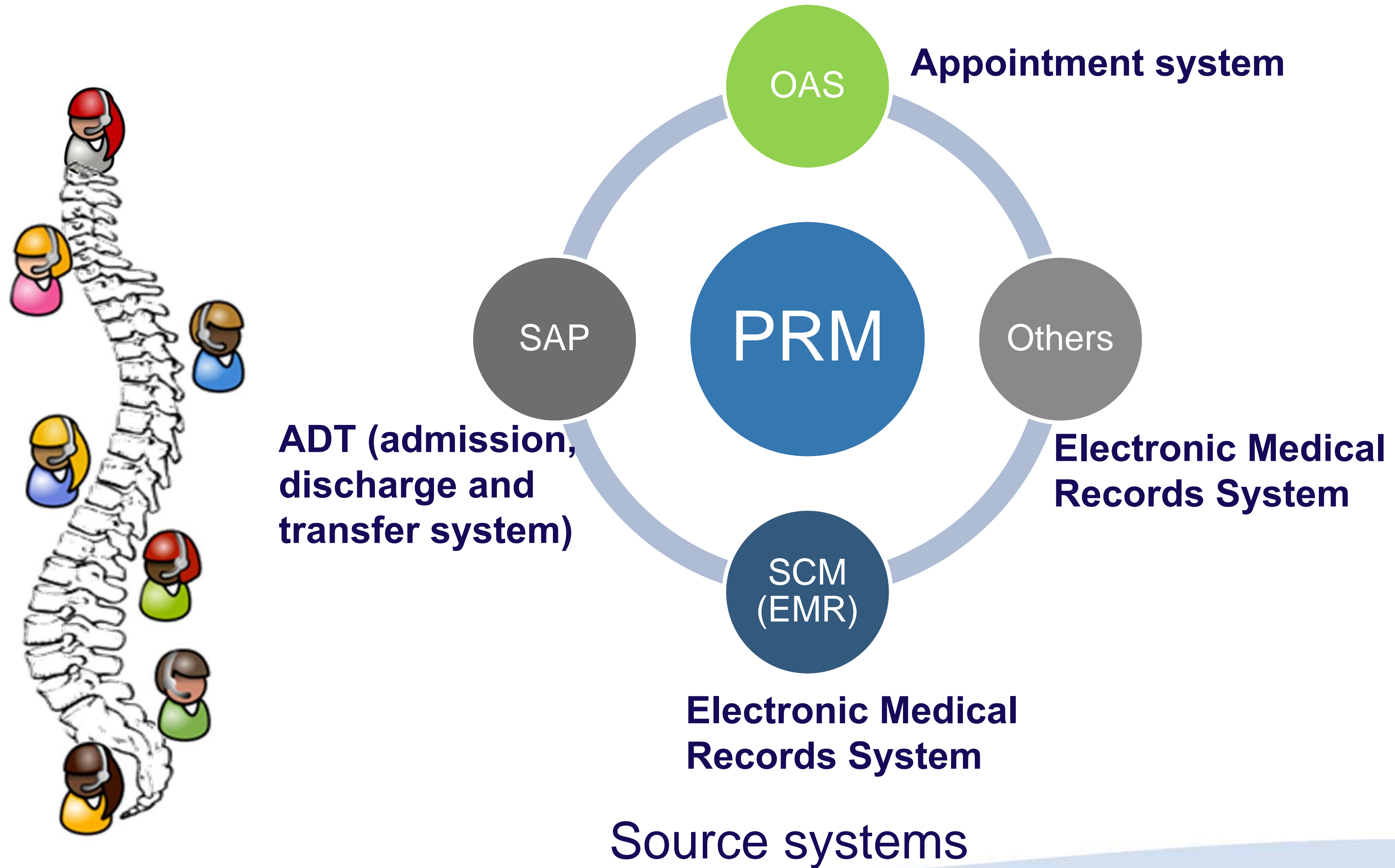


PRM Graphic User Interface (GUI)

Task details | **Patient details** | **Scripts**



Patient Management System (PRM)

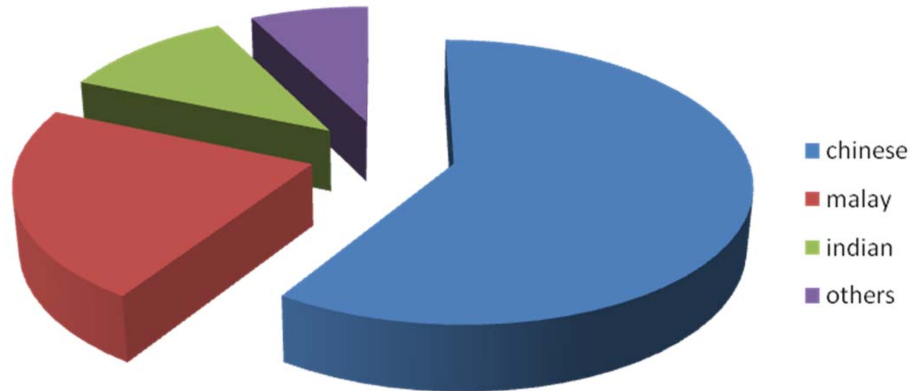


Preliminary results from DMU

3 months data of patients recruited

between June 2010 to March 2011

Baseline demographics

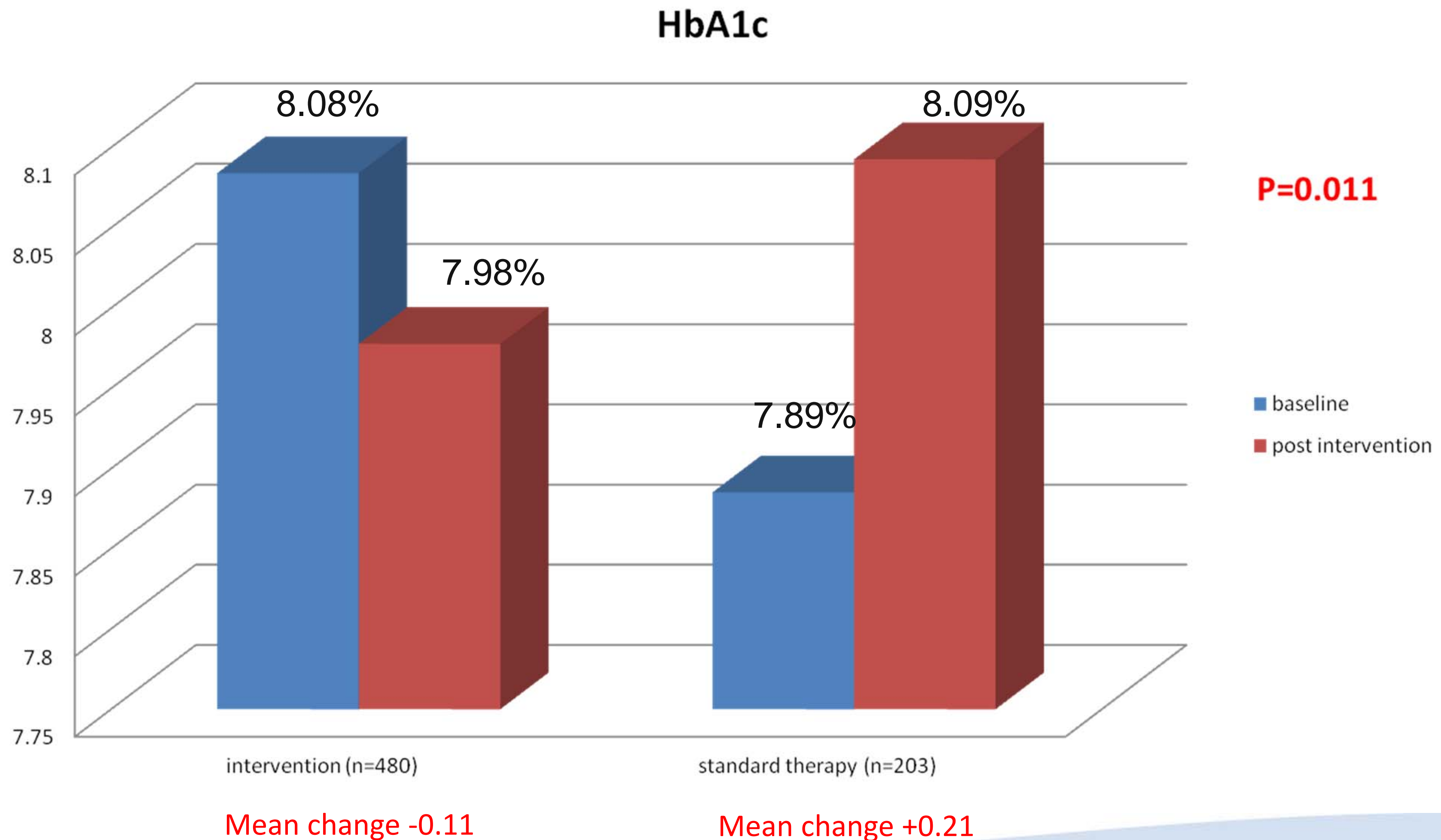


Male 54%
Female 46%

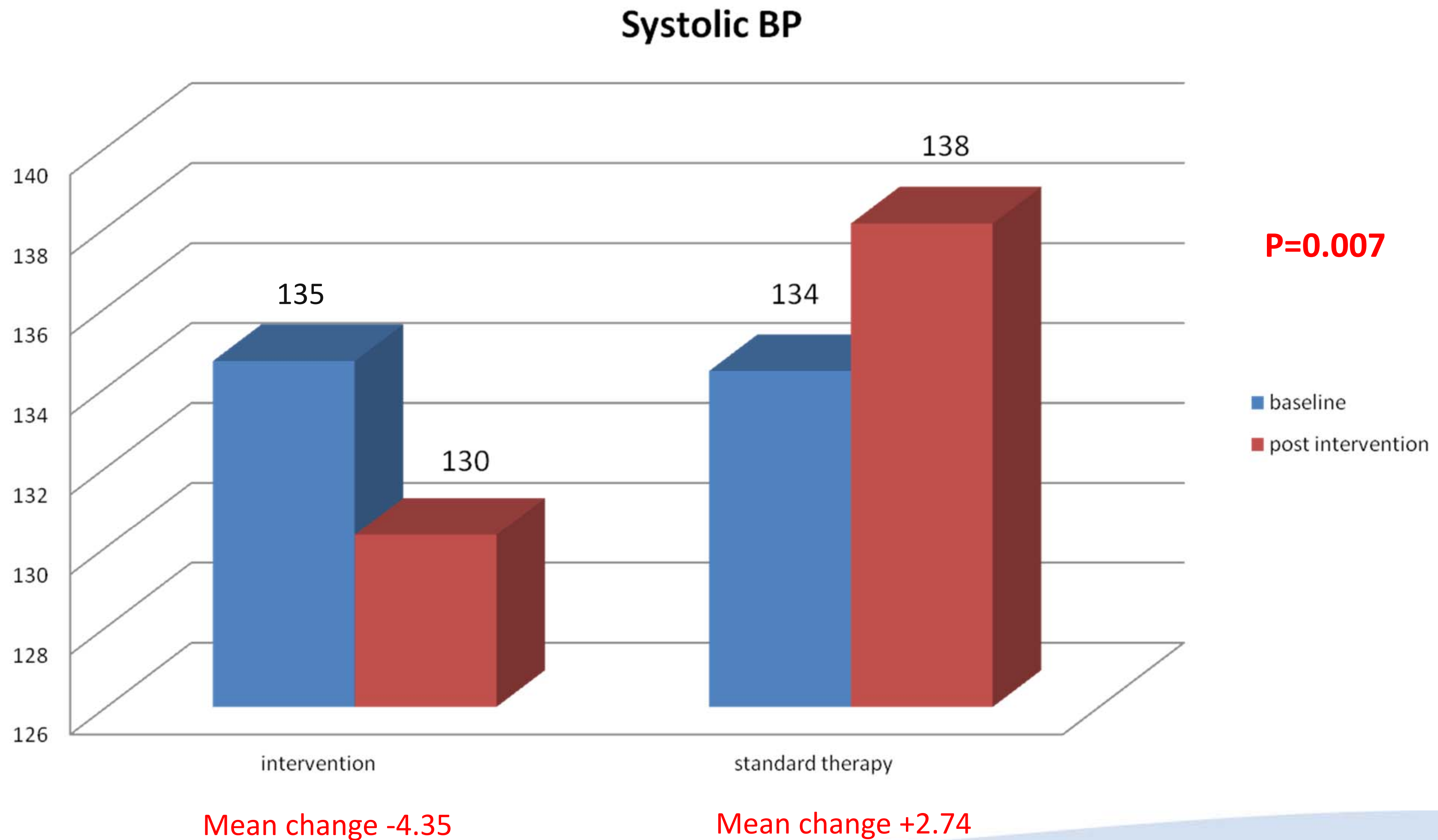
Mean age 61.8 years

Total no. of patients	Age Group	
	≤ 60 years	> 60 years
945	441 (47%)	504 (53%)

Change in HbA1c pre and post intervention in comparison to standard care



Change in Systolic BP pre and post intervention in comparison to standard management



Readmission Rate

	Intervention (n=543)			Standard therapy (n=372)		
	Before	After	% change	Before	After	% change
Total admission episodes	201	152	-24.4	85	79	-7.06
No. of patients with admissions	150	108	-28.0	63	57	-9.5
Admission due to hypoglycaemia (within 180 days)	9	2	-77.8	2	1	-50

Clinical Governance

- Monthly joint mortality and morbidity meeting with polyclinics

- Protocol for escalation of care
    - to A&E
    - to DMU resident physicians
    - to primary health provider
    - to specialists

Case study 1

- History
  - 30 year old female, Type 1 diabetes
  - Admission with recurrent hypoglycaemia, HbA1c 7.7%
  - Not monitoring blood glucose on regular basis, night shift
- Problems:
  - Lack of knowledge and financial resource
- Actions
  - Motivate and educate on hypoglycaemia and importance of regular blood glucose monitoring
  - Referral to diabetes society to obtain glucose strip
- Result
  - Monitoring blood glucose more frequently
  - Brought BG machine to work and able to self correct hypoglycaemia

Case study 2

- History
  - 66 year old female, type 2 diabetes on insulin for 8 years
  - Recent admission with hypoglycaemia
  - Blood glucose running high post discharge
- Problem
  - Multiple previous admissions for DKA due to non-compliance
- Action
  - Education and dietary compliance

Summary and Future directions for DMU

- Preliminary data suggests that DMU significantly improves diabetes and BP control and reduction in hospital admissions
- To extend the programme to other chronic diseases e.g. COPD and heart failure
- Integration of electronic medical record within the integrated care delivery system

Thank You

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