Comparing Two Post-Emergency Department Discharge Multidisciplinary Care Bundles in Reducing Acute Hospital Admissions for the Elderly – A Singapore Experience

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Ng Teng Fong General Hospital

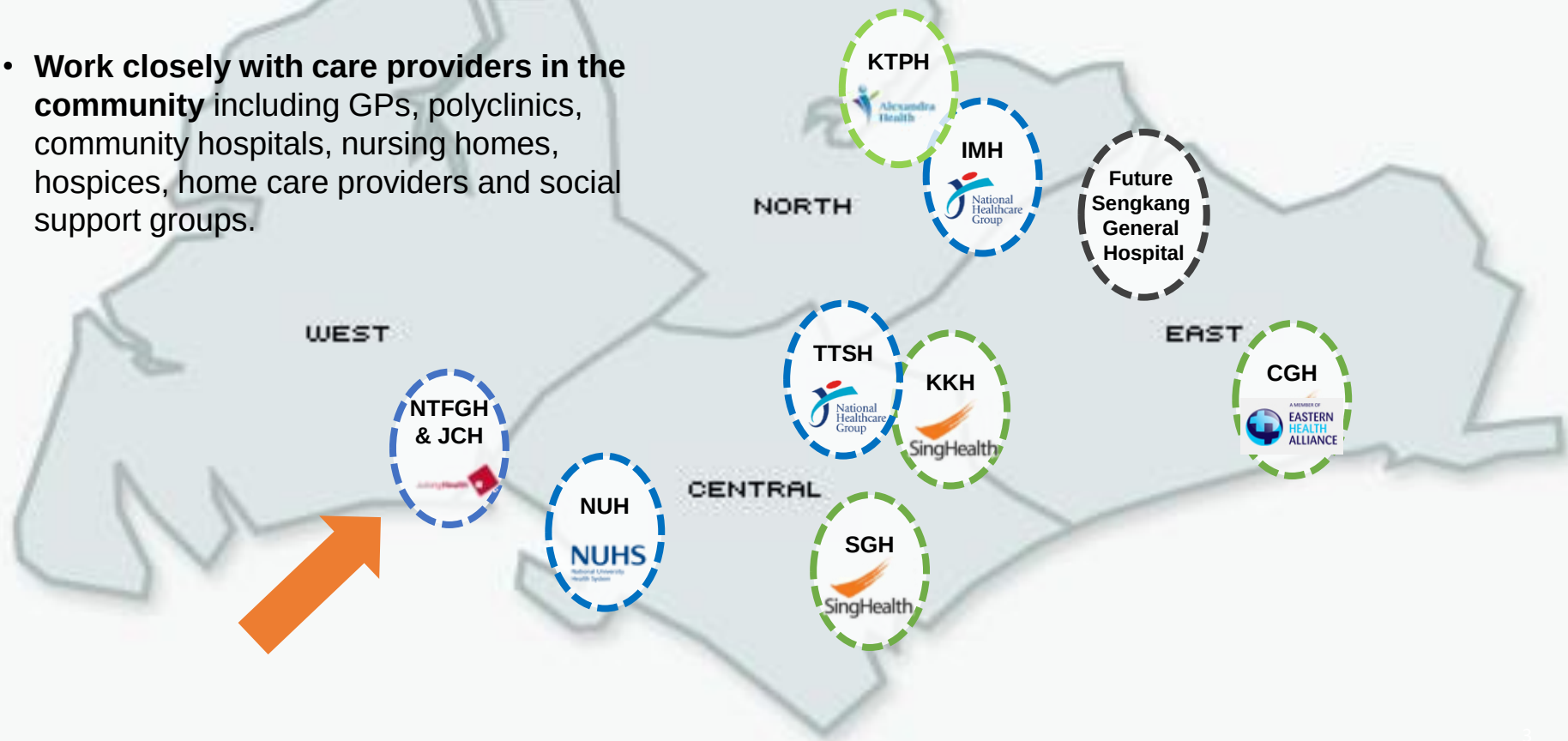
Jurong Health
A member of NUHS

A Regional Healthcare Cluster for the West

- **Provide integrated and seamless care experience** for our community requiring various healthcare services.

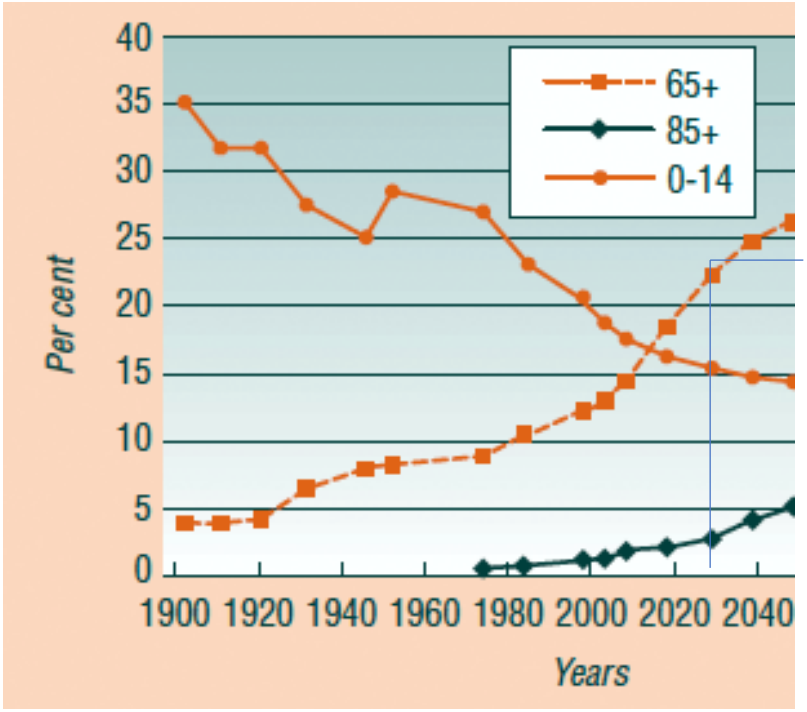
- **Work closely with care providers in the community** including GPs, polyclinics, community hospitals, nursing homes, hospices, home care providers and social support groups.

- **Engage non-healthcare community partners** e.g. grassroots organisations, employers, sports and other interest groups to help residents stay healthy in the community – away from the hospital.



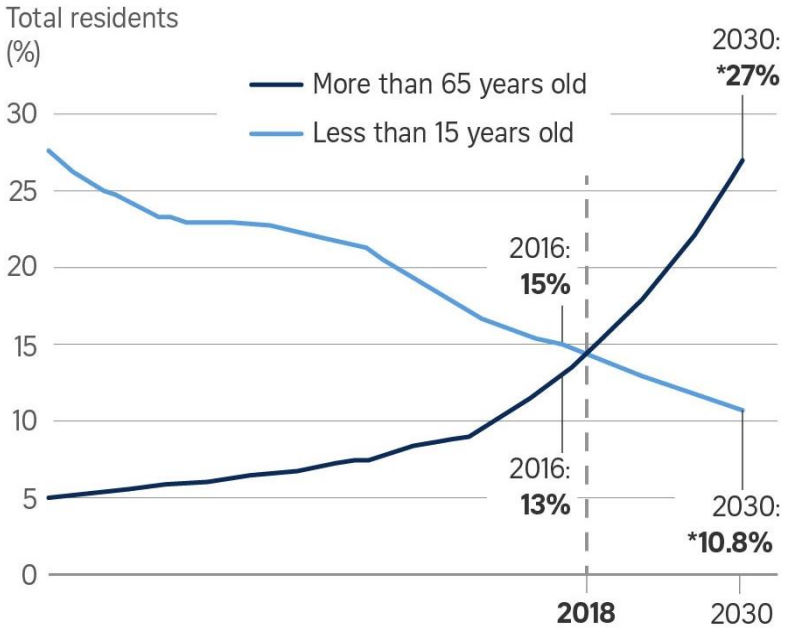
Australia Aging and Singapore's Faster Aging Population

Australia



23%

Singapore



NOTE: * UOB's forecast.

Taken from the Australian Institute of Family Studies website aifs.gov.au

Sources: SINGAPORE DEPARTMENT OF STATISTICS, UOB GLOBAL ECONOMICS AND MARKETS RESEARCH

SAFE Programme (2013)

SUBACUTE

AMBULATORY CARE FOR THE

FUNCTIONALLY CHALLENGED AND

ELDERLY

A. Identification of At Risk Elderly Patients

- ✓Above 65 years old
- ✓TRST score 2 or more
- ✓Functionally-challenged
  - ✓Includes below 65 years old
  - ✓Cervical Myelopathy
  - ✓Parkinson's
- ✓Diagnosis-specific inclusion criteria

Diagnosis-Specific Inclusion - Trauma

1. Falls with Minor Trauma

- ✓Minor Head injury
- ✓Minor Contusions
- ✓Spinal compression fractures
- ✓Stable limb fractures

- ✓ Haemodynamically Stable
- ✓ Conservative treatment
- ✓ Pain control and Rehabilitation at home

Diagnosis-Specific Inclusion – Medical

2. Clinically Mild Infections (Chest infection, UTI, Cellulitis)

3. Exacerbation of chronic medical conditions (COPD/Asthma/CCF/DM/Hypt) – for optimization

4. Dementia with behavioural and psychological symptoms – for symptom control and caregiver support

5. Frequent ED Re-attenders/Admitters (with possible social or care issues)

6. Functional decline (sub-acute)

B. Intervention – SAFE's 5 Core Components

✓Comprehensive Geriatric Assessment in the Home

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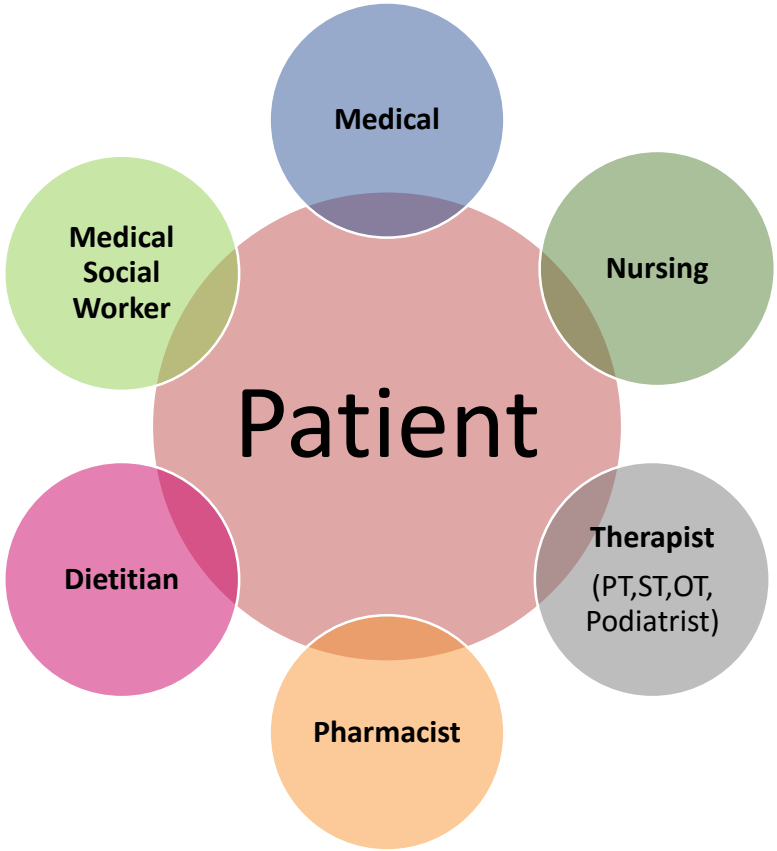
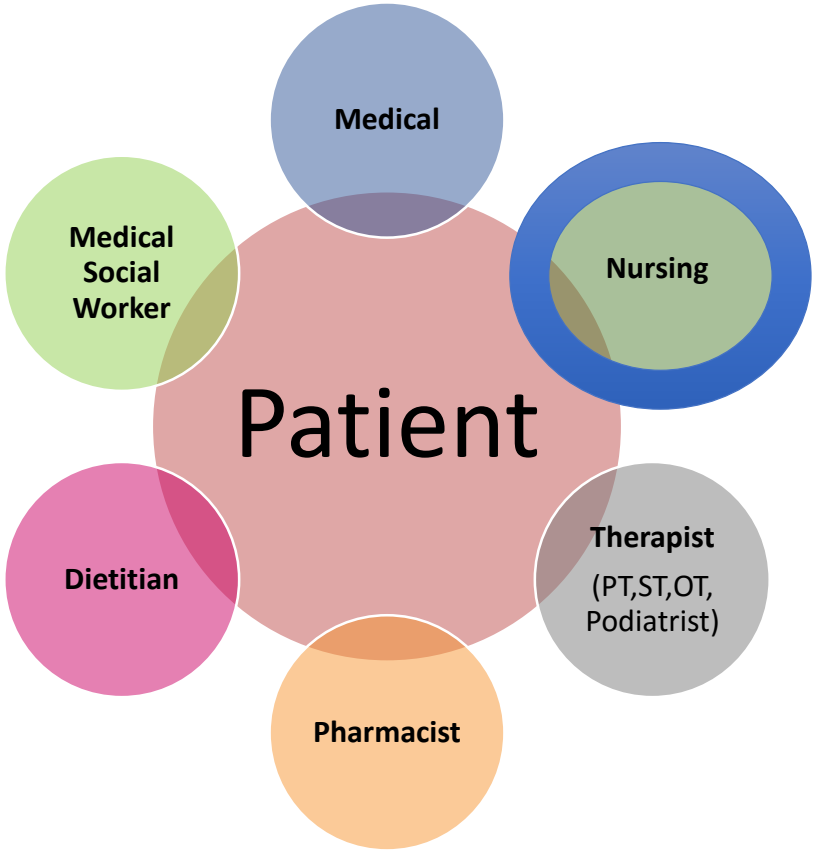
✓Multidisciplinary Team



B. Intervention – SAFE's 5 Core Components

- ✓Comprehensive Geriatric Assessment in the Home
- ✓Multi-disciplinary Team
- ✓Weekly telephone follow-up



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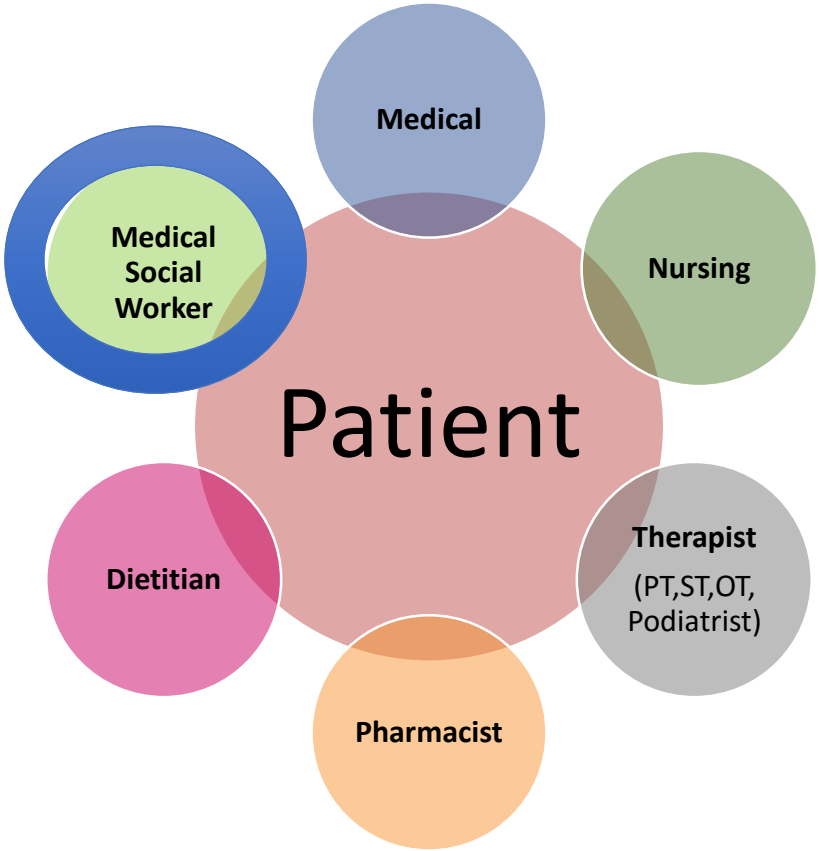


aic
agency for integrated care

B. Intervention – SAFE's 5 Core Components

- ✓Comprehensive Geriatric Assessment in the Home
- ✓Multi-disciplinary Team
- ✓Weekly telephone follow-up
- ✓Direct liaison and referral to community services
- ✓Personalized Discharge Plan

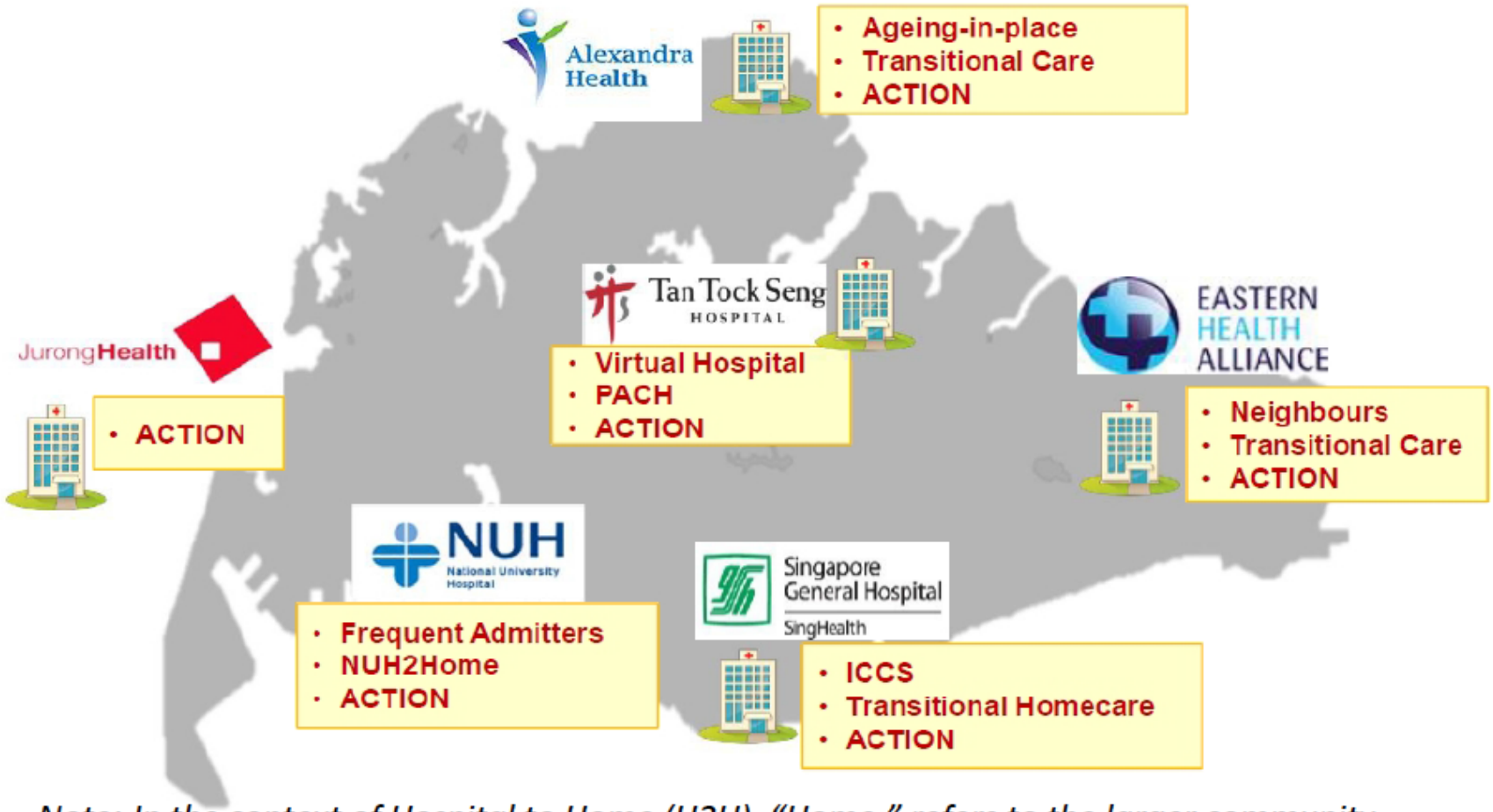
Effectiveness of SAFE Post ED-discharge Multidisciplinary Bundle (Jan 2013 to Aug 2015)

Outcomes	**SAFE [n (%)]**	**Control [n (%)]** (usual ED discharge care)	**HR (95 CI)**	**P-value**
First acute hospital admission at 30 days	45/438 (10)	56/209 (27)	0.38 (0.27-0.55)	<0.001
First acute hospital admission at 60 days	77/438 (18)	68/209 (33)	0.54 (0.41-0.72)	<0.001

CI - Confidence Interval, ED - Emergency Department , HR - Hazard Ratio (Crude)

The SAFE programme **was effective in reducing first acute hospital admissions** in selected elderly and functionally challenged patients after ED discharge at 30 and 60 days **compared with usual ED discharge care.**

Streamlining Services into Single Nationwide Programme (2017) – the Hospital to Home (H2H) programme



Note: In the context of Hospital to Home (H2H), "Home " refers to the larger community which includes community partners apart from patient's home

What was Unchanged for ED Post Discharge?

1. Inclusion Criteria of Patients
   - 65 years and above
   - Functionally Challenged
   - TRST >/= to 2
   - 6 Diagnostic Categories
2. Initial Post ED Discharge Phone Call by Home-care Nurse
3. Weekly Multidisciplinary Team Discussion

What Changed in our Hospital?

FROM	TO
1. **T**wo programmes (Post ED discharge (SAFE) and hospital long-stayers)	• ...**W**hole **H**ospital at-risk patients
2. **S**mall, Fixed Fee at ED…	• … **V**ariable Fee based on Assessment of Household Income
3. **D**etailed Comprehensive Assessment …	• … **S**implified Over-the-Phone Assessment
4. **F**ull Multidisciplinary Care with Doctor and Nurse Home Visits for All Patients plus Allied Health Home Visits when Necessary	• … **M**ultidisciplinary "**L**ite" – single post discharge phone call with some coordination of care, with only occasional home visits by allied health staff

Does it work?

Analysis of Post ED-discharge "Lite" Bundle
(Jul17 to Mar18)

Outcomes	MD Lite [n (%)]	Control [n (%)] (usual ED discharge care)	HR (95 CI)	P-value
First acute hospital admission at 30 days	10/66 (15)	6/46 (13)	1.16 (0.45-2.97)	0.969
First acute hospital admission at 60 days	14/66 (21)	7/45 (16)	1.36 (0.60-3.11)	0.839

CI - Confidence Interval, ED - Emergency Department, H2H - Hospital to Home, HR - Hazard Ratio (Crude)

There was **no change in the risk of first acute hospital admission** in selected elderly and functionally challenged patients after ED discharge at 30 and 60 days **compared with usual ED discharge care.**

Comparison of Original and the "Lite" Bundles

Outcomes	HR (95 CI)		P-value
	SAFE	MD Lite	
First acute hospital admission at 30 days	0.38 (0.27-0.55)	1.16 (0.45-2.97)	0.031
First acute hospital admission at 60 days	0.54 (0.41-0.72)	1.36 (0.60-3.11)	0.037

CI - Confidence Interval, ED - Emergency Department , H2H - Hospital to Home, HR - Hazard Ratio (Crude)

The Lite bundle **was significantly less effective in reducing first acute hospital admissions** in selected elderly and functionally challenged patients after ED discharge at 30 and 60 days compared to the original SAFE programme.

What We Have Learnt from 2013 till Now?

- Multidisciplinary Care with Holistic Assessment in the Home for selected at risk elderly patients is effective in reducing acute hospital re-admissions (Ong et al. Effectiveness of a post-emergency discharge multidisciplinary bundle in reducing acute hospital admissions for the elderly. Eur J Emerg Med 2017 Sep 12 doi 10.1097/MEJ.0000000000000504 [Epub ahead of print])

- A single post discharge phone call for care assessment and coordination even with multidisciplinary case discussion seems inadequate to reduce 30 and 60 day re-admissions

- This is possibly due to a lack of and a need for primary physician oversight in the care of at-risk elderly patients who are discharged from the ED

Thank you!

Questions?

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SAFE Team Lunar New Year Celebrations 2015