A mixed methods study of reasons for early unplanned hospital readmission in ICU survivors

Dr Lisa Salisbury (presented by Dr Pam Ramsay)

On behalf of the PROFILE Research Team (TW, NL, JR, PR, LS, RL, ED)

Edinburgh Critical Care Research Group

Background

- ~120,000 ICU survivors every year in the UK
- Physical, psychological and psychosocial morbidity is common ("Post Intensive Care Syndrome")
- **25% of patients require an "early unplanned hospital readmission"** (within 90 days of hospital discharge)
- The reasons are not well understood, but are likely to include both **modifiable** and non-modifiable factors.

Study Design

Mixed methods

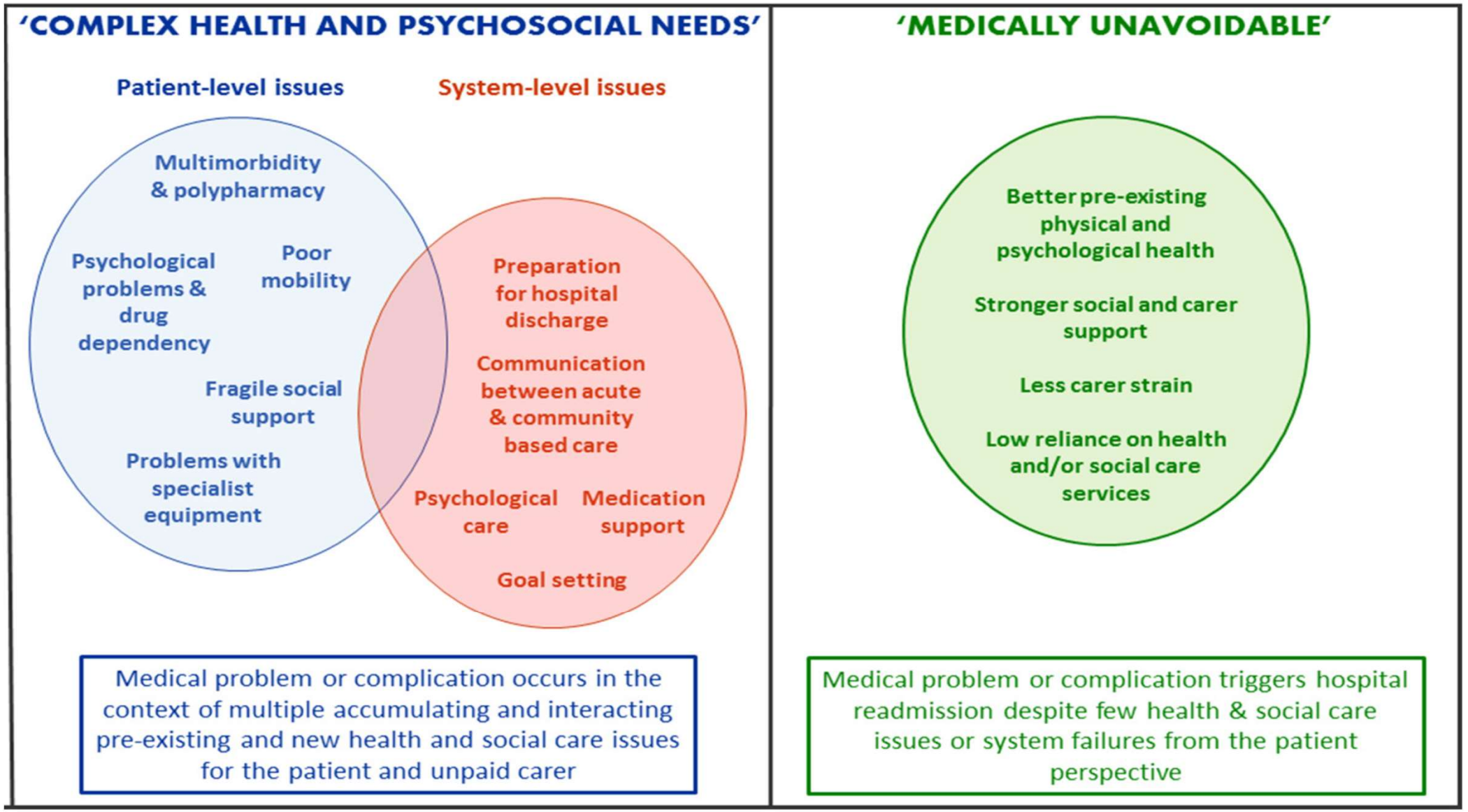
- Quantitative: Large population-level cohort study, using multiple large Scottish databases (2000-2013)

- Qualitative: Interviews with patients, and their carers (n=58), who had had a recent unplanned hospital readmission following ICU care

Quantitative results

Cohort population-level analyses (multivariate logistic regression)

- **Pre-existing illness** was a better indicator than acute illness factors (although this was reversed in patients with no recorded comorbidity)
- A risk prediction model only had moderate discriminant ability i.e. is unlikely to identify those at risk of re-admission.


'COMPLEX HEALTH AND PSYCHOSOCIAL NEEDS'
Patient-level issues
System-level issues
Multimorbidity & polypharmacy
Psychological problems & drug dependency
Poor mobility
Fragile social support
Problems with specialist equipment
Preparation for hospital discharge
Communication between acute & community based care
Psychological care
Medication support
Goal setting
Medical problem or complication occurs in the context of multiple accumulating and interacting pre-existing and new health and social care issues for the patient and unpaid carer
'MEDICALLY UNAVOIDABLE'
Better pre-existing physical and psychological health
Stronger social and carer support
Less carer strain
Low reliance on health and/or social care services
Medical problem or complication triggers hospital readmission despite few health & social care issues or system failures from the patient perspective

Qualitative Study Methods

- Semi-structured face-to-face interviews with 29 patients and 29 carers (Lothian; Fife; Tayside), within 3 months of an unplanned readmission.

- Confirmatory focus groups with 20 patients and 22 carers (Glasgow; Highland; Lothian; Fife; Tayside)

- We used thematic analysis to code and analyse the data.

Participants (patients)

Patients (n=29)	Percentage
Gender (male)	62
Social deprivation (most deprived)	45
Multi-morbidity (>2 chronic conditions)	62
Polypharmacy (>5 medications)	72
Drug/alcohol dependence	28
Psychological morbidity (anxiety/depression)	45

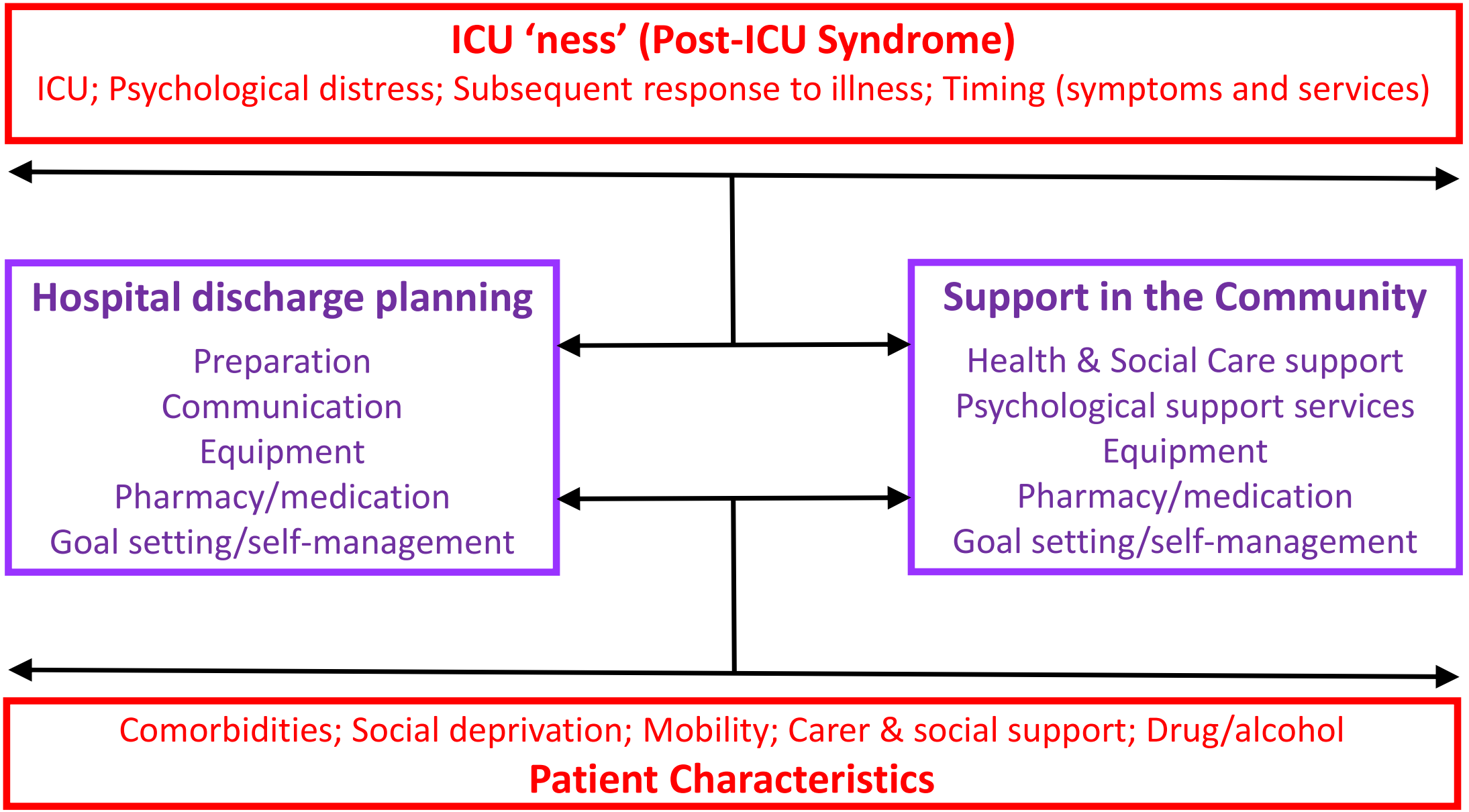
Qualitative findings

SYSTEM LEVEL

- Hospital discharge planning
- Support in the community

PATIENT LEVEL

- Patient characteristics (pre-existing)
- ICU “ness” (Post-ICU Syndrome)


ICU 'ness' (Post-ICU Syndrome)
ICU; Psychological distress; Subsequent response to illness; Timing (symptoms and services)
Hospital discharge planning
Preparation
Communication
Equipment
Pharmacy/medication
Goal setting/self-management
Support in the Community
Health & Social Care support
Psychological support services
Equipment
Pharmacy/medication
Goal setting/self-management
Comorbidities; Social deprivation; Mobility; Carer & social support; Drug/alcohol
Patient Characteristics

Hospital Discharge Planning

"All of a sudden he's getting home…and he's got all these problems. I haven't got a clue what to do with them. I had to ask them, he's got a drain so what do we do with that? He had a stoma bag. I kept having to push…what do I do with this…what do I do with that? He needed supports to get off the toilet, but they weren't there for when he got home" (wife)

Support in the Community

"I think if people were contacted more in the community by the hospital…even by phone, just to see if everything is ok. How is the medication…the dressings…the exercises…have you got that appointment with this or that health professional arranged? Do you need to talk to someone about carers' allowance? Things like that."

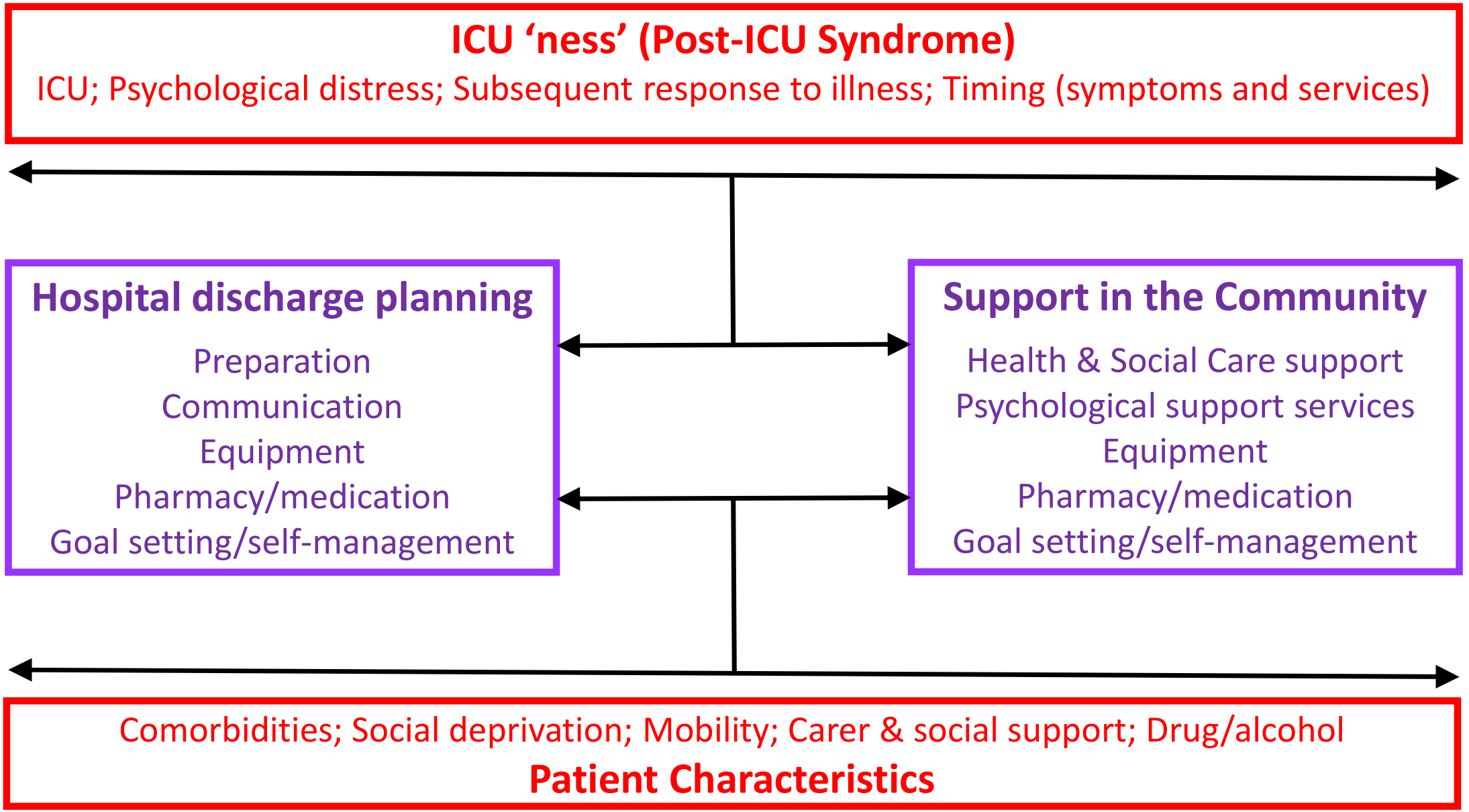
Patient characteristics

"The hospital and GP being aware of my history of depression…when your depression is really bad, that can affect how you look after yourself…like doing exercises to help my recovery. ***So being aware and addressing the whole of me, not just my physical needs.*** *Even if you are OK at the hospital end, things can collapse when you get home…and everything sinks in, how this is literally life changing."*

ICU “ness”

“Part of it is you can’t remember anything, you can’t remember appointments, that’s all hand in hand with depression, your confusion from being in ICU”

I’ve lost the muscles in my legs, there’s nothing there. I don’t know how to build them up again”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Patient Characteristics

Where to next?

- The reasons for readmission to hospital after critical illness are complex.

- Interventions will need to reflect this complexity.

Thank you

lsalisbury@qmu.ac.uk