

COMMENTARY

Follow-up services for delirium after COVID-19—where now?

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Abstract

Delirium is a common presentation in older inpatients with coronavirus disease 2019 (COVID-19), and a risk factor for cognitive decline at discharge. The glaring gaps in the service provision in delirium care, regardless of aetiology, after a hospital admission pre-existed the pandemic, but the pandemic arguably offers an opportunity now to address them. Whilst a delirium episode in itself is not a long-term condition, the context of it may well be, and therefore patients might benefit from personalised care and support planning. There is no reason to believe that the delirium following COVID-19 is fundamentally different from any other delirium. We propose that the needs of older patients who have experienced delirium including from COVID-19 could be addressed through a new model of post-acute delirium care that combines early supported discharge, including discharge-to-assess, with community-based follow-up to assess for persistent delirium and early new long-term cognitive impairment. Such a drive could be structurally integrated with existing memory clinic services. To succeed, such an ambition has to be flexible, adaptable and person-centred. To understand the impact on resource and service utilisation, techniques of quality improvement should be implemented, and appropriate metrics reflecting both process and outcome will be essential to underpin robust and sustainable business cases to support implementation of delirium care as a long-term solution.

Keywords: older people, delirium, follow-up, COVID-19, quality improvement, discharge

Key points

- Delirium is an important presentation in older adults with frailty, and this finding has intensified with the recent COVID-19 pandemic.
- Many patients with delirium clinically experience an incomplete resolution of symptoms after hospitalisation.
- Patients after hospitalisation for delirium require follow-up, and the recent pandemic could and should act as an impetus for the advancement of a new model of post-acute delirium care.
- The sustainability of any innovative delirium follow-up care services will need to consider this with carefully selected metrics.

Introduction

There have always been many patients with delirium in acute hospitals [1], but the coronavirus disease 2019 (COVID-19) epidemic has changed the landscape dramatically. This disruption provides an opportunity to consider the rational development of services worldwide for the follow-up of older patients following hospitalisation for delirium. In many jurisdictions, multi-disciplinary follow-up services for

patients hospitalised with delirium is poor regardless of the cause of the delirium.

Delirium is found to be a common presentation in older inpatients with COVID-19, and a risk factor for cognitive decline at discharge [2]. A recent study demonstrated a higher prevalence of probable delirium as a COVID-19 symptom in older adults with frailty compared to other older adults, possibly reflecting frailty as a risk factor for delirium [3]. The delirium that follows COVID-19 infection is not

known to be distinct from delirium at large. Delirium in older people with dementia may represent an important prodromal phase of COVID-19 [4].

Neurocognitive and neuropsychiatric symptoms may also present as part of a post-acute COVID-19 (or ‘long COVID’), a multi-system disease, sometimes occurring after a relatively mild acute illness but extending beyond 3 weeks from the onset of first symptoms [5]. Post-acute COVID follow-up clinics are an explicit policy priority. Indeed, some preliminary evidence suggests sustained sub-clinical cognitive impairments might be a common complication after recovery from COVID-19 in young adults [6], and the situation is yet to be fully clarified for older adults.

In this Commentary, we will consider why delirium poses such a significant challenge for hospital discharges, where and how patients experiencing delirium might be followed up, with a comment on the sustainability of future delirium care services.

Important components of delirium care

The actual ‘end point’ of a delirium episode is theoretically hard to define, but clinically important [7]. Patients discharged with delirium represent a particularly ‘high-risk’ group. Hospital discharge is recognised as a high-risk transition period; patients with delirium at discharge have found to have increased mortality risk, increased risk of death or nursing home placement, rehospitalisation, prolonged institutionalisation and death [8].

Delirium can drastically alter the life course of a person.

Up to 65% of older patients experience decline in function during hospitalisation for delirium. Many of these patients could prematurely end up in a care home because of ‘deconditioning’ and the loss of functional abilities occurring in hospital [9]. It is uncertain whether any loss of muscle bulk is primarily a cause or effect of delirium, and the underlying neuroinflammatory mechanisms are yet to be fully elucidated [10].

A delirium episode in itself is not a long-term condition, but the context of it might be. In a recent meta-analysis, delirium was significantly associated with long-term cognitive decline in both surgical and non-surgical patients [11]. Post-acute COVID specialist clinics could help in offering a rapid cognitive screen, significant especially since memory services are already working at full capacity, but how memory services later become aligned with these specialist post-acute COVID clinics is an important downstream policy issue.

Improving therapy goals fall squarely within the domains of physiotherapy and occupational therapy. Patients and carers will need to plan for the future, which may trigger social services or continuing healthcare.

There are glaring gaps in the service provision in delirium care currently, and [Box 1](#) considers elements

of a rudimentary attempt to plug such holes through a delirium follow-up service. An example of a prototype service is provided by West Hertfordshire NHS Trust (http://www.westhertshospitals.nhs.uk/patientinformation/documents/00224_7-17v02_Delirium_Recovery_Programme_Patient_Information_Leaflet.pdf). This approach avoids those inpatient hospital assessments that may unnecessarily extend a length-of-stay and which could be done in a person’s own home. Evaluating outcomes from such a programme, once officially disseminated, might help to guide value-based outcomes in future initiatives.

BOX 1. Establishing the delivery of a community follow-up service—some points to consider.

Who are the members of the multi-disciplinary team? Who could or should be involved apart from the patients and carers?

Should there be a discharge planning meeting for family first?

For how long could an early supported discharge programme last (a few weeks?), and what should be the frequency of medical follow-up thereafter?

Over what time scale is it safe or possible to reduce the care or support of a patient after discharge?

What should be the intensity of help from paid carers?

How much does the service rely on (unpaid) family carers?

What are the key metrics?

What are the criteria for emergency care home placement rather than re-admission to hospital?

Service and organisational considerations

For an older patient who has experienced delirium after COVID-19, follow-up could be through post-acute COVID clinics or through specialist delirium follow-up in the community. With appropriate extra resources, memory clinics could be expanded to accommodate those patients experiencing a progressive long-term cognitive decline following COVID-19.

Wherever you are in the world, it is important to consider how delirium follow-up in the community might sit alongside existing services. Widespread transformation in delirium care might result in greater awareness of delirium management in these services, expanding to accommodate the number of people who have had delirium. Of concern is that persons with prior cognitive impairment, including dementia, are at higher risk of delirium generally. At the first peak of COVID-19, in England, the expectation was for all NHS Trusts to create ‘Discharge-to-Assess’ (‘D2A’) models to support people being transferred out of hospital, and official guidance was given about funding flows [12].

Some issues about D2A are considered in [Box 2](#).

BOX 2. Some issues concerning Discharge-to-Assess (D2A).

The lessons from recent NHS initiatives might interest an international audience. D2A places emphasis on comprehensive assessment in the community. But often D2A services have been developed without specialist input from mental health services. This is, in part, through necessity, because there is for example limited (if any) additional capacity in mental health services after years of disinvestment. The incorporation of old-age psychiatry services into general adult mental health services can vary widely, and D2A services may be insufficient when it comes to managing delirium more generally, or the epidemic of persistent delirium associated with COVID-19.

A bespoke follow-up service for delirium care in the community after a hospital admission could be delivered in a number of ways, including reconfiguration and better resourcing of D2A teams. How it is implemented is arguably less important than the fact that the discrete elements, missing in existing models, are added over and above what is already available.

Many patients with delirium will see symptoms persist beyond the point of discharge. There are three key questions:

- (1) What happens if the delirium symptoms completely resolve within 6 weeks?
The intuitive approach here should be adaptable and person-centred, rather than pathway-driven, promoting flexibility.
- (2) Can patients with persistent delirium be supported within existing services up to a 6-week limit? D2A services ‘finish’ at 6 weeks [13].
Since persistent delirium can occur, accurate assessment and follow-up, with carers’ input, are needed to monitor the natural history of a delirium episode, ideally at about 12 weeks [14].
- (3) How will patients be supported if their delirium persists beyond 6 weeks?
People with delirium and their family might perceive themselves at a delayed ‘cliff edge’ at the 6-week ‘cut-off’, although it is likely that other services such as community old-age psychiatry or memory clinic could serve some of their needs.

Sustainability of future services

In comparison with delirium, the evidence base for early supported discharge (‘ESD’) in stroke is relatively strong [15]. Due to a lack of robust evidence on any of these service models in delirium, careful development and evaluation in future may be initially necessary using established research methods or quality improvement. There is, though, a need to ensure that new service models are implemented

with a view to cost-effectiveness and sustainability. Patient and service level outcome metrics could be routinely collected as part of a delirium care. Appropriately selected metrics could reflect the operational process (e.g. readmission rate) and clinical outcomes of patients (such as activities of daily living e.g. Barthel Index, cognition e.g. Informant Questionnaire on Cognitive Decline in the Elderly (IQCODE)).

Conclusion

Many older adults with frailty recently will have experienced delirium because of COVID-19. In the immediate short-term, post-acute COVID specialist clinics could benefit from specialist geriatric input. There is, however, a very strong clinical case for a new model of post-acute delirium that combines ESD, incorporating D2A, with community-based follow-up to identify persistent delirium and new long-term cognitive impairment, structurally integrated with existent memory services. The sustainability of such services will need careful analysis in due course.

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