Review Article

Delirium versus Dementia in the Hospitalized Older Adult: Diagnostic Challenges and Clinical Approach

Diana Patricia Vargas Víquez[1*], Karina de Los Ángeles Montero Salazar[2], Karina Sandoval González[3], Ekaterina Daniela Hernández Baker[4], Allan Mauricio Castro Sibaja[5], Kevin Vargas Tenorio[6]

[1]Medical Doctor, Poder Judicial, Heredia, Costa Rica
[2]Medical Doctor, Independent Researcher, San José, Costa Rica
[3]Medical Doctor, Monseñor Sanabria Martínez Hospital, Puntarenas, Costa Rica
[4]Medical Doctor, San Vicente Paul Hospital, Heredia, Costa Rica
[5]Medical Doctor, Terumo Neuro, San José, Costa Rica
[6]Medical Doctor, San Juan de Dios Hospital, San José, Costa Rica
[*]Corresponding author email: **nanavargas1@hotmail.es**

International Archives of Integrated Medicine, Vol. 13, Issue 5, May, 2026.
Available online at http://iaimjournal.com/
ISSN: 2394-0026 (P) **ISSN: 2394-0034 (O)**
Received on: 11-5-2026 **Accepted on:** 27-5-2026
Source of support: Nil **Conflict of interest:** None declared.

DOI: **10.5281/zenodo.20544693**

How to cite this article: Diana Patricia Vargas Víquez, Karina de Los Ángeles Montero Salazar, Karina Sandoval González, Ekaterina Daniela Hernández Baker, Allan Mauricio Castro Sibaja, Kevin Vargas Tenorio. Delirium versus Dementia in the Hospitalized Older Adult: Diagnostic Challenges and Clinical Approach. Int. Arch. Integr. Med., 2026; 13(5): 144-155.

Abstract

Delirium and dementia are highly relevant and closely interconnected conditions in hospitalized older adults, particularly because both are frequent, overlapping, and associated with poor outcomes. Delirium is common in this population, occurring either on admission or during hospitalization, with particularly high rates among postoperative and critically ill patients. Hypoactive delirium is especially important because it is often underrecognized despite being the most frequent subtype and being associated with worse outcomes. At the same time, dementia is highly prevalent among older inpatients and significantly increases susceptibility to delirium, especially when baseline cognitive impairment is not identified at admission. The distinction between these syndromes is clinically essential but often difficult. Delirium is characterized by acute onset, fluctuating course, impaired

attention, and altered awareness, whereas dementia involves a gradual and progressive decline in memory and other cognitive domains. However, this distinction becomes more complex in cases of delirium superimposed on dementia, where acute changes may be mistaken for chronic progression. Accurate diagnosis therefore depends on careful bedside assessment, evaluation of attention and fluctuation, medication review, collateral history from caregivers, and the identification of acute medical triggers such as infection, dehydration, hypoxia, and metabolic imbalance. Prevention and early recognition are central to improving outcomes. High-risk patients should be identified early, and multicomponent preventive interventions, routine screening, and medication review should be implemented. Delirium is associated with prolonged hospital stay, higher healthcare costs, falls, mortality, cognitive decline, and institutionalization. Because many of its causes are reversible, timely recognition and management can reduce preventable complications and improve both functional and cognitive prognosis in this vulnerable population.

Key words

Delirium, Dementia, Older adult, Prognosis, Vulnerable population.

Introduction

Delirium is common in hospitalized older adults, although its prevalence varies according to the clinical setting and the characteristics of the patient population. In this regard, a study conducted in England found that 23% of patients admitted to an acute general medicine service experienced delirium, with higher rates observed among older age groups and among those with dementia [1]. Indeed, dementia represents a major risk factor for delirium, as studies have shown that individuals with preexisting dementia are more likely to develop delirium during hospitalization [2]. In addition to dementia, other factors such as emergency admission, pre-hospitalization functional dependency, and psychopathological symptoms have also been associated with an increased risk of delirium [3].

Beyond its high frequency, delirium has important clinical implications because it is associated with multiple adverse outcomes, including increased mortality and functional decline. For example, among patients evaluated in the emergency department, delirium has been linked to higher short-term mortality rates [4]. Moreover, its impact extends beyond the acute hospitalization period, since delirium has also been associated with the subsequent development of new dementia. In this sense, studies have shown that patients who experience delirium have significantly higher odds of developing dementia after discharge [5, 6]. This relationship becomes even more complex in cases of delirium superimposed on dementia, a condition that complicates both diagnosis and treatment and often results in missed opportunities for intervention, while also increasing caregiver burden [7].

The diagnostic process is particularly challenging in patients with preexisting dementia because both conditions share several overlapping symptoms. However, an important distinction lies in their clinical course, as delirium is typically characterized by an acute onset and a fluctuating pattern, whereas dementia usually progresses insidiously over time [2]. This difficulty is further compounded by the presence of hypoactive delirium, especially in older adults with dementia, since this form is frequently overlooked in clinical practice and therefore underscores the need for vigilant screening and careful assessment [7].

Given these challenges and consequences, early recognition and prevention of delirium are essential for improving outcomes in hospitalized older adults. Preventive strategies have been shown to reduce the incidence of delirium and to mitigate associated adverse outcomes, including

falls and cognitive decline [2]. In line with this, routine delirium screening at the time of admission, particularly in patients aged 65 years and older, has been recommended to facilitate early detection and timely intervention [1].

The objective of this work is to analyze the differences and overlap between delirium and dementia in hospitalized older adults, emphasizing their prevalence, risk factors, diagnostic challenges, clinical implications, and the importance of early recognition and prevention in order to improve patient outcomes.

Methodology

This manuscript was developed as a structured narrative review aimed at providing an updated and clinically integrated analysis of delirium versus dementia in the hospitalized older adult, with particular emphasis on prevalence, risk factors, diagnostic challenges, clinical implications, and prevention strategies. The review was conducted in accordance with the SANRA (Scale for the Assessment of Narrative Review Articles) framework and followed a predefined methodological protocol established prior to literature screening. Given the clinical overlap between delirium and dementia, the variability in hospital settings, and the frequent coexistence of both conditions in older patients, a narrative interpretative synthesis was selected over quantitative pooling in order to integrate epidemiological, clinical, diagnostic, and prognostic considerations into a coherent and clinically applicable framework. Special attention was given to the distinction between acute and chronic cognitive impairment, the concept of delirium superimposed on dementia, the prognostic consequences of underrecognition, and the relevance of early screening and prevention in hospitalized older adults. The objective was to provide a structured synthesis capable of supporting clinical decision-making in the assessment and management of cognitive disorders in this vulnerable population.

A comprehensive literature search was conducted in PubMed, Scopus, and Web of Science, including peer-reviewed articles published in English or Spanish between January 2020 and December 2025. The final search was performed in March 2026. This timeframe was selected to capture contemporary advances in the understanding of delirium epidemiology, dementia-related vulnerability, bedside diagnostic tools, prevention strategies, and outcome-oriented hospital care in older adults. Foundational studies were incorporated when necessary to contextualize conceptual definitions, pathophysiological mechanisms, or the historical evolution of the diagnostic distinction between delirium and dementia. The search strategy combined MeSH and free-text terms using Boolean operators related to delirium, dementia, delirium superimposed on dementia, hospitalized older adults, geriatric inpatients, risk factors, diagnostic challenges, screening tools, prevention, mortality, functional decline, and cognitive outcomes. Searches were conducted in titles and abstracts as well as indexed subject headings to maximize sensitivity.

The initial search yielded 192 records. After removal of duplicates, 147 articles remained for title and abstract screening. Of these, 79 underwent full-text evaluation, and 36 studies were included in the final synthesis. Selection was performed independently by two authors, with disagreements resolved through discussion and consensus. Exclusion criteria comprised non–peer-reviewed publications, isolated case reports, editorials without relevant clinical data, redundant datasets, studies focused exclusively on non-hospitalized populations, and articles not directly addressing the epidemiology, risk factors, diagnostic differentiation, prognostic implications, or preventive approaches related to delirium and dementia in hospitalized older adults.

Eligible studies included randomized controlled trials, large observational cohorts, systematic reviews, meta-analyses, expert consensus

statements, and contemporary international guidelines from geriatric medicine, neurology, psychiatry, internal medicine, and hospital care societies. Priority was assigned to multicenter investigations, studies with clearly defined diagnostic criteria for delirium and dementia, and research evaluating clinically relevant outcomes such as mortality, functional decline, incident dementia, length of stay, institutionalization, and caregiver burden. Extracted variables included study design, patient population, hospital setting, prevalence of delirium and dementia, identified risk factors, diagnostic methods, presence of delirium superimposed on dementia, prevention strategies, and reported outcomes. Methodological quality and internal validity were assessed narratively, considering risk of bias, sample size, follow-up duration, diagnostic consistency, and reproducibility of reported findings. In cases of conflicting evidence, greater interpretative weight was assigned to higher-level evidence and guideline-supported recommendations.

Reference lists of included studies were manually screened to identify additional relevant publications. Given its narrative design, this review is subject to potential selection bias and does not provide pooled quantitative estimates. Artificial intelligence–based tools were used exclusively to assist in literature organization and structural coherence, whereas critical appraisal, synthesis, and final interpretation were conducted independently by the authors to preserve methodological rigor.

Definitions and Conceptual Framework

Delirium is defined as an acute neurocognitive disorder characterized by disturbances in attention, awareness, and cognition [2, 8]. It typically presents with an abrupt onset and a fluctuating course over hours to days [7, 9]. In addition, delirium is often associated with acute medical illness, surgery, medication exposure, or environmental stressors [1, 10]. An important clinical feature of delirium is that it is potentially reversible when its underlying causes are promptly identified and treated [2].

In contrast, dementia is defined as a chronic and usually progressive decline in cognitive abilities that interferes with independent functioning [2, 8]. The main domains affected include memory, executive function, language, visuospatial ability, and behavior. Unlike delirium, dementia has a gradual onset and progresses over months to years. Its most common etiologies include Alzheimer’s disease, vascular dementia, Lewy body dementia, and frontotemporal dementia [9, 11].

From a conceptual perspective, the distinction between both conditions lies primarily in their clinical course and underlying nature. Delirium represents an acute brain failure, whereas dementia reflects a chronic neurodegenerative or vascular cognitive decline [2, 8]. Likewise, attention and arousal are central distinguishing elements, since delirium is characterized by more acute disturbances in these domains [7, 9]. Another key difference is that delirium is potentially reversible, while dementia is associated with progressive deterioration over time [2]. For this reason, the evaluation of symptom chronology and baseline cognition is crucial for an adequate differentiation between the two syndromes [12].

This distinction becomes even more complex in the context of delirium superimposed on dementia, which refers to the occurrence of delirium in individuals with pre-existing dementia and is clinically significant because of its impact on outcomes [7, 13]. In this setting, dementia increases susceptibility to delirium because of the pre-existing cognitive impairment and the greater underlying vulnerability of these patients [2, 11]. As a result, this overlap is especially difficult to recognize in hospital practice, since the symptoms of both conditions may coexist and the distinction between acute change and chronic decline becomes more challenging [7, 13].

Epidemiology and Risk Factors

Delirium is highly prevalent among hospitalized older adults, with incidence rates ranging from 5% to 55.4% depending on the setting and the population studied [3, 14]. It may be present at the time of admission or develop during hospitalization, and a substantial proportion of cases correspond to incident delirium arising after admission [1]. Its occurrence is particularly frequent in postoperative and critically ill patients, in whom factors such as surgery, anesthesia, and the physiological stress associated with critical illness contribute to higher rates of this condition [5, 15]. Despite its frequency, hypoactive delirium, which is characterized by lethargy and reduced motor activity, often remains underrecognized even though it is the most common subtype, and this underrecognition may result in inadequate management and worse outcomes [14].

In parallel, dementia is also highly prevalent among older inpatients, and studies have shown that a considerable proportion of hospitalized older adults have pre-existing dementia [16]. This high prevalence makes careful cognitive assessment at the time of admission especially important. When baseline cognitive impairment is not recognized, misdiagnosis and inappropriate management may follow, since the manifestations of delirium can be mistakenly interpreted as progression of dementia rather than as an acute superimposed process [17]. Moreover, hospitalization itself may worsen cognitive decline in patients with dementia, thereby increasing their vulnerability to delirium and other complications [5].

The risk of delirium in this population is influenced by both predisposing and precipitating factors. Among the predisposing factors, advanced age, frailty, pre-existing dementia, sensory deficits, malnutrition, and polypharmacy have been consistently identified as major contributors in older adults [1, 3, 15]. In turn, precipitating factors commonly include acute medical conditions such as infections, metabolic disorders, surgery, medications, immobility, and environmental stressors, all of which may trigger the onset of delirium during hospitalization [14, 16]. Within this context, dementia stands out as a major vulnerability state, as studies have shown that patients with dementia are more likely to develop delirium during hospitalization [5, 19].

Pathophysiology and Clinical Manifestations

The pathophysiology of delirium is complex and involves multiple interacting mechanisms. One of the main proposed pathways is neurotransmitter imbalance, particularly involving acetylcholine, dopamine, and serotonin, since alterations in these systems can lead to cognitive disturbances and changes in the level of consciousness [2, 20]. In addition to neurotransmitter dysfunction, systemic inflammation has been recognized as an important contributor to delirium, with increased levels of inflammatory markers correlating with greater severity of the condition [21]. Likewise, metabolic insufficiencies and disruptions in circadian rhythms have also been implicated, as they affect sleep-wake cycles and cognitive function, further contributing to the development of delirium [22].

In contrast, the pathophysiology of dementia is primarily characterized by progressive neurodegeneration. This process includes the accumulation of amyloid plaques and tau tangles, which ultimately lead to synaptic loss and cognitive deterioration [23]. At the same time, synaptic loss and vascular injuries, such as micro-angiopathy, also contribute significantly to the cognitive decline observed in dementia [20]. Although dementia and delirium are distinct syndromes, some pathophysiological mechanisms, particularly inflammation and vascular burden, appear to be shared by both conditions, suggesting a partial overlap in their biological underpinnings [24].

These biological differences are reflected in their clinical manifestations. Delirium is characterized

by an acute onset and a fluctuating course, with symptoms that include inattention, altered awareness, and cognitive dysfunction [2, 17]. Among its subtypes, hypoactive delirium, marked by lethargy and reduced motor activity, is especially important because it is often underdiagnosed [3]. By contrast, dementia is characterized by a progressive decline in memory and other cognitive abilities, with symptoms developing gradually and worsening over time in a way that increasingly affects daily functioning [2].

Despite these differences, both conditions may present with cognitive impairment, which can complicate their distinction in clinical practice. However, delirium is differentiated by its acute onset and fluctuating nature. In addition, delirium may worsen cognitive decline in patients with pre-existing dementia, further blurring the clinical boundaries between both disorders [25]. This overlap is particularly relevant in the case of hypoactive delirium, a subtype that is frequently missed because of its subtle presentation, even though it is associated with significant morbidity and mortality [3].

Diagnostic Challenges and Differential Diagnosis

Diagnostic differentiation between delirium and dementia in hospitalized older adults is often hindered by several important barriers. One of the main challenges is the lack of reliable baseline cognitive information, since accurate diagnosis of delirium requires knowledge of the patient's usual cognitive status, which is frequently unavailable or incomplete in hospital settings. This absence of baseline data complicates the distinction between delirium and dementia, as both conditions may present with similar cognitive impairments [5]. This difficulty is further increased by the symptom overlap between delirium, dementia, and aging, because both syndromes may involve cognitive dysfunction and altered consciousness, making the clinical picture more difficult to interpret, particularly in older adults in whom age-related changes may also obscure recognition [2].

The diagnostic process becomes even more complex in cases of delirium superimposed on dementia, since the manifestations of delirium may be masked by or mistaken for the underlying dementia. As a result, this overlap frequently leads to missed diagnoses and inadequate treatment, thereby worsening patient outcomes [2, 7]. In addition, the differential diagnosis must also consider other conditions that can mimic or coexist with delirium and dementia, including depression, psychosis, intoxication, metabolic encephalopathy, aphasia, and sleep disorders. These disorders may produce cognitive or behavioral changes similar to those observed in delirium, which further complicates clinical interpretation. For example, depression and psychosis may present with cognitive impairment, whereas metabolic encephalopathy and intoxication can cause acute alterations in mental status [26].

Alongside these diagnostic difficulties, several common pitfalls in everyday clinical practice contribute to underrecognition. One of the most important is the failure to assess attention, despite the fact that attentional deficits are a hallmark feature of delirium. When attention is not specifically evaluated, delirium may be misdiagnosed or recognized only after a delay [27]. Another frequent error is assuming that delirium is always hyperactive. In reality, delirium may also present in hypoactive forms, which are much less likely to be identified because they lack overt behavioral disturbances, and this contributes substantially to underdiagnosis, particularly in patients with dementia [7]. Although screening tools such as the Confusion Assessment Method are useful, overreliance on isolated instruments without a comprehensive clinical evaluation may also lead to missed diagnoses. For this reason, a multifaceted approach that combines clinical judgment with multiple assessment strategies is recommended [2].

Clinical Assessment and Diagnostic Tools

Bedside clinical assessment is essential for distinguishing delirium from dementia, particularly in hospitalized older adults. One of the first and most important elements is determining whether the cognitive change is acute or chronic, since delirium is characterized by an acute onset and a fluctuating course, whereas dementia involves a gradual decline in cognitive function over time [2]. Identifying the timeline of symptom onset is crucial in differentiating between these two conditions. In addition to chronology, bedside evaluation should focus on fluctuation, attention, awareness, and cognition, as delirium frequently presents with fluctuating levels of consciousness and deficits in attention that can be detected through clinical assessment. Cognitive instruments such as the Mini-Mental State Examination may also be useful in evaluating the severity and nature of cognitive impairment [17].

This clinical approach should be complemented by a careful review of medications and the search for acute medical triggers. A thorough medication review is particularly important because certain drugs can precipitate delirium [14]. At the same time, acute medical conditions such as infections or metabolic imbalances should be actively identified as potential triggers for delirium [3]. Along with this, collateral history plays a central role in the diagnostic process. Gathering information from family members or caregivers about the patient's baseline cognitive and functional status is vital. Likewise, documenting any recent deviation from the patient's usual condition may help distinguish delirium from the progressive decline typically associated with dementia [2].

Beyond the initial bedside assessment and collateral history, complementary evaluation is also necessary. A comprehensive physical examination may reveal reversible causes of delirium, such as dehydration or electrolyte imbalances [14]. Identifying and correcting these causes can significantly influence both the management and the outcome of delirium. In the same way, laboratory tests may help identify underlying medical conditions contributing to the acute cognitive disturbance [3]. Selected ancillary studies, including neuroimaging, may also be useful in excluding structural brain changes associated with dementia [17].

In this context, diagnostic tools provide additional support for clinical evaluation. For delirium screening, the Confusion Assessment Method is one of the most widely used instruments and has high specificity for diagnosis [28]. The 4AT is another effective option, particularly valued for its brevity and ease of use, since it does not require specific training [29]. For cognitive assessment, both the Mini-Mental State Examination and the Montreal Cognitive Assessment are used to evaluate cognitive function and assist in differentiating delirium from dementia. These tools offer a structured method for assessing cognitive deficits and for monitoring changes over time [17].

Management Strategies

Immediate management begins with the recognition of delirium and the prompt investigation of its etiology, especially because this condition is frequently under-recognized, with studies indicating that up to 50% of cases are missed in hospital settings. In this context, early detection is essential, and tools such as the 4AT cognitive screening tool and the Delirium Multidisciplinary Care Bundle have been shown to improve recognition rates [30]. At the same time, immediate priorities also include stabilization of the patient and correction of reversible factors, such as infections, dehydration, and medication side effects. In addition, the implementation of risk stratification tools and interdisciplinary rounds can help identify patients at high risk and facilitate the initiation of preventive measures [31].

Treatment measures should then focus on addressing the underlying causes of delirium. In particular, the management of infections,

dehydration, and medication-related issues is essential for effective care [31]. Likewise, studies emphasize the importance of a comprehensive medication review and the management of pain and hypoxia in order to mitigate delirium. Alongside these medical measures, non-pharmacological interventions also play a central role. Strategies such as reorientation, sleep support, and the use of sensory aids have proven effective in managing delirium without the adverse effects associated with pharmacological treatments [32]. Mobilization and hydration are also critical components of these non-pharmacological management strategies [31].

Pharmacological treatment, by contrast, should be used only in a limited and cautious manner. Antipsychotics should be prescribed only when necessary and after a formal diagnosis of delirium has been established. Accordingly, the use of medications should remain restricted to cases in which non-pharmacological measures are insufficient [30].

In patients with dementia, management requires additional considerations. Communication strategies need to be adapted in order to prevent confusion and distress. At the same time, preventing iatrogenic complications, particularly those resulting from unnecessary interventions, is crucial in the hospital management of these patients [33]. A multidisciplinary approach involving geriatricians, nurses, and other healthcare professionals is essential for the effective management of both delirium and dementia. Such an approach supports comprehensive care and helps address the multifactorial nature of these conditions [32].

Prevention and Prognostic Implications

Prevention strategies in hospitalized older adults begin with the identification of high-risk patients. Among those at greatest risk are individuals with pre-existing dementia, previous episodes of delirium, and other comorbidities such as frailty and hip fractures [30]. In this context, risk stratification tools have been developed to identify patients at substantial risk for developing delirium, thereby allowing the implementation of targeted preventive measures. Building on this approach, multicomponent preventive interventions have shown important benefits. Programs such as the PREPARED Trial have demonstrated effectiveness in reducing delirium incidence by addressing modifiable risk factors through structured strategies that include decision trees, training packages, and toolkits [34]. Similarly, non-pharmacological measures such as cognitive stimulation, early mobilization, and orientation have been shown to decrease the incidence of delirium by 30% to 50% [35]. Routine screening and medication review also represent essential components of prevention. Screening with tools such as the 4AT can improve the detection of delirium, which remains frequently underdiagnosed [36], while regular medication reviews may help identify and reduce pharmacological contributors to delirium [19].

Beyond prevention, delirium has important prognostic implications in both the short and long term. In the short term, it is associated with longer hospital stay, higher healthcare costs, and an increased risk of complications, falls, and mortality [29]. In fact, patients with delirium have significantly longer hospitalizations than those without delirium, which contributes directly to increased healthcare expenditure. In the long term, delirium may accelerate cognitive decline and increase the risk of developing dementia, with studies reporting a cumulative incidence of dementia of 31% within five years after an episode of delirium [19]. Additionally, long-term outcomes include higher rates of institutionalization and functional decline [2].

These consequences are particularly relevant in patients with dementia, who are more vulnerable to delirium and in whom this condition may further exacerbate cognitive decline while also increasing caregiver burden [2]. For this reason, delirium prevention in patients with dementia may not only improve patient outcomes but may

also reduce caregiver stress and improve quality of life. In this setting, early recognition becomes especially important, since it allows better detection of reversible causes and facilitates timely treatment, which may help prevent further cognitive deterioration [30]. At the same time, prompt intervention can reduce the incidence of preventable complications such as falls and prolonged hospital stay. Consequently, early detection and appropriate management of delirium can lead to improved functional and cognitive outcomes, thereby reducing its long-term impact on patients [35].

Conclusions

Delirium and dementia are closely interconnected syndromes in hospitalized older adults, since dementia increases vulnerability to delirium, while delirium itself is associated with worse short-term and long-term cognitive and functional outcomes.

Early identification of high-risk patients, together with routine screening, medication review, and multicomponent preventive interventions, is essential to reduce the incidence of delirium and its associated complications.

Prompt recognition and management of delirium are critical because timely intervention allows the correction of reversible causes, decreases preventable complications, and improves both functional and cognitive prognosis in this vulnerable population.

References

1. Gan JM, Boucher EL, Lovett NG, Roche S, Smith SC, Pendlebury ST. Occurrence, associated factors, and outcomes of delirium in patients in an adult acute general medicine service in England: a 10-year longitudinal, observational study. The Lancet Healthy Longevity [Internet]. 2025 Jul 1;6(7):100731. Available from: https://doi.org/10.1016/j.lanhl.2025.100731
2. Fong TG, Inouye SK. The inter-relationship between delirium and dementia: the importance of delirium prevention. Nature Reviews Neurology [Internet]. 2022 Aug 26;18(10):579–96. Available from: https://doi.org/10.1038/s41582-022-00698-7
3. Ajmera Y, Paul K, Khan MA, Kumari B, Kumar N, Chatterjee P, et al. The evaluation of frequency and predictors of delirium and its short-term and long-term outcomes in hospitalized older adults'. Asian Journal of Psychiatry [Internet]. 2024 Mar 1;94:103990. Available from: https://doi.org/10.1016/j.ajp.2024.103990
4. Arneson ML, Silva LOJE, Stanich JA, Jeffery MM, Lindroth HL, Ginsburg AD, et al. Association of delirium with increased short-term mortality among older emergency department patients: A cohort study. The American Journal of Emergency Medicine [Internet]. 2023 Jan 26;66:105–10. Available from: https://doi.org/10.1016/j.ajem.2023.01.040
5. Pereira JV, Thein MZA, Nitchingham A, Caplan GA. Delirium in older adults is associated with development of new dementia: a systematic review and meta-analysis. International Journal of Geriatric Psychiatry [Internet]. 2021 Feb 10;36(7):993–1003. Available from: https://doi.org/10.1002/gps.5508
6. Mitchell G, Crooks S. Delirium occurrence in hospitalised older people is positively associated with development of dementia postdischarge. Evidence-Based Nursing [Internet]. 2020 Mar 25;24(2):54. Available from: https://doi.org/10.1136/ebnurs-2019-103227
7. Fick DM. Knowing the older adult with delirium superimposed on dementia.

American Journal of Geriatric Psychiatry [Internet]. 2022 Jun 11;30(10):1079–82. Available from: https://doi.org/10.1016/j.jagp.2022.06.003

8. Inouye SK. The interface of delirium and dementia. Alzheimer S & Dementia [Internet]. 2022 Dec 1;18(S8). Available from: https://doi.org/10.1002/alz.059687
9. Richardson S, Lawson RA, Price A, Taylor J. Challenges in diagnosis and management of delirium in Lewy body disease. Acta Psychiatrica Scandinavica [Internet]. 2022 Oct 25;147(5):475–80. Available from: https://doi.org/10.1111/acps.13514
10. Huraizi A, Al-Maqbali JS, Farsi R, Zeedy KA, Al-Saadi T, Al-Hamadani N, et al. Delirium and Its Association with Short- and Long-Term Health Outcomes in Medically Admitted Patients: A Prospective Study. Journal of Clinical Medicine [Internet]. 2023 Aug 17;12(16):5346. Available from: https://doi.org/10.3390/jcm12165346
11. Minami H, Toyoda K, Hata T, Nishihara M, Neo M, Nishida K, et al. How much risk does delirium represent for the development of dementia?: Retrospective cohort study from over 260,000 patients record in a solitary institution. Frontiers in Psychiatry [Internet]. 2024 Sep 13;15:1387615. Available from: https://doi.org/10.3389/fpsyt.2024.1387615
12. Tsui A. Extremes of baseline cognitive function determine the severity and outcomes of delirium: findings from a prospective longitudinal cohort study. Alzheimer S & Dementia [Internet]. 2023 Dec 1;19(S18). Available from: https://doi.org/10.1002/alz.073178
13. Schnorr T, Fleiner T, Trumpf R, Prüter-Schwarte C, Fanselow J, Zijlstra W, et al. Circadian disturbances, anxiety and motor disturbances differentiate delirium superimposed on dementia from dementia-only. Frontiers in Psychiatry [Internet]. 2024 Aug 22;15:1407213. Available from: https://doi.org/10.3389/fpsyt.2024.1407213
14. Farsi R, Alawi A, Huraizi A, Al-Saadi T, Al-Hamadani N, Zeedy KA, et al. Delirium in medically hospitalized patients: Prevalence, recognition and risk factors: a Prospective cohort study. Journal of Clinical Medicine [Internet]. 2023 Jun 7;12(12):3897. Available from: https://doi.org/10.3390/jcm12123897
15. Zhang M, Zhang X, Gao L, Yue J, Jiang X. Incidence, predictors and health outcomes of delirium in very old hospitalized patients: a prospective cohort study. BMC Geriatrics [Internet]. 2022 Mar 29;22(1):262. Available from: https://doi.org/10.1186/s12877-022-02932-9
16. Boucher E, Gan J, Shepperd S, Pendlebury S. 2323 Prevalence of delirium, dementia and cognitive test deficits, hospital-wide and by specialty in > 50,000 unplanned admissions. Age And Ageing [Internet]. 2024 Aug 1;53(Supplement_3). Available from: https://doi.org/10.1093/ageing/afae139.052
17. Wilke S, Steiger E, Bärwolff TL, Kleine JF, Müller-Werdan U, Rosada A. Delirium in older hospitalized patients—A prospective analysis of the detailed course of delirium in geriatric inpatients. PLoS ONE [Internet]. 2023 Mar 16;18(3):e0279763. Available from: https://doi.org/10.1371/journal.pone.0279763
18. Whittington C, Skains RM, Zhang Y, Osborne JD, O'Leary T, Freeman HB, et al. Delirium due to potentially avoidable hospitalizations among older adults. The Journals of Gerontology Series A [Internet]. 2023 Nov 6;79(3). Available

from: https://doi.org/10.1093/gerona/glad256

19. Ladak A, Geriatrics. Improving dementia care practices: Implementation of an innovative interprofessional delirium prevention program for hospitalized older adults. Alzheimer S & Dementia [Internet]. 2022 Dec 1;18(S9). Available from: https://doi.org/10.1002/alz.065979
20. Bugiani O. Why is delirium more frequent in the elderly? Neurological Sciences [Internet]. 2021 May 24;42(8):3491–503. Available from: https://doi.org/10.1007/s10072-021-05339-3
21. Gjini K, Casey C, Kunkel D, Her M, Banks MI, Pearce RA, et al. Delirium is associated with loss of feedback cortical connectivity. Alzheimer S & Dementia [Internet]. 2023 Sep 11;20(1):511–24. Available from: https://doi.org/10.1002/alz.13471
22. Heimberger AB, Lukas RV. The kynurenine pathway implicated in patient delirium: possible indications for indoleamine 2,3 dioxygenase inhibitors. Journal of Clinical Investigation [Internet]. 2023 Jan 16;133(2). Available from: https://doi.org/10.1172/jci164577
23. Parker M, White M, Casey C, Kunkel D, Bo A, Blennow K, et al. Cohort analysis of the association of delirium severity with cerebrospinal fluid Amyloid-Tau-Neurodegeneration pathologies. The Journals of Gerontology Series A [Internet]. 2021 Jul 14;77(3):494–501. Available from: https://doi.org/10.1093/gerona/glab203
24. Bellelli G, Triolo F, Ferrara MC, Deiner SG, Morandi A, Cesari M, et al. Delirium and frailty in older adults: Clinical overlap and biological underpinnings. Journal of Internal Medicine [Internet]. 2024 Oct 1;296(5):382–98. Available from: https://doi.org/10.1111/joim.20014
25. Leighton SP, Herron JW, Jackson E, Sheridan M, Deligianni F, Cavanagh J. Delirium and the risk of developing dementia: a cohort study of 12 949 patients. Journal of Neurology Neurosurgery & Psychiatry [Internet]. 2022 May 23;93(8):822–7. Available from: https://doi.org/10.1136/jnnp-2022-328903
26. Titlestad I, Haugarvoll K, Solvang SEH, Norekvål TM, Skogseth RE, Andreassen OA, et al. Delirium is frequently underdiagnosed among older hospitalised patients despite available information in hospital medical records. Age And Ageing [Internet]. 2024 Feb 1;53(2). Available from: https://doi.org/10.1093/ageing/afae006
27. Lepkowsky CM, Janklow HM. Assessing delirium at hospital discharge. American Journal of Geriatric Psychiatry [Internet]. 2022 Jul 17;30(11):1265–6. Available from: https://doi.org/10.1016/j.jagp.2022.07.005
28. Lin CJ, Su IC, Huang SW, Chen PY, Traynor V, Chang HC, et al. Delirium assessment tools among hospitalized older adults: A systematic review and metaanalysis of diagnostic accuracy. Ageing Research Reviews [Internet]. 2023 Jul 30;90:102025. Available from: https://doi.org/10.1016/j.arr.2023.102025
29. Tieges Z, MacLullich AMJ, Anand A, Cassaroni M, O'Connor M, Ryan D, et al. 33 Diagnostic Test Accuracy of the 4AT for Delirium Detection: Systematic Review and Meta-Analysis. Age And Ageing [Internet]. 2021 Mar 1;50(Supplement_1):i7–11. Available from: https://doi.org/10.1093/ageing/afab029.12
30. Chakkittakandy D, Kelly L, Farrelly A, Wall C, Regi C, Hayden D. Detecting delirium: the missed medical emergency. Age And Ageing [Internet]. 2024 Sep

1;53(Supplement_4). Available from: https://doi.org/10.1093/ageing/afae178.194

31. Brolly A, Randles M, Li CCH, Brick J, Maher M, Buckley M, et al. A multi-disciplinary journey to developing a delirium friendly emergency department. Age And Ageing [Internet]. 2024 Sep 1;53(Supplement_4). Available from: https://doi.org/10.1093/ageing/afae178.114
32. Carpenter CR, Hammouda N, Linton EA, Doering M, Ohuabunwa UK, Ko KJ, et al. Delirium Prevention, Detection, and Treatment in Emergency Medicine settings: A Geriatric Emergency Care Applied Research (GEAR) Network Scoping review and Consensus Statement. Academic Emergency Medicine [Internet]. 2020 Nov 2;28(1):19–35. Available from: https://doi.org/10.1111/acem.14166
33. Jackson GP, Jackson CE, Boland JW, Featherstone I, Huang C, Ogden M, et al. Improving the Detection, Assessment, Management and Prevention of Delirium in Hospices (the DAMPen-D study): Feasibility study of a flexible and scalable implementation strategy to deliver guideline-adherent delirium care. Palliative Medicine [Internet]. 2024 Apr 1;38(4):447–56. Available from: https://doi.org/10.1177/02692163241236325
34. Wilchesky M, Ballard SA, Voyer P, McCusker J, Lungu O, Champoux N, et al. The PREvention Program for Alzheimer's RElated Delirium (PREPARED) cluster randomized trial: a study protocol. BMC Geriatrics [Internet]. 2021 Nov 16;21(1):645. Available from: https://doi.org/10.1186/s12877-021-02558-3
35. Garrido M, Álvarez E, Salech F, Rojas V, Jara N, Farías JI, et al. Software-guided (PREVEDEL) cognitive stimulation to prevent delirium in hospitalised older adults: study protocol. BMC Geriatrics [Internet]. 2023 Aug 5;23(1):472. Available from: https://doi.org/10.1186/s12877-023-04189-2
36. Selladurai A, Habib M, Alston D. Improving the Screening and Diagnosis of Delirium for Older adult Patients Admitted to Hillingdon Hospital. BJPsych Open [Internet]. 2023 Jul 1;9(S1):S108–9. Available from: http://dx.doi.org/10.1192/bjo.2023.315