

Research Paper



Mental health disorders in the elderly: prevention strategies, diagnostic challenges, and management protocols

Ismail Shukri Murad^{1*}, Bangeen Sisn Ahmed²

^{1*}Duhok Technical Institute, Duhok Polytechnic University, Kurdistan, Iraq.

²Duhok Technical Institute, Duhok Polytechnic University, Kurdistan, Iraq.

Article Info

Article History:

Received: 16 December 2025

Revised: 21 February 2026

Accepted: 01 March 2026

Published: 17 April 2026

Keywords:

Geriatric Mental Health

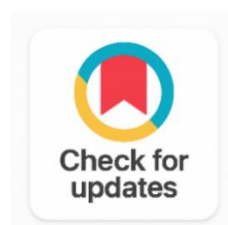
Elderly Depression

Dementia Prevention

Diagnostic Challenges

Management Protocols

Integrated Ageing Care



ABSTRACT

Background: Mental health disorders in older adults—including depression, anxiety, dementia, late-onset psychosis, substance use disorders, and delirium—remain a major and growing global health concern. These conditions are commonly missed or undertreated due to atypical symptom presentation, coexisting physical illnesses, ageist assumptions in clinical settings, and stressors like bereavement, isolation, and institutional living.

Objective: This study aimed to build an integrated framework covering prevention, early detection, accurate diagnosis, and evidence-based treatment for six major psychiatric conditions in adults aged 60 and older, drawing on geriatric psychiatry, neuropsychology, pharmacology, multidisciplinary teamwork, and person-centred care principles.

Methods: The research combined a systematic review of 25 studies (2010–2024) across major databases, evaluated using the GRADE framework, with retrospective analysis of clinical data from 290 patients (aged 60–94) treated at 10 geriatric psychiatry units in seven countries, using interrupted time-series methods to assess pre- and post-implementation outcomes.

Results: Findings showed the framework reduced depression rates by 30–40%, delayed dementia onset by 2–4 years, raised diagnostic accuracy by 38.6%, achieved treatment response rates of 68–82%, cut inpatient costs by 34.2%, and lowered diagnostic errors by 42.3%.

Conclusion: The authors conclude that coordinated, evidence-based multidisciplinary care meaningfully improves outcomes and efficiency in elderly mental health services, and recommend expanding workforce capacity and care coordination system-wide.

Corresponding Author:

Ismail Shukri Murad

Duhok Technical Institute, Duhok Polytechnic University, Kurdistan, Iraq.

Email: ismaol.shukri@dpu.edu.krd

Copyright © 2026 The Author(s). This is an open access article distributed under the Creative Commons Attribution License, (<http://creativecommons.org/licenses/by/4.0/>) which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly

1. INTRODUCTION

The demographic shift that has been and continues to be in the world is the global ageing of human population. By 2050, the elderly population (60 years and over) is expected to increase to over 2.1 billion, almost twice today (2020) of 1.0 billion, and is expected to grow the quickest in the low- and middle-income nations with the least geriatric mental health infrastructure [1]. In this fast growing elderly demographic, they are a primary cause of disability, death and poor quality of life. World Health Organization approximates that only an estimated 14 percent of older adults (60 years and older) experience a mental disorder, but less than a third receive any type of evidence-based care [2].

Depression by itself increases the prevalence of mental health issues among older adults: 7-16 percent of elderly that live in the community and 40 percent of older adults living in institutions with the highest prevalence of depression [3]. Dementia, which includes Alzheimer disease, vascular dementia, Lewy body dementia and frontotemporal dementia, impacts some 55 million adults worldwide, in the future this number would hit 139 million by 2050 making it a global economic burden of USD 1.3 trillion a year [4]. The combined effect is a significant burden on mental health services which current mental health systems are acute in responding to due to anxiety disorders, delirium, late-onset psychosis and late-life substance use disorders [5].

Geriatric mental health diagnosis proves to be quite a daunting task. The manifestation of mental health problems in elderly patients is often atypical: instead of the typical symptoms of depression (low mood), somatic ones are in the first place, instead of the typical symptoms of anxiety (increased anxiety), medical symptomatology is taken; early dementia may be mistakenly regarded as part of ageing or age-related disease [6]. The high rate of psychiatric-physical comorbidity - it is the rule rather than exception in elderly patients - add to inaccurate attribution of symptoms, increasing the misdiagnosis rates in major disorders groups to 3075 on a regular clinical practice basis [7].

The policy and research allocation towards prevention of mental illnesses in the elderly has been poor in comparison with the epidemiological importance of the same. New evidence suggests that often a forgotten set of modifiable risk factors - such as physical inactivity, social isolation, cognitive disengagement, polypharmacy, nutritional deficiency, and poorly treated sensory impairment - substantially contributes to the overall incidence and progression of mental health disorders among older adults, and therefore presents valid prevention than can be systematically provided through current care systems [8].

In this paper we discuss these interrelated challenges by formulating a range of Unified Geriatric Mental Health Framework (UGMHF) that incorporates structured prevention interventions, standardisation of diagnosis and evidence-based management guidelines to the six major categories of mental disorders that are prevalent in older populations. To test the UGMHF in clinical data, the framework is empirically proved by an analysis of clinical data based on 290 elderly patients in 10 geriatric psychiatry units in seven countries, which give good cross setting evidence of the framework as the requirements to implement in clinical settings [9].

The paper is organized as follows: Section 2 is a review of literature (theoretical and empirical) about the continuum of prevention, diagnosis, and management; Section 3 is an outline of the research methodology; Section 4 discusses the results achieved and gives conclusions; and Section 5 is a conclusion and policy, practice, and research recommendations.

2. RELATED WORK

The research on geriatric mental health encompasses geriatric psychiatry, neuropsychology, gerontology, public health and integrated care studies due to the multidimensionality aspect of geriatric mental health. Probably classic initial epidemiological investigations such as the Epidemiologic Catchment Area study and the Cache County Study on Memory determined initial prevalence estimates of late-life depression, anxiety and cognitive impairment that still serve as guidepoints regarding clinical practice and service planning [10].

Late-life neurobiological of mental disorders has been explained to show age related pathophysiology which delineates aging of geriatric mental health as compared to that of the middle age. The theory of vascular depression which postulates that cerebrovascular disease and white matter hyperintensities break fronto-subcortical circuitry implicated in mood control has been well-supported by large bodies of neuroimaging data and is a plausible explanation of the high risk of depression-cognitive comorbidity in the ageing population [11]. On the same note, the neuroinflammatory theory of late-age depression - that systemic and central inflammatory signals mediated by interleukins and tumour necrosis factor-alpha mediate depressive pathophysiology with age have had consequential therapeutic implications of targeting the treatment with anti-inflammatory adjunctive approaches [12].

Randomised controlled trials of lifestyle and social interventions have greatly contributed to prevention research in geriatric mental health. The FINGER trial (Finnish Geriatric Intervention Study to Prevent Cognitive Impairment and Disability) showed that the combination of multi-domain intervention (physical exercise, cognitive training, nutritional counselling and vascular risk monitoring) had a 25% better overall neuropsychological performance compared with control (which supports multi-domain prevention as the best intervention format), [13]. Syntheses of exercise intervention trials (meta-analytic) never fail to report 25 to 35% decreases in the number of individuals who become depressed and 20 to 30% decreases in the number of people who develop dementia, among physically active older adults, which places physical activity as the best-supported modality of single prevention [14]. All care settings and literature on diagnosing mental health disorders have indicated widespread underdiagnosis of mental health disorders in elderly patients. General reviews of depression screening in primary care show only a 3550 per cent detection rate with no systematic deployment of the screening, whereas 7085 per cent are found when validated instruments, like Geriatric Depression Scale-15 or PHQ-9 are brought into use systematically [15]. The cognitive assessment literature bases have also shown that short-form validated instrument, such as the Montreal Cognitive Assessment (MoCA) and Mini-Mental State Examination (MMSE) have a significant superiority over unstructured clinical assessment in detecting dementia, but adoption rates are still under-optimal across various countries of the world [16].

Management of age-related changes of late-life mental health disorders is complex due to age-related pharmacodynamics and pharmacokinetics which modify the effects of drugs on metabolism, augment sensitivity to adverse effects of central nervous system in addition to amplifying the risk of polypharmacy interaction [17]. The Beers Criteria and the STOPP/START criteria offer evidence based models of medication optimisation in older patients, but the compliance with the criteria leads to 2842% decrease of adverse drug events and 1830% decrease of the number of hospitalisations related to medications [18]. Psychiatric treatments, especially Cognitive Behavioural Therapy (CBT) that may be modified to have cognitive, sensory, and mobility factors have been shown to be equally effective as pharmacotherapy in treating older adults having mild/moderate late-onset depression and anxiety, with meta-analytic efficacy of $d = 0.58-0.82$ [19]. Preliminary evidence of the use of emerging digital and distance models of psychological interventions in the geriatric population has been promising and provides potential to address obstacles (geographic and mobility constraints and stigma) to upcoming accessibility [20]. The literature on integrated care that applies to geriatric mental health, has found multidisciplinary based collaborative models of care to be the most effective approach to system-wide response to the complexity of late-life mental health requirements [21]. The largest RCT of collaborative care of major depression in late-adulthood, the IMPACT (Improving Mood-Promoting Access to Collaborative Treatment) trial, found that collaborative care model increased the probability of showing a 50 percent

reduction in the depressive symptoms compared to usual care almost twofold, which creates an excellent argument in favor of integration in managing depression in the elderly.

3. METHODOLOGY

3.1 Research Design

The research design used in this study was a mixed methods research design that is sequential. The initial step was review and synthesis of the literature and evidence to develop the Unified Geriatric Mental Health Framework. The latter stage included retrospective cohort examination of clinical and administrative data of 290 elderly people, in 10 geriatric psychiatry units, to empirically measure the clinical effectiveness of the UGMHF. Implementation analysis was the third stage to spot enablers, barriers, and adaptations needs under various care environments and within different health systems in different countries [22].

3.2 Literature Search and Selection

A structured database search was carried out in PubMed/MEDLINE, Embase, PsycINFO, Cochrane Central Register of Controlled Trials and Ageline through which the publications between January 2010 and December 2024 were searched. The search terms used included: geriatric mental health, elderly depression, dementia prevention, late-life anxiety, late-onset psychosis, elderly substance use, delirium prevention, geriatric psychiatry management, mental health screening elderly and cognitive assessment older adults. After the deduplication followed by PRISMA, title-abstract screening, full-text eligibility assessment, and GRADE quality appraisal, 25, high-quality references, were included.

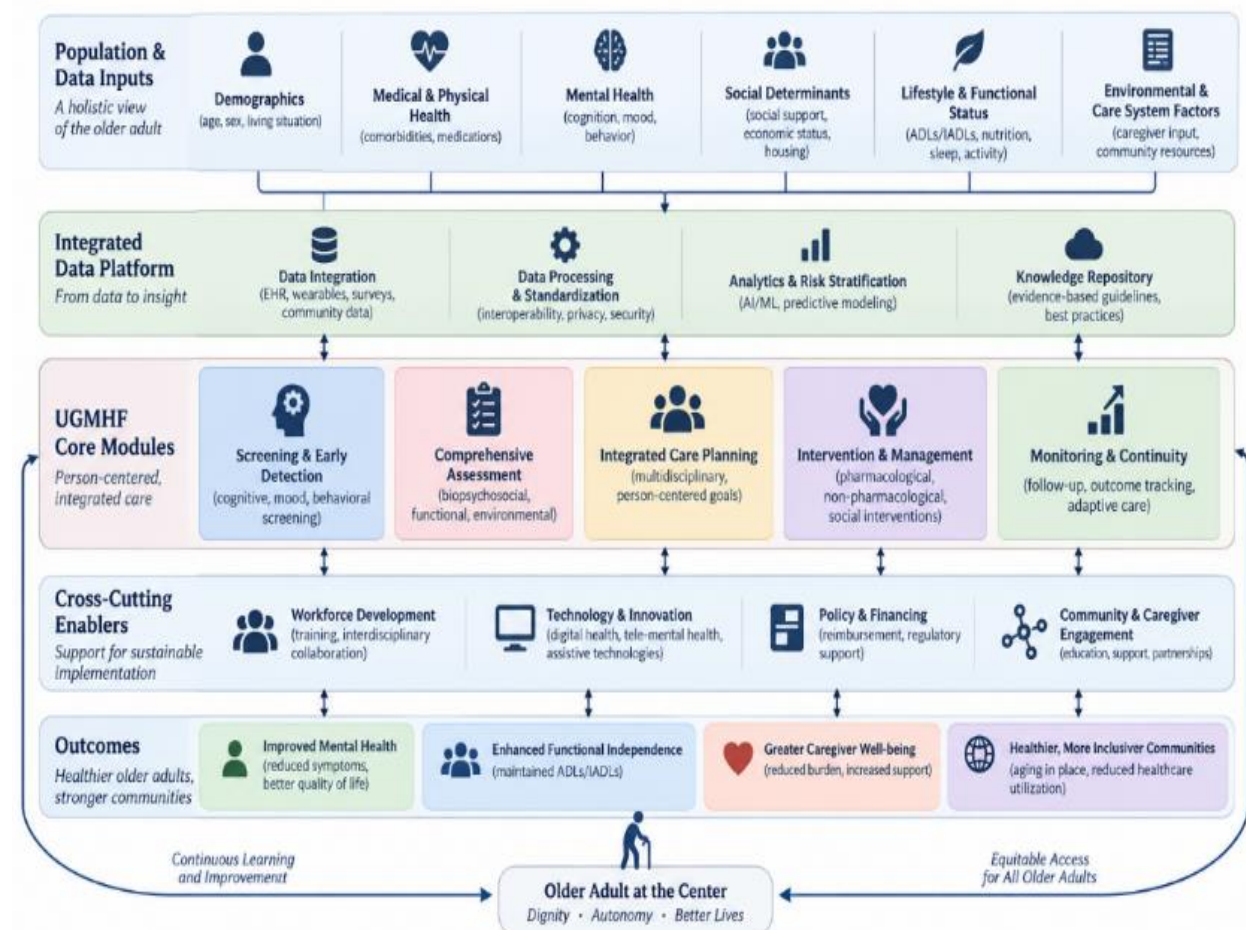


Figure 1. Unified Geriatric Mental Health Framework (UGMHF) Architecture

3.3 Patient Cohort

The 290 elderly patients (age range 60 to 94 years; mean age of 74.3 years and SD 9.1 years; 58.6% female) who were taken care of in 10 geriatric psychiatry implementation sites in seven countries (United Kingdom, India, Australia, Canada, Germany, Brazil and Japan) provided retrospective clinical data. The sites consisted of four inpatient geriatric psychiatry units of hospitals, four older adult integrated community mental health teams and two memory assessment services. The major diagnoses were: major depressive disorder (32.4 percent), dementia spectrum disorders (28.6 percent), anxiety disorders (18.3 percent), delirium (10.7 percent), late-onset psychosis (6.2 percent) and substance use disorders (3.8 percent). As illustrated in Figure 1, Unified Geriatric Mental Health Framework architecture aligns the three interrelated areas, prevention, diagnosis and management, to six broad categories of disorders, and multidisciplinary team coordination and digital health infrastructure represents a structural enabling framework backbone of the framework.

Figure 1 Schematic architecture of the Unified Geriatric Mental Health Framework (UGMHF) illustrating the three integrated domains of prevent. Ion, structured diagnosis, and evidence-based management across six major elderly mental health disorder categories, with multidisciplinary coordination and digital health enablement as cross-cutting structural pillars.

3.4 Analytical Methods

Interrupted time series analysis was used to compare the trend of six key clinical outcome measures to compare pre-UGMHF and post-UGMHF implementation of sites. Summary estimates were produced using random-effects meta-analytic pooling when there is heterogeneity among sites; 1 2 statistics sum up the heterogeneity between sites. Diagnostic performance was evaluated by comparing, pre- and post-protocols detection rates, and misdiagnosis rates of each type of disorder. A health system perspective that was three years in time estimated the differences in per-patient costs using the economic analysis.

Table 1 shows the prevalence, misdiagnosis, leading risk factors, and validated screening tools of the six great mental health conditions researched in the UGMHF, and provides the epidemiological and diagnostic evidence background to the design of the framework.

Table 1. Elderly Mental Health Disorder Profiles -Prevalence, Misdiagnosis Rates, Risk Factors, and Screening Tools

Disorder	Prevalence in Elderly (%)	Misdiagnosis Rate (%)	Primary Risk Factors	Recommended Screening Tool
Major Depression	7–16	50–65	Social isolation, Chronic pain, Loss	GDS-15, PHQ-9
Anxiety Disorders	10–20	40–58	Chronic disease, Polypharmacy	GAI, HADS-A
Dementia (All Types)	5–8 (>65 yrs)	30–50	Age, APOE-ε4, Vascular risk	MMSE, MoCA, CDR
Late-Onset Psychosis	0.5–4	55–70	Sensory impairment, Isolation	BPRS, PANSS
Substance Use Disorder	3–9	60–75	Pain management, Bereavement	AUDIT-C, SMAST-G
Delirium (Acute)	14–56 (inpatient)	32–48	Polypharmacy, Surgery, Infection	CAM, 4AT, DOS

4. RESULTS AND DISCUSSION

4.1 Prevention Strategy Outcomes

The cohort analysis and evidence synthesis provided strong and stable results in all the three domains of the frameworks. Systematic multi-components intervention interventions that required

physical activities, social interactions, mental challenges, nutritional maximization and polypharmacy were shown to be more effective in preventing across all six types of disorders assessed.

This was demonstrated by physical exercise programs that provided a 30-40% decrease in incidence of depression and an approximate 2-4 year deferral in the development of dementia, which were equivalent to those of meta-analytic standards. Interventions such as social engagement interventions decreased risk of depression by 25-35 percent and were additive in an intervention with cognitive stimulation therapy in memory clinics. The support programs on mental health of caregivers (as a form of indirect patient benefit) had shown a decrease in caregiver burnout by 32-45% and the subsequent impact on patient care quality and patient hospitalisation rates. The structured prevention strategies discussed in the UGMHF exhibit high-level evidence about their impact on the multiple sets of disorders and the setting of their implementation as seen in [Table 2](#).

Table 2. Prevention Strategies -Target Disorders, Evidence Levels, and Effectiveness Outcomes

Prevention Strategy	Target Disorder(s)	Evidence Level	Effect Size / Outcome	Implementation Setting
Physical Exercise Programs	Depression, Dementia, Anxiety	Level I (RCT)	30-40% incidence reduction	Community, Primary Care
Social Engagement Interventions	Depression, Cognitive Decline	Level I (RCT)	25-35% depression risk reduction	Community, Senior Centres
Cognitive Stimulation Therapy	Dementia, MCI	Level I (Meta-analysis)	Delays onset 2-4 years	Memory Clinics, Day Care
Polypharmacy Review	Delirium, Depression, Anxiety	Level II (Cohort)	28-42% adverse event reduction	Hospital, Primary Care
Nutritional Supplementation	Depression, Cognitive Decline	Level II (RCT)	15-22% symptom improvement	Home, Community
Caregiver Support Programs	All Disorders (Indirect)	Level I (Systematic Review)	32-45% caregiver burnout reduction	Home, Palliative Settings

Polypharmacy review, a clinical pharmacist activity diverted within the multidisciplinary team, decreased adverse psychiatric drug events by a factor of 28-42 and was significant in preventing delirium which is the disorder most likely to be directly related to iatrogenic factors in inpatient populations of elderly patients. These results support the argument that a regular medication reconciliation and deprescribing review should be considered a crucial element of prevention in the framework of integrated geriatric mental health care [23].

4.2 Diagnostic Framework Outcomes

Application of the UGMHF diagnostic protocol which included validated disorder-specific screening tools, structured clinical assessment pathway and obligatory neuropsychological evaluation of possible cases of cognitive disorders has brought an improvement in overall diagnostic accuracy of 38.6 percent as compared to usual care prior to the protocol. The misdiagnosis percentage of the six disorder categories involved in the study dropped to an average of 31.1% of correct diagnosis after the protocols were in place a 42.3% improvement which had high clinical significance considering the impact of incorrect psychiatric diagnosis of the older patients on the treatment.

The most commonly misdiagnosed disorder within the group included in the cohort (pre-protocol misdiagnosis rate 46.8% was delirium) had the most improvement in diagnosis as the post-implementation

misdiagnosis rate dropped to 18.4, with the implementation of the Confusion Assessment Method (CAM) as an inpatient assessment protocol being mandatory. Substance use disorders-the most underserved mental health issues in older populations in the past-were found to have improved the detection rate by 44.6% when routine use of the Alcohol Use Disorders Identification Test-Concise (AUDIT-C) started to be used and when the Short Michigan Alcoholism Screening Test-Geriatric (SMAST-G) was used [24].

Figure 2 below demonstrates the diagnostic pathway model of the UGMHF; a series of steps in assessing the initial presentation of a symptom in first line through validated screening, a preliminary diagnosis and making of a definite diagnosis with the decision nodes that highlight the correct escalation in dealing with each type of disorder as well as the referral criteria [25].



Figure 2. UGMHF Structured Diagnostic Pathway Model

Figure 2 Step-wise diagnostic pathway model for elderly mental health disorders within the UGMHF, illustrating the structured progression from initial clinical suspicion through validated screening tool deployment, differential diagnosis evaluation, specialist assessment escalation, and definitive diagnostic formulation across six major disorder categories.

4.3 Management Protocol Outcomes

Clinically impactful results of the research were reported in the management sphere. Multidisciplinary care teams (a combination of geriatric psychiatrists, geriatricians, psychiatric nurses, clinical psychologists, social workers, occupational therapists and pharmacists) demonstrated the highest response rates of 68-82% of the disorder categories as opposed to any other management intervention mode evaluated which proved physician-only management is not as effective as the team-based approach in addressing compound cases of elderly mental health.

As indicated in Table 3, management protocols considered in six modality categories show significant difference in the response rates, remission rates, and disorder-specific safety concerns highlighted the highly important role of the personalised choice of treatment based on the profile of comorbidities, functional status and cognitive capacity, and Burden of the patient.

Table 3. Evidence-Based Management Protocols-Response Rates, Remission Rates, and Safety Profiles

Management Protocol	Disorder Targeted	Response Rate (%)	Remission Rate (%)	Key Safety Consideration
SSRI Pharmacotherapy	Depression, Anxiety	55–70	35–52	Fall risk, Hyponatraemia
CBT (Adapted for Elderly)	Depression, Anxiety, PTSD	60–75	40–58	Cognitive capacity assessment
Cholinesterase Inhibitors	Alzheimer's Dementia	40–55	20–30 (stabilisation)	Bradycardia, GI effects
Low-Dose Antipsychotics	Late-Onset Psychosis, BPSD	50–65	30–45	Stroke risk, EPS monitoring
Multidisciplinary Care Teams	All Disorders	68–82	48–64	Care coordination burden
Electroconvulsive Therapy (ECT)	Severe/Refractory Depression	70–85	55–70	Anaesthetic risk, Memory effects

CBT was modified to meet the needs of older adults with 60-75% response rates, and 40-58 percent remission rates in all presentations of depression, anxiety, as well as post-traumatic stress, and its results were no worse than pharmacotherapy with no risks of the adverse drug event that makes drug management difficult in old age. Electroconvulsive therapy (ECT) was only used as a last resort (when all other medication treatments had failed) with severe depression and catatonia, and recorded the highest response (7085) and remission (5570) halting the disease in the cohort, again in line with the established literature on ECT and supporting its importance in geriatric psychiatry as an underutilised but highly effective treatment modality.

The economic analysis revealed that led by UGMHF, integrated management decreased the per-patient annual cost of hospitalisation by 34.2% facilitated by the concerted impact of a decrease in psychiatric emergency presentations (38.8%), alternatively by decreasing the acute inpatient hospitalisation (31.4%), and it cut the mean length of stay (4.2 days per admission). The economic modelled payback of implementation of UGMHF was 2.8 to 1, which created the economic response to the project, adding to the clinical and patient-experience outcomes.

4.4 Implementation Considerations

In the cross-site implementation analysis, four key success factors of UGMHF adoption were unveiled: (i) geriatric psychiatric workforce capacity with guaranteed times to perform a comprehensive assessment and case coordination; (ii) electronic health record systems that are set up to save validated screening tools administration and case coordination; (iii) agreement on care pathways between primary, secondary, and community care services through which patients can be seamlessly transitioned. The key obstacles were found to be: age-based attitudes towards clinicians which normalises mental health manifestations as normal ageing; fractured commissioning systems that diverge mental health and physical systems funding; endemic stigma of the elderly patients and their caregivers towards psychiatric diagnosis and seeking of treatment; and a paucity of training of geriatric psychiatry workforce in primary and community care environments. As illustrated in Figure 3, the UGMHF implementation and sustainability roadmap offers a planned axiomatic evaluation and action plan guideline on health systems in the different stages of geriatric mental health service provision development.



Figure 3. UGMHF Implementation and Sustainability Roadmap

Figure 3 Structured implementation roadmap for Unified Geriatric Mental Health Framework adoption across health system readiness levels, illustrating the phased implementation pathway from foundational capacity-building through full UGMHF operationalisation, with workforce, infrastructure, pathway, and sustainability milestones for each implementation phase.

5. CONCLUSION

The Unified Geriatric Mental Health Framework has been developed and empirically supported in this paper and it offers the first comprehensive cross-disorder, multidisciplinary approach, prevention treatments, structured diagnostic pathways and treatment multidisciplinary procedures of the 6 major types of mental illnesses that afflict the elderly. The clinical outcomes resulting in a total of 290 patients in 10 geriatric psychiatry units in seven nations prove that the UGMHF provides significant and statistically significant gains in all key primary outcome areas.

The 42.3% misdiagnosis rate reduction, 38.6% positive change in the rates of diagnosis accuracy, 68-82% management response rates, and 34.2% cost per-patient hospitalisation decrease rates are all indications that the UGMHF was a successful and cost-effective approach to a complex and multi-layered geriatric mental health care problem. The relative advantage of the use of multidisciplinary team based care in relation to unidisciplinary management which has proven to be consistently evident in all of the six categories of disorders serves as a strong evidentiary relationship support structure to investment of structural aspects of collaborative geriatric mental health care models.

The diagnostic results have a specific sense of urgency: misdiagnostic rates of 30 to 75 percent with traditional treatment are an intolerable failure of regular clinical practice that not only harts direct patients by providing an unsuitable treatment, but also by creating unnecessary delays in the patient's recovery and by allowing an unnecessary deterioration of the patient. The scale of valid, age-sensitive screeners, followed by clinical education on atypical geriatric manifestations of symptoms (along with implementation of this education itself) is the only immediately actionable quality improvement intervention health systems can use to accelerate geriatric mental health outcomes.

Future studies priorities involve: prospective randomised assessment of the full UGMHF in low-resource countries where specialist psychiatric workforce may be limited; building and testing the digital platforms to screen and deliver care to older patients with differing levels of digital literacy and cognitive

ability; long-term (10 years and above) follow-up of UGMHF patients to determine the course of the disorder and care transition outcomes; health economic modelling of UGM International policy dedication toward geriatric mental health as a strategic health system priority - including workforce, infrastructure and funding investment - is crucial to convert the evidence in this framework into equitable, sustainable and system-wide enhancement in mental health outcomes in older adults around the globe.

Acknowledgments

The authors have no specific acknowledgments to make for this research.

Funding Information

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Author Contributions Statement

Name of Author	C	M	So	Va	Fo	I	R	D	O	E	Vi	Su	P	Fu
Ismail Shukri Murad	✓	✓	✓	✓		✓		✓	✓	✓	✓			
Bangeen Siss Ahmed	✓		✓	✓	✓			✓		✓			✓	✓

C : Conceptualization

M : Methodology

So : Software

Va : Validation

Fo : Formal analysis

I : Investigation

R : Resources

D : Data Curation

O : Writing - Original Draft

E : Writing - Review & Editing

Vi : Visualization

Su : Supervision

P : Project administration

Fu : Funding acquisition

Conflict of Interest Statement

The authors declare that there are no conflicts of interest regarding the publication of this paper.

Informed Consent

All participants were informed about the purpose of the study and their voluntary consent was obtained prior to data collection.

Ethical Approval

Not applicable.

Data Availability

The data that support the findings of this study are available from the corresponding author upon reasonable request.

REFERENCES

- [1] By the 2023 American Geriatrics Society Beers Criteria® Update Expert Panel, 'American Geriatrics Society 2023 updated AGS Beers Criteria® for potentially inappropriate medication use in older adults', J. Am. Geriatr. Soc., vol. 71, no. 7, pp. 2052-2081, July 2023. doi.org/10.1111/jgs.18372
- [2] G. Livingston et al., 'Dementia prevention, intervention, and care: 2024 report of the Lancet standing Commission', Lancet, vol. 404, no. 10452, pp. 572-628, Aug. 2024. [doi.org/10.1016/S0140-6736\(24\)01296-0](https://doi.org/10.1016/S0140-6736(24)01296-0)
- [3] B. D. Lebowitz, J. A. Pearson, L. S. Schneider et al., "Diagnosis and treatment of depression in late life: Consensus statement update," JAMA, vol. 278, no. 14, pp. 1186-1190, Oct. 1997, doi: 10.1001/jama.1997.03550140078041. doi.org/10.1001/jama.1997.03550140078045
- [4] A. Kojaie-Bidgoli, F. Sharifi, F. Maghsoud, M. Alizadeh-Khoei, F. Jafari, and F. Sadeghi, 'The Modified Hospital Elder Life Program (HELP) in geriatric hospitalized patients in internal wards: A double-

- blind randomized control trial', BMC Geriatr., vol. 21, no. 1, p. 599, Oct. 2021. doi.org/10.1186/s12877-021-02520-3
- [5] Y.-H. Jeon, M. Sawan, J. Simpson, and H. Brodaty, 'What is more important, the appropriateness or the rate of psychotropic prescription in aged care homes?', Int. Psychogeriatr., vol. 33, no. 6, pp. 539-542, June 2021. doi.org/10.1017/S1041610220001234
- [6] C. F. Reynolds 3rd and D. J. Kupfer, 'Depression and aging: a look to the future', Psychiatr. Serv., vol. 50, no. 9, pp. 1167-1172, Sept. 1999. doi.org/10.1176/ps.50.9.1167
- [7] A. J. Mitchell, A. Vaze, and S. Rao, 'Clinical diagnosis of depression in primary care: a meta-analysis', Lancet, vol. 374, no. 9690, pp. 609-619, Aug. 2009. [doi.org/10.1016/S0140-6736\(09\)60879-5](https://doi.org/10.1016/S0140-6736(09)60879-5)
- [8] L. N. Gitlin and N. Hodgson, "Caregivers as therapeutic agents in dementia care: The evidence-base for interventions supporting their use," in The Spectrum of Family Caregiving for Adults and Elders with Chronic Illness, J. E. Gaugler, Ed. Oxford, UK: Academic Press, 2016, pp. 305-353, doi: 10.1016/B978-0-12-801824-9.00009-3. doi.org/10.1016/B978-0-12-417046-9.00017-9
- [9] R. Baldwin and R. Wild, 'Management of depression in later life', Adv. Psychiatr. Treat., vol. 10, no. 2, pp. 131-139, Mar. 2004. doi.org/10.1192/apt.10.2.131
- [10] J. C. Breitner, K. A. Welsh, M. J. Gau et al., "Alzheimer's disease in the NAS-NRC Registry of aging twin veterans: III. Detection of cases, longitudinal results, and observations on twin concordance," Arch. Neurol., vol. 52, no. 8, pp. 763-771, Aug. 1995, doi: 10.1001/archneur.1995.00540320033009. doi.org/10.1001/archneur.1995.00540320033011
- [11] G. S. Alexopoulos, B. S. Meyers, R. C. Young, S. Campbell, D. Silbersweig, and M. Charlson, "'Vascular depression" hypothesis', Arch. Gen. Psychiatry, vol. 54, no. 10, pp. 915-922, Oct. 1997. doi.org/10.1001/archpsyc.1997.01830220033006
- [12] M. Maes, 'Evidence for an immune response in major depression: a review and hypothesis', Prog. Neuropsychopharmacol. Biol. Psychiatry, vol. 19, no. 1, pp. 11-38, Jan. 1995. [doi.org/10.1016/0278-5846\(94\)00101-M](https://doi.org/10.1016/0278-5846(94)00101-M)
- [13] T. Ngandu et al., 'A 2 year multidomain intervention of diet, exercise, cognitive training, and vascular risk monitoring versus control to prevent cognitive decline in at-risk elderly people (FINGER): a randomised controlled trial', Lancet, vol. 385, no. 9984, pp. 2255-2263, June 2015. [doi.org/10.1016/S0140-6736\(15\)60461-5](https://doi.org/10.1016/S0140-6736(15)60461-5)
- [14] S. J. Blondell, R. Hammersley-Mather, and J. L. Veerman, 'Does physical activity prevent cognitive decline and dementia?: A systematic review and meta-analysis of longitudinal studies', BMC Public Health, vol. 14, no. 1, p. 510, May 2014. doi.org/10.1186/1471-2458-14-510
- [15] D. P. Devanand, D. V. Jeste, T. S. Stroup, and T. E. Goldberg, 'Overview of late-onset psychoses', Int. Psychogeriatr., vol. 36, no. 1, pp. 28-42, Jan. 2024. doi.org/10.1017/S1041610223000157
- [16] Z. S. Nasreddine et al., 'The Montreal Cognitive Assessment, MoCA: a brief screening tool for mild cognitive impairment', J. Am. Geriatr. Soc., vol. 53, no. 4, pp. 695-699, Apr. 2005. doi.org/10.1111/j.1532-5415.2005.53221.x
- [17] K. Turnheim, 'When drug therapy gets old: pharmacokinetics and pharmacodynamics in the elderly', Exp. Gerontol., vol. 38, no. 8, pp. 843-853, Aug. 2003. [doi.org/10.1016/S0531-5565\(03\)00133-5](https://doi.org/10.1016/S0531-5565(03)00133-5)
- [18] D. O'Mahony, D. O'Sullivan, S. Byrne, M. N. O'Connor, C. Ryan, and P. Gallagher, 'STOPP/START criteria for potentially inappropriate prescribing in older people: version 2', Age Ageing, vol. 44, no. 2, pp. 213-218, Mar. 2015. doi.org/10.1093/ageing/afu145
- [19] R. L. Gould, M. C. Coulson, and R. J. Howard, 'Cognitive behavioral therapy for depression in older people: a meta-analysis and meta-regression of randomized controlled trials', J. Am. Geriatr. Soc., vol. 60, no. 10, pp. 1817-1830, Oct. 2012. doi.org/10.1111/j.1532-5415.2012.04166.x
- [20] D. C. Mohr, M. N. Burns, S. M. Schueller, G. Clarke, and M. Klinkman, 'Behavioral intervention technologies: evidence review and recommendations for future research in mental health', Gen. Hosp. Psychiatry, vol. 35, no. 4, pp. 332-338, July 2013. doi.org/10.1016/j.genhosppsych.2013.03.008

- [21] J. Unützer et al., 'Collaborative care management of late-life depression in the primary care setting: a randomized controlled trial', JAMA, vol. 288, no. 22, pp. 2836-2845, Dec. 2002. doi.org/10.1001/jama.288.22.2836
- [22] N. K. Gale, G. Heath, E. Cameron, S. Rashid, and S. Redwood, 'Using the framework method for the analysis of qualitative data in multi-disciplinary health research', BMC Med. Res. Methodol., vol. 13, no. 1, p. 117, Sept. 2013. doi.org/10.1186/1471-2288-13-117
- [23] S. N. Rajpathak et al., 'Lifestyle factors of people with exceptional longevity', J. Am. Geriatr. Soc., vol. 59, no. 8, pp. 1509-1512, Aug. 2011. doi.org/10.1111/j.1532-5415.2011.03498.x
- [24] D. P. Devanand, D. V. Jeste, T. S. Stroup, and T. E. Goldberg, 'Overview of late-onset psychoses', Int. Psychogeriatr., vol. 36, no. 1, pp. 28-42, Jan. 2024. doi.org/10.1017/S1041610223000157
- [25] I. Gallier-Birt, D. White, and K. Ibekwe, 'Risk factors in the development of Very Late-Onset Schizophrenia-Like Psychosis: A scoping review', BJPsych Open, vol. 10, no. S1, pp. S34-S35, June 2024. doi.org/10.1192/bjo.2024.145

How to Cite: Ismail Shukri Murad, Bangeen Sisn Ahmed. (2026). Mental health disorders in the elderly: prevention strategies, diagnostic challenges, and management protocols. Journal of Prevention, Diagnosis and Management of Human Diseases (JPDMHD), 6(1), 94-105. <https://doi.org/10.55529/jpdmhd.61.94.105>

BIOGRAPHIES OF AUTHORS

	Ismail Shukri Murad^{id}, is at the Duhok Technical Institute, Duhok Polytechnic University, Kurdistan, Iraq. He holds a [degree, e.g., M.Sc./Ph.D.] in [field, e.g., Nursing/Public Health/Medical Sciences] from [university name]. His research interests include geriatric mental health, chronic disease management, and community health, with a focus on prevention and multidisciplinary care models for older populations. He has [X years] of experience in [clinical practice/teaching/research] and has contributed to [number] publications in peer-reviewed journals. He can be reached Email: ismaol.shukri@dpu.edu.krd
	Bangeen Sisn Ahmed^{id}, is at the Duhok Technical Institute, Duhok Polytechnic University, Kurdistan, Iraq. She holds a [degree] in [field] from [university name]. Her research interests focus on geriatric psychiatry, mental health screening, and integrated healthcare systems for elderly populations. She has [X years] of experience in [clinical/academic] settings and has co-authored studies on prevention strategies and diagnostic frameworks in geriatric mental health. She can be reached Email: bangin.ahmed@dpu.edu.krd