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How have services for diabetes, eye, hearing and foot health been integrated for adults? Protocol for a scoping review

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ABSTRACT

Introduction The global population is ageing, and by 2050, there will be almost 2.1 billion people over the age of 60 years. This ageing population means conditions such as diabetes are on the increase, as well as other conditions associated with ageing (and/or diabetes), including those that cause vision impairment, hearing impairment or foot problems. The aim of this scoping review is to identify the extent of the literature describing integration of services for adults of two or more of diabetes, eye, hearing or foot services.

Methods and analysis The main database searches are of Medline and Embase, conducted by an information specialist, without language restrictions, for studies published from 1 January 2000 describing the integration of services for two or more of diabetes, eye, hearing and foot health in the private or public sector and at the primary or secondary level of care, primarily targeted to adults aged ≥40 years. A grey literature search will focus on websites of key organisations. Reference lists of all included articles will be reviewed to identify further studies. Screening and data extraction will be undertaken by two reviewers independently and any discrepancies will be resolved by discussion. We will use tables, maps and text to summarise the included studies and findings, including where studies were undertaken, which services tended to be integrated, in which sector and level of the health system, targeting which population groups and whether they were considered effective.

Ethics and dissemination As our review will be based on published data, ethical approval will not be sought. This review is part of a project in Aotearoa New Zealand that aims to improve access to services for adults with diabetes or eye, hearing or foot conditions. The findings will be published in a peer-reviewed journal and presented at relevant conferences.

STRENGTHS AND LIMITATIONS OF THIS STUDY

⇒ This study aims to provide a comprehensive review of integrated care for adults of two or more of diabetes, eye, hearing or foot services.
⇒ The search is implemented by an experienced information specialist, with screening, study selection and data extraction undertaken by two investigators independently.
⇒ A potential limitation could be a small number of publications identified that report integration of these services.

INTRODUCTION

By 2030, it is estimated that the number of people aged 60 years and older globally will be 1.4 billion, and by 2050, it will be close to 2.1 billion.[1] Many countries have committed to strategies that promote healthy ageing and maximise quality of life and well-being for people as they age. Diabetes tends to be a condition included in these strategies, partially due to its large and growing magnitude, which is projected to increase to 643 million people globally by 2030.[1 2] Conditions that are less often explicitly included in healthy ageing strategies are those causing vision impairment, hearing impairment and foot problems. This is despite the large extent of these conditions among older adults. For example, 75% of the estimated 1.1 billion people with vision impairment and 62% of the estimated 1.6 billion people with hearing impairment are over the age of 50 years, while an estimated 105 million older adults live with peripheral neuropathy.[3–5]

Diabetes and sensory impairments—including vision impairment, hearing impairment and peripheral neuropathy—often occur together.[6–9] For example, diabetes complications include diabetic retinopathy (damaged blood vessels at the back of the eye) which is a major cause of vision impairment and peripheral neuropathy (nerve damage in the legs and feet).[8] Furthermore, the co-occurrence of hearing impairment and vision impairment (commonly referred to as 'dual sensory impairment') is receiving increasing attention, particularly among older adults.[10 11] These sensory impairments also contribute to a higher risk of dementia, depression and falls in older

people.[10–12] Fortunately, many of the causes of vision impairment, hearing impairment and foot problems can be prevented—or progression delayed—if detected early and timely treatment is initiated. Therefore, strengthening services for sensory impairment in conjunction with diabetes services would enhance healthy ageing strategies.

Unfortunately, health services that manage diabetes and sensory impairments are not accessible to all population groups equally. Subsequently, underserved groups—including Indigenous populations, people living in rural areas and people in areas of high deprivation—experience worse health outcomes compared with other population groups, including higher rates of avoidable causes of vision impairment, hearing impairment and diabetes complications.[7 8 13] Reasons for this disparity are many and can include the prohibitive cost of reaching and/or using the service, the complexity of the health system making it difficult to navigate, or the reliance on family members or other carers for transport and other support.[14] These access challenges can be exacerbated for older adults who experience several conditions, all requiring appointments with varying health providers.[1]

Integrated care has been defined in a range of ways but is widely considered to be a strategy to improve access to and outcomes of health services.[15] We are embarking on a project in Aotearoa New Zealand to improve access to diabetes, eye, hearing and foot care for adults aged 40 years and above and we consider integration as a promising strategy to reduce the burden of care seeking among underserved population groups, including Māori and Pacific Peoples. To inform our approach, in this review, we aim to identify and summarise previous examples of integrated care for these conditions, as well as the benefits and challenges identified.

We will not limit our review based on the definition or type of integration described and will draw on the validated Project INTEGRATE framework[16] to summarise the examples identified across the dimensions of person-centred care, clinical integration, professional integration, organisational integration, systemic integration, functional integration and normative integration.

Study objectives (research questions)

To meet our aim, we will attempt to answer the following questions:

1. What is the extent of published evidence globally on efforts to integrate services for two or more of diabetes, eye, hearing or foot health?
2. What are the characteristics of the integrated services?
3. What are the benefits and challenges of integrated care highlighted by the authors in the identified publications?
4. To what extent is equity considered in the integration activitivies described?

METHODS AND ANALYSIS

Protocol and registration

This scoping review protocol is reported according to the relevant items of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses for Scoping Reviews (PRISMA) guidelines (online supplemental annex 1).[17] We have drawn on the methods outlined in the Joanna Briggs Institute Manual for Evidence Synthesis.[18] The protocol was registered prospectively on Open Science Framework on 10 November 2023 (https://osf.io/g2m7u).

Eligibility criteria

The review will include studies that describe the integration of services for two or more of diabetes, eye, hearing or foot health in the private or public sector and at the primary or secondary level of care. We will include studies regardless of the definition of integrated care used, however, integration must be described in the abstract using words such as integrating, combining or coordinating. We will exclude studies that only mention integrated care as a recommendation without it being a component of the study itself.

Studies will be included if they describe integration of health services targeted to adults aged 40 years and above, or to the entire population in any country. This age cut-off was chosen due to the high proportion of diabetes and sensory impairment that occurs among the population aged 50 years and above[2–5] globally.

We chose 40 years instead of 50 years because in our context in Aotearoa New Zealand, Māori and Pacific Peoples tend to experience an earlier onset of conditions such as diabetes[19] and cataract[20] and often have a shorter life expectancy[21] compared with New Zealand Europeans.

We will exclude studies that report outcomes exclusively for people under the age of 25 years as these are likely to include people enrolled in child and adolescent services which are commonly overseen by parents and/or caregivers, as well as the transition to adult services. We will also exclude studies exclusively focused on people aged 80 years and over as integration models may differ from those for the general adult population. Studies that focus on people receiving care in rest homes or aged-care facilities will also be excluded, as these services can differ substantially from those for older adults living in their own home environment.

Studies that will be included will be quantitative, qualitative or mixed methods of any study design (including pilot studies) that report primary data on integration of our health services of interest. Protocols, viewpoints, editorials and conference abstracts will be excluded. Systematic reviews will be excluded; however, the reference list will be screened to identify other potentially relevant studies. We will also share the list of included studies

with field experts and ask them to suggest any other studies we should consider.

Studies to be included will be those published after 1 January 2000, where the full text is available. This date was chosen as we are most interested in recent examples of integration. There will be no language restrictions to the search. Every effort will be made to translate any non-English studies identified using Google Translate (https://translate.google.com/) with verification by native speakers.

Search strategy

A search strategy was developed in consultation with an information specialist using a set of terms describing diabetes, eye, hearing and foot health, combined with terms describing integration of health services (online supplemental annex 2). The search was undertaken on Medline and Embase databases on 13 October 2023. Our intention is to complete the full scoping review by October 2024; if the timeline extends beyond this, we will update the search prior to completing the review.

The results will be downloaded into EndNote and then exported into Covidence systematic review software for screening (www.covidence.org). The reference lists of all included articles will be examined to identify further relevant studies.

A grey literature search will seek eligible reports published since 1 January 2000 from websites of the WHO, the International Agency for the Prevention of Blindness, the WHO network of collaborating centres and organisations for ear and hearing care and the International Working Group on the Diabetic Foot. The terms used will be ["eye" or "hearing" or "foot"] AND ["integrated care" or "integration" or "coordinated care"]. Potentially eligible reports will be added to Covidence for screening.

Study selection

Study selection will take place using Covidence. All titles and abstracts identified during the literature search will be screened by two reviewers independently to identify potentially relevant studies. Any conflicts will be discussed and resolved with a third reviewer. The full text of these potentially relevant studies will be assessed by two reviewers independently to establish eligibility for inclusion in the review, and reasons for exclusion will be assigned by each reviewer. Any conflicts will be discussed and resolved with a third reviewer. A PRISMA flow diagram will be completed to summarise the study selection process.

Data charting process

A custom data charting form will be developed in Covidence. The form will be piloted by three reviewers on two reports and required amendments made. Each included study will then be charted independently by two of the reviewers and any discrepancies will be resolved by discussion; a third reviewer will be consulted if necessary. Authors of included studies will be contacted in the case of unclear information; three attempts of contact will be made by email.

Data items

The following data items will be collected during the data charting process:

1. Publication characteristics: title, year of publication, study design, country of study, study setting.
2. Characteristics of the services:
    1. Services integrated (diabetes, eye, hearing, foot health).
    2. Health sector (public/private/third party-non-profit organisation).
    3. Level of the health system (primary/secondary/tertiary).
    4. Target population (age, ethnicity, socioeconomic status, place of residence (urban/rural)).
3. Characteristics of integrated care:
    1. Description of the integration activity.
    2. Any description or measure of effectiveness of the integration.
    3. Any benefits or challenges of integration expressed by study authors.
4. Health equity consideration
    1. Population groups targeted with integration activity (according to the PROGRESS Framework[22]: place of residence, race/ethnicity/culture/language, occupation, gender/sex, religion, education, socioeconomic status and social capital).
    2. Description of differential outcomes of integration activity across population groups (ie, did integration promote equity).
    3. Any factors that aided (facilitators) or inhibited (barriers) the achievement of equity in integrated care expressed by study authors.

Synthesis of results

The description of the integration for each study will be used to categorise the integration to one or more items of the Project INTEGRATE framework (online supplemental annex 3).[16]

We will use tables, maps and text to summarise the included studies, with a focus on findings specific to adults aged ≥40 years. This will include a summary of where studies have been undertaken, which services tend to be integrated, in which sector and level of the health system, targeting which population groups. We will also summarise the type of integration activity using the 40 items and corresponding seven dimensions of the Project INTEGRATE framework.[16] We will summarise how the effectiveness of integration was assessed, the extent to which authors considered the integration effective and the benefits and challenges they report. Finally, we will report the extent to which equity is considered, the population groups targeted with integration activities, and key facilitators and barriers to achieving equity in integrated care. Collectively, this summary will highlight the common forms of integration between services

for diabetes, eye, hearing and foot health, where it has commonly occurred, whether it promotes equity and key lessons learnt.

Patient and public involvement

None.

Ethics and dissemination

As our review will only include published data, ethical approval will not be sought.

This review is part of a project in Aotearoa New Zealand that aims to improve access to, and outcomes of, services for adults with diabetes or eye, hearing, or foot conditions. We will draw on the integration examples identified in the review as we consider options to evaluate how services for diabetes and eye, hearing and foot health may be integrated for adults in Aotearoa New Zealand. As such, our hope is that the findings of this review will be beneficial for those individuals living with one or more of these conditions, as well as health professionals, health service managers and policy-makers who are responsible for such care in Aotearoa New Zealand and elsewhere.

The findings will be published in a peer-reviewed journal and presented at relevant conferences as well as policy dialogues.

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Contributors JR conceived the idea for the review. CO'S drafted and revised the protocol with suggestions from AM, BTA, PRS, MH, RM and JR.

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Competing interests None declared.

Patient and public involvement Patients and/or the public were not involved in the design, or conduct, or reporting, or dissemination plans of this research.

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Annex 1: Reporting against relevant items of PRISMA-Scr (17)

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	Page
TITLE			
Title	1	Identify the report as a scoping review.	1
ABSTRACT			
Structured summary	2	Provide a structured summary that includes (as applicable): background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives.	2
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach.	3
Objectives	4	Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualize the review questions and/or objectives.	4
METHODS			
Protocol and registration	5	Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number.	4
Eligibility criteria	6	Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.	4
Information sources	7	Describe all information sources in the search (e.g., databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was executed.	4
Search	8	Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.	5
Selection of sources of evidence	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.	5
Data charting process	10	Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms or forms that have been tested by the team before their use, and whether data charting was done independently or in duplicate) and any processes for obtaining and confirming data from investigators.	5
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.	5
Critical appraisal of individual sources of evidence§	12	If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if appropriate).	NA
Synthesis of results	13	Describe the methods of handling and summarizing the data that were charted.	6

Annex 2: Search strategies

MEDLINE

1 exp Cataract/ (32993)
2 cataract$.tw. (64462)
3 exp Refractive Errors/ (37986)
4 (myopia or myopic or myopes or hyperop$ or hypermetrop$ or presbyop$).tw. (31071)
5 (refractive adj1 error$).tw. (11668)
6 Eyeglasses/ (8129)
7 (spectacle or spectacles).tw. (7670)
8 (eyeglasses or eye glasses).tw. (1039)
9 exp Visual Acuity/ (92826)
10 (visual adj1 acuit$).tw. (81184)
11 Retinal Degeneration/ or Macular Degeneration/ or Wet Macular Degeneration/ (31325)
12 ((macul$ or retina$) adj2 degener$).tw. (35636)
13 maculopathy.tw. (5289)
14 exp Glaucoma/ (60145)
15 (glaucoma$ or ocular hypertension).tw. (71459)
16 Diabetic Retinopathy/ (29755)
17 ((diabet$ or proliferat$) adj3 retinopath$).tw. (32224)
18 (diabet$ adj3 (eye$ or vision or visual$ or sight$)).tw. (5843)
19 (retinopath$ adj3 (eye$ or vision or visual$ or sight$)).tw. (2635)
20 (dilated adj2 fundus).tw. (902)
21 (retina$ adj2 imag$).tw. (8927)
22 Blindness/ (21497)
23 Vision, Low/ (4046)
24 ((low$ or impair$ or partial$ or loss$ or limit$) adj3 (vision or visual$ or sight$)).tw. (73065)
25 Vision Screening/ (2473)
26 Vision Tests/ (10836)
27 Visual Field Tests/ (10041)
28 ((eye$ or vision or retina$ or ophthalm$ or retinopathy) adj2 screen$).tw. (5023)
29 ((eye$ or vision or retina$ or ophthalm$ or retinopathy) adj2 exam$).tw. (29351)
30 ((eye$ or vision or retinopathy or ophthalm$) adj2 assess$).tw. (5040)
31 ((eye$ or vision or retina$ or ophthalm$ or retinopathy) adj2 test$).tw. (8261)
32 (eye$ adj2 (disease$ or care or health or service$)).tw. (23975)
33 or/1-32 (436002)
34 exp Hearing Loss/ (78354)
35 Persons With Hearing Impairments/ (3064)
36 Hearing Disorders/ (14672)
37 (hearing adj3 (loss or impair$)).tw. (67738)
38 (hearing adj2 (test$ or exam$ or screen$)).tw. (6939)
39 (deaf or deafness).tw. (32897)
40 (hard adj2 hearing).tw. (1828)
41 (hearing adj2 service$).tw. (921)
42 or/34-41 (126723)
43 exp foot diseases/ (22791)
44 (foot adj2 (disease$ or ulcer$ or amputat$)).tw. (10423)
45 (podiatry or chiropody or orthotic$).tw. (4927)
46 (foot adj2 care adj2 service$).tw. (62)
47 or/43-46 (36315)
48 exp Diabetes Mellitus/ (511399)
49 exp Diabetes Complications/ (150342)
50 diabetic foot/ (11491)
51 (diabetic adj2 foot).tw. (11503)
52 ((diabetes or diabetic) adj3 (service$ or clinic$ or provision$)).tw. (18687)
53 or/48-52 (518370)
54 33 and 42 (6596)
55 33 and 47 (411)
56 42 and 47 (52)
57 33 and 53 (37751)
58 42 and 53 (1939)
59 47 and 53 (10027)
60 or/54-59 (55397)
61 ((integrat$ or combine$ or combin$ or coordinat$ or co-ordinat$ or incorporat$) adj6 (screen$ or exam$ or assess$ or test$ or clinic or clinics or service$ or appointment$)).tw. (205402)
62 ((consolidat$ or assimilat$ or connect$ or link$ or unify$ or amalgamat$) adj6 (screen$ or exam$ or assess$ or test$ or clinic or clinics or service$ or appointment$)).tw. (78183)
63 (one adj1 stop).tw. (2284)
64 or/61-63 (282891)
65 60 and 64 (555)
66 (intravitreal or aflibercept or bevacizumab or endothelial or angiogenesis or serum or plantar).ti. (442185)
67 65 not 66 (519)
68 limit 67 to (clinical conference or comment or editorial or letter or personal narrative) (0)
69 67 not 68 (519)
70 limit 69 to yr="2000 -Current" (460)

Embase

1. Cataract/ or Cataract Extraction/
2. cataract$.tw.
3. exp Refraction Error/
4. (myopia or myopic or myopes or hyperop$ or hypermetrop$ or presbyop$).tw.
5. (refractive adj1 error$).tw.
6. Spectacles/
7. (spectacle or spectacles).tw.
8. (eyeglasses or eye glasses).tw.
9. Visual Acuity/
10. (visual adj1 acuit$).tw.
11. exp Macular Degeneration/
12. Retina Degeneration/ or Retina Maculopathy/
13. ((macul$ or retina$) adj2 degener$).tw.
14. maculopathy.tw.
15. exp Glaucoma/
16. (glaucoma$ or ocular hypertension).tw.
17. exp Diabetic Retinopathy/
18. ((diabet$ or proliferat$) adj3 retinopath$).tw.
19. (diabet$ adj3 (eye$ or vision or visual$ or sight$)).tw.
20. (retinopath$ adj3 (eye$ or vision or visual$ or sight$)).tw.
21. (dilated adj2 fundus).tw.
22. (retina$ adj2 imag$).tw.
23. Blindness/
24. exp Visual Impairment/
25. ((low$ or impair$ or partial$ or loss$ or limit$) adj3 (vision or visual$ or sight$)).tw.
26. Vision Test/
27. Perimetry/
28. ((eye$ or vision or retina$ or ophthalm$ or retinopathy) adj2 screen$).tw.
29. ((eye$ or vision or retina$ or ophthalm$ or retinopathy) adj2 exam$).tw.
30. ((eye$ or vision or retinopathy or ophthalm$) adj2 assess$).tw.
31. ((eye$ or vision or retina$ or ophthalm$ or retinopathy) adj2 test$).tw.
32. (eye$ adj2 (disease$ or care or health or s ervice$)).tw.
33. or/1-32
34. exp hearing impairment/
35. hearing impaired person/
36. hearing disorder/
37. (hearing adj3 (loss or impair$)).tw.
38. (hearing adj2 (test$ or exam$ or screen$)).tw.
39. (deaf or deafness).tw.
40. (hard adj2 hearing).tw.
41. or/34-40
42. exp foot disease/
43. (foot adj2 (disease$ or ulcer$ or amputat$)).tw.
44. (podiatry or chiropody or orthotic$).tw.
45. (foot adj2 care adj2 service$).tw.
46. or/42-45
47. exp diabetes mellitus/
48. ((diabetes or diabetic) adj3 (service$ or clinic$ or provision$)).tw.
49. (diabetic adj2 foot).tw.
50. or/47-49
51. 33 and 41
52. 33 and 46
53. 41 and 46
54. 33 and 50
55. 41 and 50
56. 46 and 50
57. or/51-56
58. ((integrat$ or combine$ or combin$ or coordinat$ or co-ordinat$ or incorporat$) adj6 (screen$ or exam$ or assess$ or test$ or clinic or clinics or service$ or appointment$)).tw.
59. ((consolidat$ or assimilat$ or connect$ or link$ or unify$ or amalgamat$) adj6 (screen$ or exam$ or assess$ or test$ or clinic or clinics or service$ or appointment$)).tw.
60. (one adj1 stop).tw.
61. or/58-60
62. 57 and 61
63. (intravitreal or aflibercept or bevacizumab or endothelial or angiogenesis or serum or VEGF or ultrasound or vitro or antioxidant$ or cytokine$ or plasma or animal or primate or rat or rats or mouse or mice or pig).ti.
64. 62 not 63
65. limit 64 to conference abstract status
66. 64 not 65
67. limit 66 to (conference paper or "conference review" or editorial or letter or note)
68. 66 not 67
69. limit 68 to yr="2000 -Current"

Annex 3: Project INTEGRATE framework (16)

1. PERSON-CENTRED CARE Perspective of improving someone's overall well-being - and not focusing solely on a particular condition/disease - through the active engagement of service users (patients, carers, etc.) as partners in care.
1.1 Health literacy: Service users and care professionals work together to obtain and understand basic information needed to make decisions appropriate to supporting users to manage their needs
1.2 Supported self-care: Service users are empowered to self-manage the symptoms, treatments, physical, social, emotional, and behavioural consequences of living with long-term conditions
1.3 Carer support: Professional and informal caregivers are supported in a way that both builds their capacity for caring and helps reduce the burden of caring"
1.4 Shared decision-making: Service users are actively involved in decisions about their care and treatment options
1.5 Shared care planning: Shared decisions are included in a holistic care plan
1.6 Feedback: Service users are supported to give regular feedback on quality and continuity of care received
1.7 Health data access: Service users have access to their own health care records

2. CLINICAL INTEGRATION It refers to how care services are coordinated and/or organised around the needs of service users.
2.1 Multidisciplinary assessment and plan: Care professionals work together to undertake care assessments and planning
2.2 Care coordinator: Named care coordinators ensure continuity of care to service users over time
2.3 Care transitions management: Co-ordination between care professionals enables seamless care transitions for service users across care settings
2.4 Case management: Professionals work together to proactively manage the needs of defined service user groups (e.g., case management with precise inclusion criteria)
2.5 Single point of entry: There is a single point of entry for service users when accessing multiple services from different professionals/providers (centralization of referrals)
2.6 Community involvement: Volunteers and the community are actively involved in coordinating care around people's needs
2.7 Integrated care pathways: Partners in care follow defined care pathways to help understand and direct the process of care integration

3. PROFESSIONAL INTEGRATION It refers to the existence and promotion of partnerships between professionals to work together (e.g., in teams)
3.1 Shared accountability: Professionals recognize and enact shared accountability and responsibility for care outcomes
3.2 Collaborative agreements: Formal agreements exist that support collaborative working between care professionals
3.3 Inter- and Multi-disciplinary teamwork: Care professionals work in inter-disciplinary or multi-disciplinary teams with clearly defined roles and responsibilities
3.4 Continuous training: Multi- and inter-professional training and education is continuously supported
3.5 Collaborative attitude: Care professionals have a long-term commitment to leading, developing and delivering integrated care in partnership with others

4. ORGANISATIONAL INTEGRATION It refers to how providers come together to deliver care services in a linked-up fashion across partner organizations
4.1 Performance assessment: Care organisations participating in integrated care use a shared set of measures and indicators to monitor outcomes and performance
4.2 Incentive schemes: Collective incentives (shared gain) exist between care organisations to support care integration
4.3 Learning and quality improvement: Care organisations regularly engage the staff in a process of joint learning and continuous quality improvement
4.4 Shared strategic goals and policies: Care organisations have shared strategic objectives and written policies and/or procedures to promote integrated care (inter-organisational strategy)
4.5 Governance and accountability: Care organisations have shared governance and accountability mechanisms to ensure that they are formally interdependent to deliver integrated care

5. SYSTEMIC INTEGRATION It refers to how the care system provides an enabling platform for integrated care, such as through the alignment of key systemic factors (e.g., financing mechanisms, regulation)
5.1 Performance assessment: The care system uses a set of common measures and outcomes to monitor and assess performance
5.2 Regulatory framework: The care system aligns its regulatory framework with the goals of integrated care

5.3 Financing and incentive arrangements: The care system has financing and incentive arrangements that directly promote the provision of integrated care
5.4 Supporting policies: National/regional policies support and promote multi-sectoral partnerships and person-centred care
5.5 Workforce: The care system invests in workforce in terms of numbers, competences and distribution of key staff to support the goals of integrated care
5.6 Stakeholders involvement: All stakeholders (e.g., service users, professionals, managers) are actively involved in the design, implementation and evaluation of integrated care programs and policies

6. FUNCTIONAL INTEGRATION It refers to the capacity to communicate data and information effectively within an integrated care system
6.1 Single common identifier: A uniform patient/user identifier shared between the different care organisations
6.2 Stakeholders communication: The communication of data and information between care professionals and service users is effective
6.3 Shared decision making: Decision-support systems are available and foster shared decision making between professionals and service users
6.4 Shared care records: Shared care records (e.g., single electronic health record) enable data and information to be shared for multiple purposes (e.g., needs assessment, performance management and evaluation)

7. NORMATIVE INTEGRATION It refers to the extent to which different partners in care developed and shared a common reference frame (e.g., vision, norms, values) on care integration
7.1 Vision: Existence of a collective vision on person-centred, holistic care (i.e., not disease-centred)
7.2 Population health management: Collective practice puts emphasis on population health management aiming to improve access and care experiences as well as outcomes of specified populations
7.3 Social capital: Building awareness and trust in integrated care services with local communities
7.4 Leadership: Presence of leaders with a clear and common vision of integrated care
7.5 Shared vision: All stakeholders (e.g., professionals, managers of organisations, service users) share a clear vision of integrated care
7.6 Trust: Partners in care have a high degree of trust in each other's reputation and in their ability to deliver effective care through collaboration