Continuity of care

A systematic review and assessment of medical, economic, social and ethical aspects

SBU ASSESSMENTS | ASSESSMENT OF METHODS IN HEALTH CARE AND SOCIAL SERVICES

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Conclusions

When comparing higher to lower relational continuity of care, the following findings were made:

For persons with asthma or chronic obstructive pulmonary disease (COPD), higher relational continuity of care leads to:

- Lower risk of premature death (low certainty of evidence)
- Lower risk of hospitalisation to a moderate to high degree (moderate certainty of evidence)
- Lower risk of emergency department visits (low certainty of evidence)
- Lower healthcare costs (low certainty of evidence).

For persons with asthma or COPD, health economic scenario analyses based on the results for health care resource use indicate that higher relational continuity of care leads to:

- 30–60 % fewer hospitalisations. In Sweden, this could imply savings for hospitalisations in the order of 235–470 million Swedish crowns per year.
- 10–60 % fewer emergency department visits. In Sweden, this could imply savings for this type of visit in the order of 16–100 million Swedish crowns per year.

For persons with severe mental illness, higher relational continuity of care leads to:

- Lower risk of premature death (low certainty of evidence)
- Lower risk of emergency department visits (low certainty of evidence)
- Improved quality of life (low certainty of evidence).

For persons with severe mental illness, health economic scenario analyses based on the results for health care resource use indicate that higher relational continuity of care leads to:

- 5–15 % fewer emergency department visits. In Sweden, this could imply savings for this type of visit in the order of 2–7 million Swedish crowns per year.

The estimations of resource use and related changes in costs should be seen as examples of what improved relational continuity of care could imply in a Swedish context, rather than as basis for long term forecasts or transfers to persons with other chronic diseases. The cost estimates are sensitive to changes in the organisation of care and over time, and do not include costs in other care segments.

For persons with asthma or COPD, the importance of relational continuity for adherence to pharmacological treatment and for the experience of care and self-management of the disease cannot be assessed based on the scientific literature.

For persons with severe mental illness, the importance of relational continuity for the risk of hospitalisation, health care costs, symptoms and functioning, as well as adherence to pharmacological treatment cannot be assessed based on the scientific literature.

Background

Relational continuity implies that a patient and their physician or other health care personnel have contact over a longer period of time, providing opportunity to develop a mutual care relationship. Having high relational continuity may be of particular value for patients with chronic conditions.

Aim

The aim of this systematic review was to investigate treatment outcomes associated with receiving higher relational continuity of care for two patient groups whose problems are long term and treatment-intensive: patients with asthma or chronic obstructive pulmonary disease (COPD), and patients with severe mental illness, which includes schizophrenia, bipolar disorder, and severe depression.

Method

Two systematic reviews were conducted in accordance with the PRISMA statement. Moreover, health economic and ethical aspects were assessed.

Based on the studies' measurement of relational continuity, results were synthesised as a comparison between higher and lower continuity. Due to the included studies' design, it was not possible to further quantify the degree of relational continuity. Different outcome measures for relational continuity were grouped into categories, and the project team formulated synthesised results based on the evidence. The certainty of evidence was assessed using GRADE's methodology.

The health economic scenario analyses were based on the results for resource use where the certainty of evidence was deemed low, moderate, or high. In international comparisons with other OECD-countries, Swedish health care has shown shortcomings in continuity of care. Thus, the report's health economic scenario analyses were based on the assumption that the current situation can be improved upon. National and regional registry data were used to estimate current costs for hospitalisations and emergency department visits in the relevant populations in Sweden. The effect of higher compared to lower relational continuity on resulting costs was investigated in scenario analyses. The risk reduction used in the scenario analyses was based on the range of results for the relevant outcome measures in the systematic review. The evaluation did not assess what is required to establish higher relational continuity of care or what changes in resource allocation this would require.

The protocol was registered in Prospero.

Inclusion criteria

PICOs

Population

Persons with asthma and/or COPD. Persons with severe mental illness/severe mental disorder (schizophrenia, bipolar disorder, or severe depression/severe episode of major depressive disorder).

Intervention/Exposure

Several different measures of continuity exist and there was no restriction in terms of certain definitions, provided that the measure actually assesses some aspect of relational continuity. Known indices of continuity were accepted as well as sound other measures of the dimensions mentioned.

Control

For clinical studies comparing groups: different levels of continuity should be compared (including no continuity). For observational study data: study of associations between levels of continuity and outcome(s) using adequate methods.

Outcomes

Mortality (all causes and disease specific). Morbidity outcomes, such as assessments of symptoms and or functioning using validated instruments. Economic measures: emergency department visits, hospital admissions, costs of care. Adherence to prescribed medication. For the population clinically relevant laboratory measures. Subjective measures: patient satisfaction, quality of life.

Study design

Observational studies, randomised controlled trials.

Language: English, Swedish, Danish, or Norwegian.

Search period: From 2000 to 2020. Final search February 2021.

Databases searched: CINAHL, Medline, PsycINFO, Scopus, Embase, Cochrane Library, Database of Systematic Review of Effects, DARE, Epistemonikos, NICE Evidence Search, KSR Evidence and AHRQ

Client/patient involvement: No

Results

In the review for asthma or COPD, 15 articles were included following the literature review and assessment of relevance and risk of bias. In the review for severe mental illness, 17 articles were included. The included studies were mostly observational studies based on health care registries. The studies concerning asthma or COPD stemmed from Asia, Europe, and North America, while the studies concerning severe mental illness came from Europe and the US. The overarching results for the respective systematic review are shown in the tables below.

Ethical and societal aspects

The effects of relational continuity that have been evaluated in the research field mostly concern medical values. In the ethical analysis, it is emphasised that relational continuity may have a value beyond medical effects, through other aspects and consequences, such as patients' security, safety, and participation in their care.

Discussion

The results for the two investigated study populations are consistent in the sense that higher relational continuity is correlated with favourable effects. The results can be seen as an indication that relational continuity could be of importance also for other chronic conditions, both somatic and psychological.

Conflicts of Interest

In accordance with SBU's requirements, the experts and scientific reviewers participating in this project have submitted statements about conflicts of interest. These documents are available at SBU's secretariat. SBU has determined that the conditions described in the submissions are compatible with SBU's requirements for objectivity and impartiality.

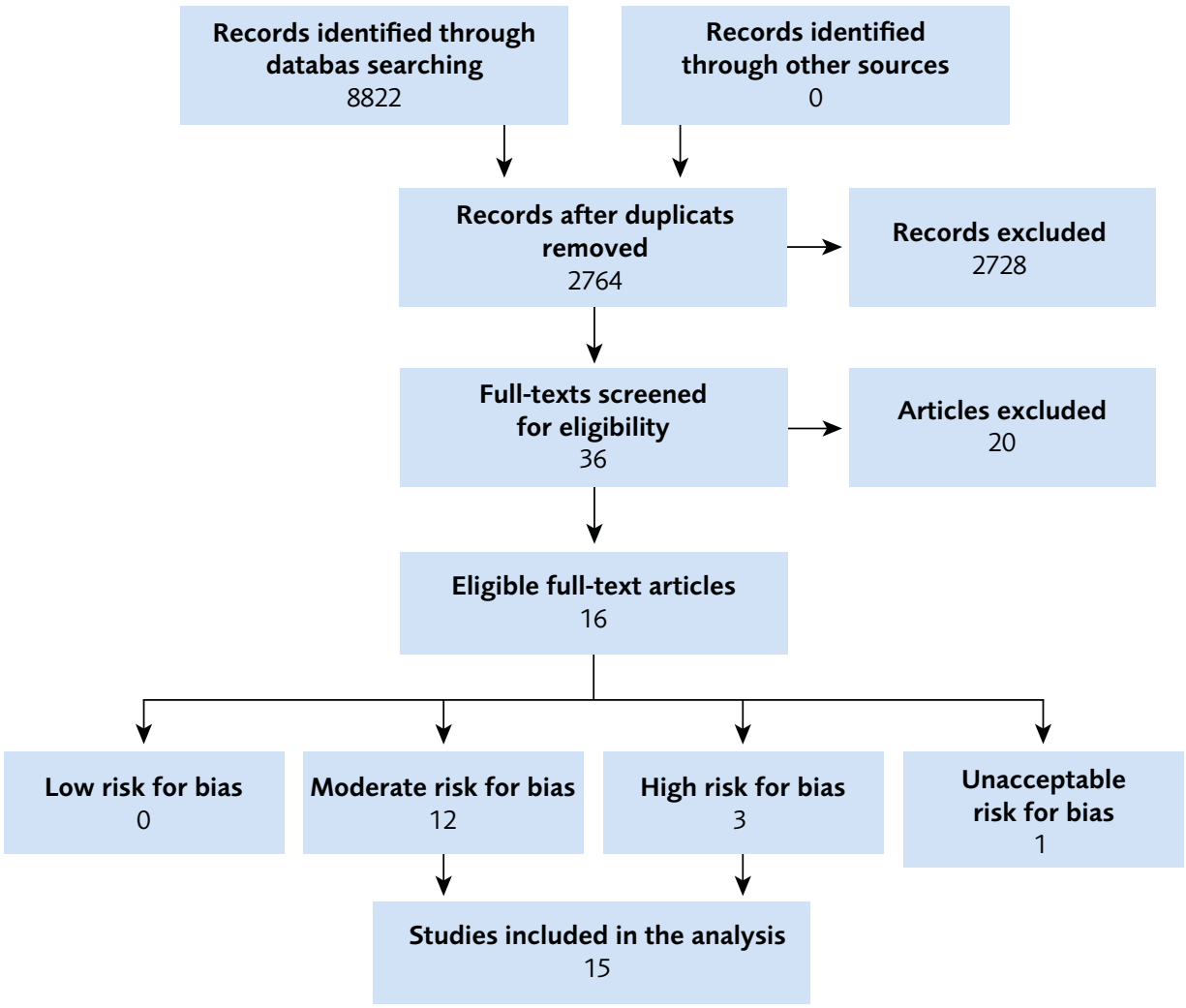

Figure 1 Flow chart population asthma/COPD.

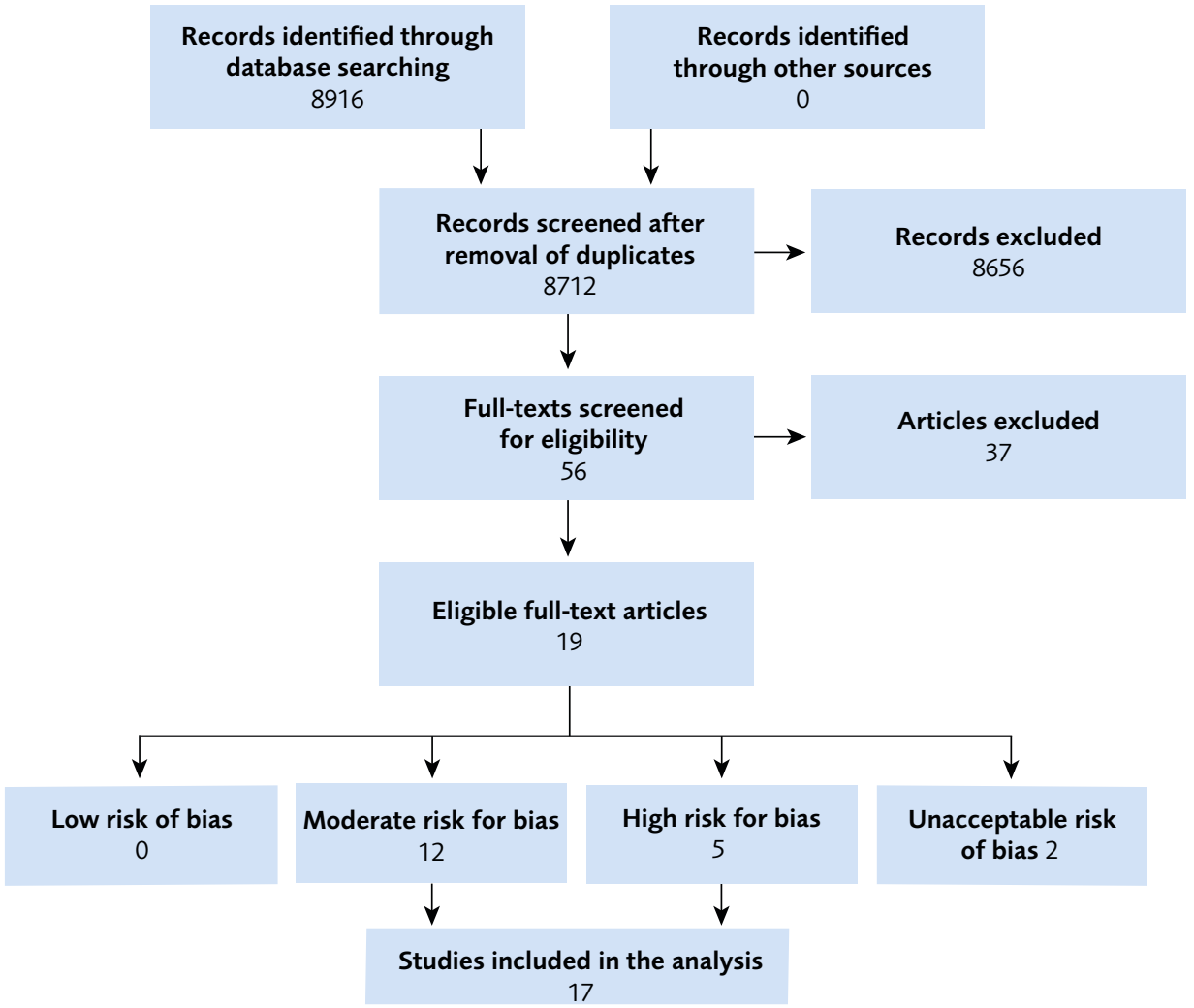

Figure 2 Flow chart severe mental illness.

Table 1 Summary of summarized results and evidence ratings for with persons with asthma or COPD.

Outcome	Number of studies/ participants (N)	Summarized result	Certainty of evidence according to GRADE	Reasons for reduced certainty of the evidence
Mortality	2 N=111 545	Higher relational continuity of care for persons with asthma or COPD prevents premature mortality.	Low ⊕⊕◯◯	Risk of bias – 1 Indirectness – 0.5 Imprecision – 0.5
Hospitalization	9 N=525 716	Higher relational continuity of care for persons with asthma or COPD reduces the risk of hospitalization by a moderate to high degree.	Moderate ⊕⊕⊕◯	Risk of bias – 1
Emergency department visits	5 N=362 305	Higher relational continuity of care for persons with asthma or COPD reduces the risk of emergency department visits by a moderate to high degree.	Low ⊕⊕◯◯	Risk of bias – 1 Indirectness – 1

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Table 1 continued

Outcome	Number of studies/ participants (N)	Summarized result	Certainty of evidence according to GRADE	Reasons for reduced certainty of the evidence
Costs	4 N=390 685	Higher relational continuity of care for persons with asthma or COPD reduces health care costs.	Low ⊕⊕◯◯	Risk of bias – 1 Imprecision – 1
Experience of participation in care and self-management of disease	3 N=2026	Higher relational continuity of care for persons with asthma or COPD may improve patients' experience of participation and knowledge about self-management of the disease.	Very low ⊕◯◯◯	Risk of bias – 1 Indirectness – 2 Imprecision – 0.5
Treatment adherence	1 N=971	It is not possible to assess the effects of relational continuity of care for persons with asthma or COPD on adherence to pharmacotherapy due to the very low certainty of the evidence.	Very low ⊕◯◯◯	Risk of bias – 2 Indirectness – 1 Imprecision – 0.5

Table 2 Summary of summarized results and evidence ratings for persons with severe mental illness.

Outcome	Number of studies/ participants (N)	Summarized result	Certainty of evidence according to GRADE	Reasons for reduced certainty of the evidence
Mortality/ suicidality	3 N=267 667	Higher relational continuity of care for persons with SMI can prevent premature mortality/suicide.	Low ⊕⊕◯◯	Risk of bias – 1 inconsistency– 0.5 Indirectness – 0.5
Hospitalization	4 N= 34 341	Higher relational continuity of care for persons with SMI can reduce the risk of hospitalization.	Very low ⊕◯◯◯	Risk of bias – 2 Indirectness – 1 Imprecision – 1
Emergency department visits	3 N=37 036	Higher relational continuity of care for persons with SMI can reduce the risk of emergency department visits.	Low ⊕⊕◯◯	Risk of bias – 1 Indirectness – 1
Costs	3 N=8229	Higher relational continuity of care for persons with SMI can reduce health care costs.	Very low ⊕◯◯◯	Risk of bias – 1 Inconsistency–1 Indirectness – 1
Symptoms and functioning	3 N=5832	It is not possible to state if relational continuity of care can improve symptoms and functioning for persons with SMI.	Very low ⊕◯◯◯	Risk of bias – 2 Indirectness – 1 Imprecision – 1
Treatment adherence	2 N=19 665	It is not possible to state if relational continuity of care influences treatment adherence for persons with SMI.	Very low ⊕◯◯◯	Risk of bias – 1 Inconsistency–1 Indirectness – 1
Quality of life	4 N=1852	Higher relational continuity of care for persons with SMI can improve their quality of life.	Low ⊕⊕◯◯	Risk of bias – 1 Inconsistency–1

SMI = *severe mental illness*

The full report in Swedish

Download the full report in Swedish from our website, www.sbu.se/329.

Project group

Experts

- Lilas Ali (PhD)
- Mirjam Ekstedt (Professor)
- Ingemar Engström (Affiliated Professor)
- Sven Engström (PhD)
- Lars Hansson (Senior Professor)

SBU

- Per Lytsy (Project Manager)
- Jenny Berg (Assistant Project Manager/ Health Economist)
- Jenny Stenman (Project Administrator)
- Jan Liliemark (Project Director)
- Maja Kärrman Fredriksson (Information Specialist)

External reviewers

- Peter Allebeck (Professor)
- Patrik Midlöv (Professor)

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www.sbu.se/en • registrator@sbu.se
Graphic Design: Anna Edling, SBU

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