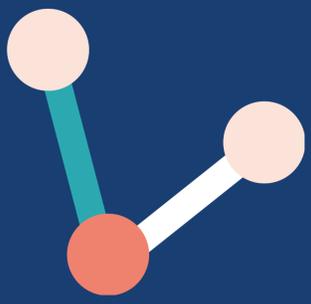


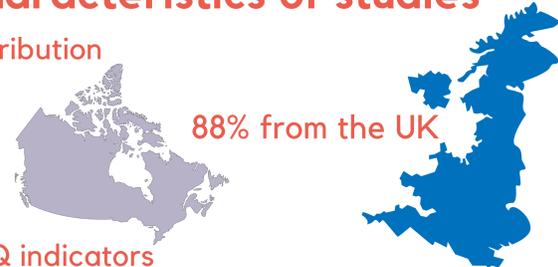
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Initial characteristics of studies

Study distribution

12% from Canada 88% from the UK



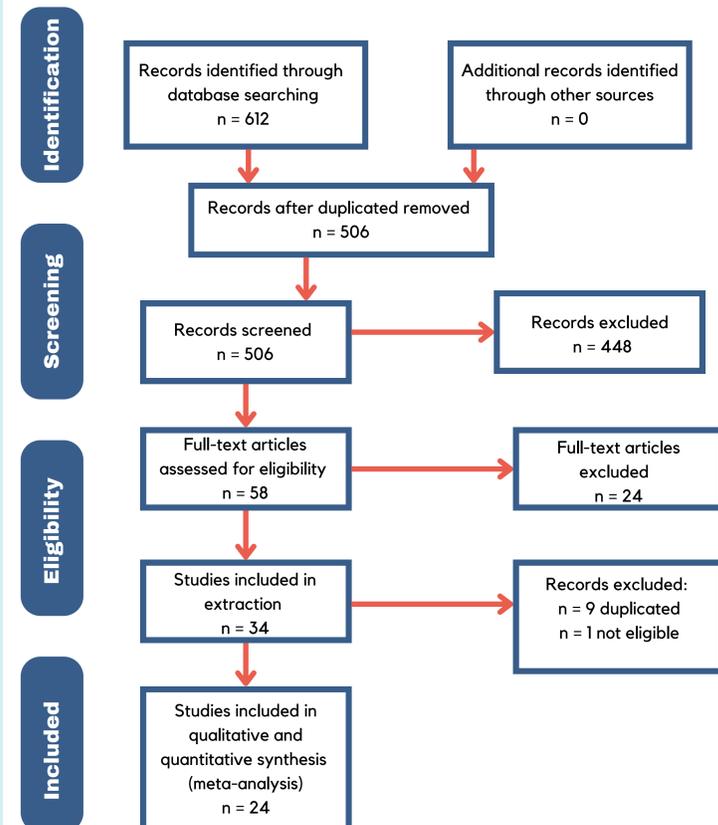
Types P4Q indicators

- Process: 14
- Outcome- intermediate: 4
- Process & Outcome- intermediate: 4
- Structure: 2

Reported effectiveness of indicators on quality outcomes

- 54%
- 25%
- 13%
- 8% Protocols, no results

Prisma diagram



PROSPERO ID: CRD42022334589

Background

Sociological research has shown that medical conditions are tacitly perceived by providers as having differential levels of prestige (1-3). Album et al. theorised that prestige could be explained by the social value of the disease, clarity around aetiology, chronicity, diagnostic and treatment utility, and the characteristics of patients (like leading an intemperate lifestyle) (1). This hierarchy of prestige is important in so far as it influences the prioritisation of care.

Pay-for-quality (P4Q) incentivisation schemes have seen marked growth around the world since the late 1990s, and have two features; 1) reporting of performance of providers against pre-specified quality indicator(s), and 2) payments conditional on their achieved performance (4). High quality care, as defined by reputable clinical guidelines, requires effort by the agent, who could be financially incentivised to exert the additional effort to improve quality (5-7). Incentives in healthcare can be paid for performance related to structure, process, and outcome (4). In considering the P4Q programmes in Europe, programmes typically incentivise structure and process indicators for chronic and preventive care, but a few incentivise immediate outcomes, such as glucose control (4).

The aim of this study is to examine the effectiveness of P4Q schemes by collating their effectiveness on structure, process and outcome indicators by type of preventive intervention incentivised, and to report the unintended consequences documented across studies, all of which use an ITS design.

TL;DR

Medical specialties and conditions fall along an implicit prestige hierarchy, making some conditions more appealing to treat, and some areas of medicine more esteemed.

Some of the preventive work of a GP in primary care is not regarded as being particularly prestigious.

Prestige of conditions is important, insofar as it affects the prioritisation of care.

P4Q schemes aim to influence the prioritisation of care, by incentivising structural, process, and outcome indicators, mainly for chronic conditions and preventive interventions.

We are interested in the how effective P4Q schemes are, for quality indicators that are perceived as having low-, mid-, and high- levels of prestige.

Research Q

Is there differential effectiveness of P4Q schemes on structure, process and outcome indicators that are perceived as holding low/mid/high prestige, incentivised in primary care?

P	Single-payer primary care health systems
I	Pay for quality (P4Q) remuneration for health promotion and ill-health prevention interventions
C	N/a for ITS, or no P4Q scheme in controlled ITS
O	<p>Structure indicators: such as technological platforms for the monitoring of disease</p> <p>Process indicators:</p> <ul style="list-style-type: none"> Clinical action: prescribing, making a referral, requisitions Other: Advice, support, diagnosis, monitoring <p>Outcome indicators:</p> <ul style="list-style-type: none"> Intermediate: such as keeping centiles in BP, blood glucose controlled under a threshold Endpoint: such as hospitalisation, all-cause mortality (ACM), incidence of disease-related adverse events (AE) <p>Unintended consequences</p>

Methods

Eligibility

- Inclusion: (i) published or ongoing studies employing an ITS design with or without a comparator group, (ii) participants will be primary care staff or practice teams including GPs, nurses, link workers, pharmacists, and health coaches, (iii) Incentives used, (iv) controls may include baseline data before P4Q implementation, or a control group without a P4Q scheme, (v) structure, process, and outcome indicators
- Exclusion: (i) review articles or editorials with no effectiveness measures, (ii) studies reporting on the structure of P4Q without measures of effect, (iii) studies exploring P4Q schemes in private, insurance-based health systems.

Search

- Search strategy developed with a librarian/information specialist at the Bodleian libraries at the University of Oxford, which can be found in the PROSPERO registration (CRD42022334589).

Screening

- Screening of title, abstracts and full-texts were done in duplicate using DistillerSR.

Extraction

- Data extraction will be done in duplicate, using a form structured by recommendations for ITS outcome reporting from Jandoc et al.'s systematic review, which mirrors the STROBE guideline statement for observational studies (8,9).

RoB

- We will follow the standard criteria suggested by Cochrane Effective Practice and Organisation of Care (EPOC) risk of bias guide for ITS studies (10).

Analysis

- Systematic reviews of ITS studies follow five different methodological pathways to data synthesis as articulated in a recent methodological systematic review of meta-analyses of ITS studies. This study will follow the second of five pathways articulated by Korevaar et al., which follows a two-step process of 1) extracting the primary effects, and 2) meta-analysing the reported effects from the primary studies (11).
- We will report outcomes as changes in level (step change) and slope (trend change).
- If possible and appropriate, I will perform a meta-regression for the primary objective, and assess for differences in the effectiveness of P4Q interventions by prestige.

Implications

If there is differential effectiveness of P4Q schemes for indicators that hold differing level of prestige, then we may see that incentives...

- work **really well** to improve the prioritisation of care for conditions that are seen as being low-value, OR;
- make no difference** for aspects of care that are not seen as being prestigious, regardless of an incentive, OR;
- work **exceptionally well** to improve quality for indicators that are already highly regarded, OR;
- have **no discernible effect** for indicators that are already regarded as being prestigious.

For policy-makers tasked with incentivising aspects of care, understanding how prestige influences effectiveness of indicator achievement may guide decisions around what gets incentivised, and how incentives are made (size, and degree of support in implementation).



References

- Album D, Westin S. Do diseases have a prestige hierarchy? A survey among physicians and medical students. Soc Sci Med. Jan 2008;66(1):182-8. doi:10.1016/j.socscimed.2007.07.003
- Norredam M, Album D. Prestige and its significance for medical specialties and diseases. Scand J Public Health. 2007;35(6):655-61. doi:10.1080/14034940701362137
- Album D, Johannessen LEF, Rasmussen EB. Stability and change in disease prestige: A comparative analysis of three surveys spanning a quarter of a century. Soc Sci Med. May 2017;180:45-51. doi:10.1016/j.socscimed.2017.03.020
- Eckhardt H, Smith P, W. Q. Pay for Quality: using financial incentives to improve quality of care. In: Busse R, Klazinga N, Panteli D, et al., editors. Improving healthcare quality in Europe: Characteristics, effectiveness and implementation of different strategies. Copenhagen (Denmark): European Observatory on Health Systems and Policies;2019.
- Christianson JB, Knutson DJ, Mazze RS. Physician pay-for-performance. Implementation and research issues. J Gen Intern Med. Feb 2006;21 Suppl 2(Suppl 2):S9-S13. doi:10.1111/j.1525-1497.2006.00356.x
- Conrad DA. The Theory of Value-Based Payment Incentives and Their Application to Health Care. Health Serv Res. Dec 2015;50 Suppl 2(Suppl 2):2057-89. doi:10.1111/1475-6773.12408
- Robinson JC. Theory and practice in the design of physician payment incentives. Milbank Q. 2001;79(2):149-77. doi:10.1111/1468-0009.00202
- Jandoc R, Burden AM, Mamdani M, Lévesque LE, Cadarette SM. Interrupted time series analysis in drug utilization research is increasing: systematic review and recommendations. J Clin Epidemiol. Aug 2015;68(8):950-6. doi:10.1016/j.jclinepi.2014.12.018
- von Elm E, Altman DG, Egger M, Pocock SJ, Gøtzsche PC, Vandenbroucke JP. The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement: guidelines for reporting observational studies. J Clin Epidemiol. Apr 2008;61(4):344-9. doi:10.1016/j.jclinepi.2007.11.008
- (EPOC) CEPaOoC. Suggested risk of bias criteria for EPOC reviews. 2017.
- Korevaar E, Karahalios A, Forbes AB, et al. Methods used to meta-analyse results from interrupted time series studies: A methodological systematic review protocol. F1000Research. 2020;9:110. doi:10.12688/f1000research.22226.3

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