



**How to narrow the gap in disability free life expectancy between rich and poor, with a focus on long-term conditions: a rapid evidence synthesis**

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# How to narrow the gap in disability free life expectancy between rich and poor, with a focus on long-term conditions: a rapid evidence synthesis

## Executive Summary

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**The full report with references is available [here](#).**

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## Main messages

### What is the problem?

- Socioeconomic inequalities in disability free life expectancy (DFLE) are a major and growing public health concern.
- People living in the least deprived areas of England can expect to live longer in good health than their peers in the most deprived areas.
- Long-term conditions are a key driver of disability, and many have a differential impact on people who are more disadvantaged.
- Intervening to prevent / optimise the management of long-term conditions offers potential to reduce disability and extend disability free life expectancy. Targeting disadvantaged populations may help to narrow the gap in DFLE
- National Institute for Health and Care Excellence (NICE) has produced guidelines on effective interventions for key long-term conditions
- Questions remain over which interventions are effective at preventing/tackling long-term conditions for people who are disadvantaged.

### What did we do?

We selected three long-term conditions to study (depression, osteoarthritis (OA) and type 2 diabetes (T2D)), as major sources of morbidity and mortality. For each condition:

- NICE guidelines were searched to identify recommended, evidence-based interventions.
- In the evidence that supports NICE recommendations, we looked for variation in outcomes by social disadvantage.
- We updated and extended the NICE evidence reviews to include a wider range of study designs beyond randomised controlled trials.
- Evidence was synthesised using standard rapid review methods.

### What did we find?

Research evidence underpinning NICE recommendations for intervening in T2D, OA and depression offered no robust information on how outcomes may vary with social disadvantage.

In our wider searches, we found limited evidence for social patterning in outcomes of interventions for two of the exemplar conditions (depression and OA), and no evidence for T2D.

The limited evidence of social patterning was heterogeneous (in study design, populations, comparable measures of SES, outcomes) and tended to show better outcomes for less disadvantaged people.

NICE guidance aims to improve consistency in the delivery of effective treatments and clinical outcomes at a population level. However, a lack of consideration of SES within the evidence base generates uncertainty about the impact of the recommended interventions for disadvantaged populations.

### What does it mean?

This study has identified an important gap in the evidence needed to inform policy on improving the gap in DFLE between rich and poor. There is a dearth of research on how the impacts of LTC interventions vary for people living in different socioeconomic circumstances. Routine inclusion of measures of socioeconomic status/social disadvantage in intervention studies could be considered to develop the evidence base at minimal cost and inconvenience.

# Executive summary

## Context:

Socioeconomic inequalities in disability free life expectancy (DFLE) are a major and growing public health concern. People living in the least deprived areas of England can expect to live longer in good health than their peers living in the most deprived areas. Action is required to close this gap and achieve five extra years of life in good health across the population. Long-term health conditions are a key driver of disability. Therefore, intervening to reduce the impact of common long-term health conditions on the most disadvantaged in society has potential to narrow the gap in DFLE.

This report aims to summarise high-level evidence on how best to increase DFLE through intervening in long-term health conditions, and which approaches work best for the most disadvantaged populations. A focus on three common, exemplar conditions is used to address the following questions:

- Which interventions are effective at the prevention<sup>1</sup> of disability associated with common, specified long-term conditions (LTCs)?
- What is the size of the impact of effective interventions and how does this vary by socioeconomic status?

## Method:

This study focuses on depression, osteoarthritis (OA), and type 2 diabetes (T2D), three LTCs that are a major source of morbidity and mortality. Evidence on effective interventions for these conditions has already been reviewed and distilled into recommendations by the UK National Institute for Health and Care Excellence (NICE)<sup>2</sup>. We took the NICE evidence reviews as our start point, to identify information on differential impact of interventions by socioeconomic status.

For each condition, we followed a four-step process:

- NICE guidelines were searched to identify recommended interventions.
- Evidence cited in support of these NICE interventions was examined to identify any variation in outcomes by socioeconomic status.
- We updated the reviews of evidence to support the NICE guidance for each condition: July 2008 (depression); January 2016 (OA); and July 2012 (T2D).
- Where we found no data on outcomes by socioeconomic status in the evidence supporting NICE recommendations, we extended our search. Key bibliographic databases were used to identify observational studies (which are not included in NICE reviews), and to update NICE searches for randomised controlled trials.

Where NICE guidance included a large range of interventions, we focussed on the most commonly implemented or clinically important, based on expert recommendations. Our

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<sup>1</sup> Secondary prevention refers to identification of disease in its early stages, before the onset of signs and symptoms. Tertiary prevention aims to reduce the impact of established disease, through treatment and rehabilitation.

<sup>2</sup> NICE guidance is based on expert evaluation of research evidence and is in widespread use in the NHS.

approach to evidence for diabetes was modified to consider only systematic reviews. This reflects the size of the evidence base and recent work by the Cochrane group to identify evidence of social patterning in diabetes outcomes.

## **Results:**

None of the evidence to support interventions in NICE guidance for depression, OA, and T2D reported outcomes for people of different socioeconomic status. We identified additional evidence about the effectiveness of interventions by SES in seven systematic reviews for depression and 12 primary studies (2 randomised controlled trials and 10 prospective cohort studies) for OA. A full text assessment of 164 systematic reviews was conducted for T2D, but no studies met our criteria.

## **Depression**

Evidence focused on the effectiveness of cognitive behaviour therapy (CBT) by employment (three reviews), educational level (two reviews), and socioeconomic status (two reviews). Educational level and employment status did not moderate outcomes following CBT or iCBT. There was no evidence that CBT produces different outcomes by SES for depression in primary school children. In secondary school settings, CBT interventions appeared to be less effective for people of lower socioeconomic status. In adults, we found that there was no evidence to support that iCBT offers different outcomes based on an individual's SES, specifically, level of education. Although guided and unguided iCBT did not offer different outcomes between patients who were unemployed, we found that guided iCBT was associated with poor outcomes when compared to usual care.

## **Osteoarthritis**

Six studies focused on effectiveness of surgical interventions, five on education and self-management and one on pharmacological management. Findings were inconsistent. Five studies reported no difference in effectiveness by level of education, five reported that the interventions favoured people with higher educational levels. Education and self-management programmes reduced pain amongst the employed at three months. By 12 months no one reported any benefit. Single studies have reported total knee arthroplasty (TKA) improved clinical outcomes best in high income groups and no relationship between outcomes and rural/urban living.

## **Type II Diabetes**

No studies assessing the impact of T2D interventions by SES status were identified. Ten Cochrane reviews of T2D interventions planned to report outcomes by SES, but this was not possible due to the lack of data in the primary studies.

## **Conclusion:**

This study has identified an important gap in the evidence needed to inform policy on narrowing the gap in DFLE between the rich and poor. There is a dearth of research on how the impacts of interventions for long-term conditions vary for people living in different socioeconomic circumstances. In order to target interventions or evaluate the impact of policies and interventions on disadvantaged groups, measurement of socioeconomic status has to become the norm. More widespread capture of data on socioeconomic circumstances in intervention studies and routine health and social care should be considered to fill this gap.

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