NICE National Institute for Health and Care Excellence

November 2023 exceptional surveillance of blood pressure targets for adults across NICE guidelines (NICE guidelines NG17, NG136 and NG203)

Surveillance report

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Surveillance decision

We will produce an overview table of blood pressure (BP) targets for different patient groups, by age and comorbidities. The following 3 guidelines will be amended to include information that can be found in 1 place to improve the usability of recommendations:

- Type 1 diabetes in adults: diagnosis and management (NICE guideline NG17)
- Hypertension in adults: diagnosis and management (NICE guideline NG136)
- Chronic kidney disease: assessment and management (NICE guideline NG203)

Reason for the surveillance review

A healthcare professional contacted NICE to highlight that there are different BP targets in treatment options for hypertension across the 3 NICE guidelines; these were identified for patient groups, by age and comorbidities.

For example, for different sub-populations there are different BP targets by age across the 3 guidelines. This is demonstrated in the case of NICE's guideline on chronic kidney disease (CKD), where the BP targets do not differ for <80 and 80+ years age groups, whereas in the case of NICE's guideline on type 1 diabetes, the BP targets do differ for <80 and 80+ years age groups (see table 1, columns 2 and 3 for details).

Similarly, there is a difference in the approach to setting BP targets for people age 80+ and with kidney disease (as indicated by a urine albumin-to-creatinine ratio [ACR] of 70 mg/mmol or more). This is demonstrated in the case of older patients (age 80+) in NICE's guideline on CKD, where the BP targets differ for ACR <70 and 70+ mg/mmol, whereas for older patients (age 80+) with type 1 diabetes, blood pressure targets do not differ relative to the same ACR ratios (NICE's guideline on type 1 diabetes in adults). See table 1, column 3, rows (a), (b), (e) and (f) for details.

Table 1 outlines all differences in clinic BP targets for patients with type 1 diabetes, type 2 diabetes, CKD and the general population with hypertension.

Table 1 NICE clinic BP targets in treatment options for hypertension*

Population	Age <80 systolic/diastolic mmHg (guideline, recommendation)	Age 80+ systolic/diastolic mmHg (guideline, recommendation)
(a) T1DM ACR 70+	<130/80 (NG17, 1.13.8)	<150/90 (NG17, 1.13.8)
(b) T1DM ACR <70	<140/90 (NG17, 1.13.8)	<150/90 (NG17, 1.13.8)
(c) T2DM ACR 70+	Use clinical judgement	Use clinical judgement
(d) T2DM ACR <70	<140/90 (NG136, 1.4.20)	<150/90 (NG136, 1.4.21)
(e) CKD ACR 70+	<130/80 (NG203, 1.6.2)	<130/80 (NG203, 1.6.2)
(f) CKD ACR<70	<140/90 (NG203, 1.6.1)	<140/90 (NG203, 1.6.1)
(g) general population with hypertension	<140/90 (NG136, 1.4.20)	<150/90 (NG136, 1.4.21)

Key: T1DM, type 1 diabetes; T2DM, type 2 diabetes; Chronic kidney disease, CKD; ACR (mg/mmol); BP, systolic/diastolic mmHg.

Note: Guidelines recommend using clinical judgement when setting BP targets for adults with frailty, target organ damage (damage to organs because of diabetes, for example, to nerves or eyes) or multimorbidity.

Reasons for the decision

Methods

The exceptional surveillance process consisted of:

- Examining related NICE guidance and quality standards.
- Considering the evidence used to develop the guidelines.
- Considering relevant information from previous surveillance reviews of the guidelines.
- Considering new or updated Cochrane reviews.
- Consulting members of NICE's GP reference panel about the apparent inconsistencies

across the NICE BP targets for sub-populations.

- Examining the NICE event tracker for relevant ongoing and published events.

For further details about the process and the possible update decisions that are available, see ensuring that published guidelines are current and accurate in developing NICE guidelines: the manual.

Blood pressure targets: background information on the 3 NICE guidelines

Type 1 diabetes in adults (NICE guideline NG17)

The recommendations covering BP targets were based on an evidence review from 2004. A surveillance check in 2019, which included searches for new evidence identified a single randomised controlled trial (RCT) study that did not have an impact on recommendation 1.13.8. No updates were proposed.

Following a further surveillance check in 2022, which was triggered by a healthcare professional identifying an inconsistency between BP targets in NICE's guidelines on type 1 diabetes in adults and CKD, recommendations 1.13.8 and 1.15.14 were updated to make them consistent with recommendations on BP control in NICE's guideline on CKD (which was updated in 2021).

Hypertension in adults (NICE guideline NG136)

BP targets were published in 2019 and subsequently updated in 2022.

The recommendations and BP targets in this guideline apply to all adults, including those with type 2 diabetes. The recommendations on treatment and monitoring link to NICE's guidelines on CKD and type 1 diabetes at points in the care pathway where treatment differs.

No evidence was identified to determine whether cardiovascular risk or BP targets should be used. The committee agreed that in the absence of evidence, the focus should be on BP targets, based on their expertise and experience of current practice.

Overall, the committee agreed in 2019 that the evidence was unclear and insufficient to

determine whether a lower target would be beneficial and whether it would outweigh the associated harms. Therefore, the 2011 clinic BP target of 140/90 mmHg for adults under 80 years was retained and applies to people with or without type 2 diabetes.

The target for people aged over 80 (150/90 mmHg) was mainly informed by evidence from the HYVET study, which was identified in the previous guideline. The committee agreed that that there was no new evidence to challenge this recommendation, and that there is a lack of data specifically on people aged over 80. Therefore, the recommendations have been carried forward, with the reinforcement of maintaining BP consistently below the target.

The committee agreed that there was insufficient evidence to recommend a different BP target for people aged over 80 with type 2 diabetes, so it should be the same as the general population aged over 80 with hypertension.

As part of the update in 2022, the committee agreed not to state a range, but to emphasise the importance of reducing clinic BP below 140/90 mmHg in those aged <80 years such that neither patients nor practitioners should be accepting of clinic BP values of 140/90 mmHg or higher. Similarly, in those aged 80 years and over the importance of reducing clinic BP below 150/90 mmHg was emphasised by rewording the recommendation.

Chronic kidney disease (NICE guideline NG203)

BP targets were updated in 2021. At the time, the committee agreed that none of the evidence it had seen warranted changing the recommendations from the BP targets outlined in the 2014 guideline. They also noted that intensive BP targets only result in a marginal reduction in stroke and kidney failure, but put a large burden on patients (in terms of polypharmacy and associated risks and side effects, such as falls).

They looked at the evidence for subgroups, and agreed that there was insufficient data for making recommendations for specific groups. Consequently, no recommendations were made for age-specific BP targets.

Cochrane reviews

We checked relevant Cochrane systematic review evidence for BP targets relevant to the 3 NICE guidelines and target populations. We identified 4 Cochrane reviews:

- Blood pressure targets in adults with hypertension (2020)
- Blood pressure targets for hypertension in people with diabetes mellitus (2013)
- Blood pressure targets for hypertension in older adults (2017)
- Blood pressure targets for the treatment of people with hypertension and cardiovascular disease (2022).

These Cochrane reviews were available at the time of the related guideline updates and have been considered by NICE guideline committees, including within the most recent evidence review for NICE's guideline on hypertension in adults in 2022.

Views from NICE's GP reference panel

We considered the views of members of NICE's GP reference panel. We sent questionnaires to the panel, which asked 2 questions:

- Question 1: Have you used the 3 NICE guidelines to guide your practice when setting BP targets for adults?
- Question 2: Do the apparent inconsistencies across the NICE BP targets for sub-populations cause you a problem as a general practitioner (or are they likely to)?

We received 19 completed questionnaires. In responses to question 1, all GPs identified that they use 1 or more of the 3 NICE guidelines for BP target information.

The answers to question 2 were mixed. About half of the GPs reported that they were comfortable interpreting information across the 3 guidelines to fit the patient case; they would consider the patient's age, comorbidities, frailty and polypharmacy. One respondent mentioned that GPs are practiced in using their judgement in making decisions, and this would be no exception.

The other half were more equivocal and indicated that multiple targets for different sub-populations could hinder decision making. Some called for standardisation of targets.

Others highlighted the problem of synthesising the information across different guidelines as not being conducive to the way GPs conduct consultations, make decisions or the pace at which they work. They suggested that a helpful solution for practice would be to place all the information in 1 place (various commented that the information could be presented

in a table, as shown in the section on reason for the surveillance review).

Equalities

No equalities issues were identified during the surveillance process.

Identifying BP targets in treatment options for hypertension is limited by a lack of direct evidence in subgroups of the population.

To help address a gap in the available evidence, NICE has a recommendation for research on BP targets for people aged over 80.

Overall decision

During initial development and updates of the 3 NICE guidelines there was limited direct evidence to inform BP targets for specific populations and subgroups with comorbidities. For this reason, on occasions the committees have drawn on both the limited evidence and clinical knowledge and arrived at consensus decisions to set BP targets. However, given that development of the guidelines has occurred at different timepoints, drawing on different evidence and viewpoints and with a focus on a single guideline population, the result is different targets across the 3 guidelines.

Having different BP targets for the range of patient populations can be practically challenging and lead to uncertainty, however, they are intended as guidelines and not rules. The guidelines do emphasise the need for clinical judgement for people of any age with frailty or multimorbidity (and also link to NICE's guideline on multimorbidity for more information).

While most GPs we asked responded positively about adopting targets to suit individual cases, NICE will monitor future feedback to assess the need to update or harmonise its recommendations. Furthermore, as evidence becomes available the guidelines will be reassessed.

Feedback also suggested that having specific BP targets for patient groups in different places (across the 3 NICE guidelines) results in practical challenges. To help address this, we will produce an overview table of BP targets for different patient groups, by age and comorbidities.

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