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Great expectations? GPs' estimations of time required to deliver BMJ's '10 minute consultations'

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ABSTRACT

Objectives

1. To estimate the time required to undertake consultations according to BMJ's 10-minute consultation articles.
2. To quantify the tasks recommended in 10-minute consultation articles.
3. To determine if, and to what extent, the time required and the number of tasks recommended have increased over the past 22 years.

Design Analysis of estimations made by four general practitioners (GPs) of the time required to undertake tasks recommended in *BMJ*'s *10-minute consultation* articles.

Setting Primary care in the UK.

Participants Four doctors with a combined total of 79 years of experience in the UK National Health Service following qualification as GPs.

Main outcome measures Median minimum estimated consultation length (the estimated time required to complete tasks recommended for all patients) and median maximum estimated consultation length (the estimated time required to complete tasks recommended for all patients *and* the additional tasks recommended in specific circumstances). Minimum, maximum and median consultation lengths reported for each year and for each 5-year period.

Results Data were extracted for 44 articles. The median minimum and median maximum estimated consultation durations were 15.7 minutes (IQR 12.6–20.9) and 28.4 minutes (IQR 22.4–33.8), respectively. A median of 17 tasks were included in each article. There was no change in durations required over the 22 years examined.

Conclusions The approximate times estimated by GPs to deliver care according to *10-minute consultations* exceed the time available in routine appointments. '10 minute consultations' is a misleading title that sets inappropriate expectations for what GPs can realistically deliver in their routine consultations. While maintaining aspirations for high-quality care is appropriate, practice recommendations need to take greater account of the limited time doctors have to deliver routine care.

STRENGTHS AND LIMITATIONS OF THIS STUDY

⇒ A novel design was employed whereby general practitioners (GPs) estimated the duration that would be required to deliver care as recommended in a long-standing article series.
⇒ Analysis was undertaken according to a preregistered plan and all data have been made freely available.
⇒ There was substantial variation between estimates provided by GPs which could reflect differences in individual practice but may also be affected by difficultly in accurately estimating how long tasks would take to perform.

INTRODUCTION

Across high-income countries, general practitioners (GPs) report excessive workloads with concerns that their ability to deliver high-quality care is threatened by rising demand that exceeds the capacity of the medical workforce.[1 2] In several countries the situation has worsened further since the beginning of the coronavirus pandemic.[1] Pressures are known to be particularly severe in the UK, where GPs have experienced simultaneous increases in patient contacts [3] and declining numbers of full-time equivalent GPs [4] both in absolute terms and in relation to the ratio of patients per GP,[5] despite efforts to increase GP numbers.[6] Appointments in general practice in the UK are among the shortest in Europe, with a standard appointment time of 10 minutes in most practices.[7] While there are calls to lengthen appointment duration to at least 15 min,[8–10] this could exacerbate difficulties in access to primary care where GPs report having an average of 37 patient contacts per day.[11] Prior research has demonstrated that delivering primary care, as specified by guidelines, is not feasible within the time that GPs have available.[12] Accordingly, it has been proposed that guideline bodies, such as the National Institute for Health and Care Excellence, should consider the time that would be taken to deliver them in routine practice.[13]

By contrast, *BMJ*'s *10-minute consultation* series are education articles orientated chiefly at primary care and explicitly aim to outline what a GP should cover in a time-limited consultation.[14] While guidelines describe the recommended management of a limited number of specific diseases, *10-minute consultation* articles are generally themed around a presenting sign, symptom or concern that prompts a patient to seek medical assessment. Typically authored by GPs alongside specialists and spanning a broad range of topics, *10-minute consultations* constitute a valuable corpus of contemporaneously recommended practice by clinical peers.

In this study, we examined 22 years of *10-minute consultation* articles to determine if the recommendations they offer could be realistically implemented in 10 minutes. We also aimed to ascertain if expectation-inflation had occurred during that period, that is, if there were now greater expectations for how many tasks should be undertaken, and the time it would take to perform these, compared with 22 years ago.

METHODS

We obtained the full texts of 44 *10-minute consultation* articles (21% of the entire series) including the first published article in the series (October 2000), and thereafter the first and last articles for each year between 2001 and 2021, and the first article published in 2022. All included articles are listed in online supplemental table S1. From these, one author (AH) extracted all tasks that were recommended by the authors and categorised these by type (eg, history, examination, organising investigations, reviewing records, prescribing, shared decision-making, referral, etc). These categories are listed in table 1. Since some tasks were contingent on particular characteristics of the presentation or patient (eg, if a particular symptom was elicited, or patient sex), we categorised tasks according to whether or not they would be required for all patients or required only for specific circumstances.

A spreadsheet listing the tasks extracted from each article was created. Articles were listed in a random, not chronological order. Four qualified GPs (NT, HD, HP and JG), who cumulatively had more than 79 years of experience as GPs in the National Health Service (NHS), independently determined the amount of time, rounded to the nearest half minute, which they thought each task would take. The participating GPs were purposively recruited as clinicians who were not academics and who spend the majority of their working week delivering primary healthcare (online supplemental table S2).

Statistical analysis

The median total number of tasks and the median number of tasks for each category of task (eg, history, examination, etc) were determined for the entire dataset of 44 articles. For each article, the maximum estimated consultation length (or time required to complete all tasks including those recommended for only specific circumstances) and the minimum estimated consultation length (or time required to complete those tasks that applied to all patients) were calculated for each GP. Medians were calculated for the minimum and maximum estimated consultation lengths using the estimates from all 4 GPs

We also determined the median and range of red flag diagnoses mentioned in order to indicate the expectation placed on GPs to remain mindful of infrequent diagnoses. No additional time was added to account for such mention of red flag symptoms, other than specific tasks which were required to elicit these, for example, history taking or examination.

For each consultation, we added 2 minutes 38 seconds which was the median time calculated for the following three tasks in a time-motion observation study of 61 NHS GPs[15]:

- Preparing to see patients (eg, reading patient's notes) (median time=47 seconds).
- Calling patients into the consultation room (median time=36 s).
- Documentation of consultation in the electronic health record (median time=1 minute 15 seconds).

To assess the inter-rater reliability between the four GPs for the estimated minimum and maximum durations the intraclass correlation coefficient (ICC) and 95% CIs were calculated based on the mean absolute agreement two-way random effects model.

To ascertain if expectations had increased over time, median minimum and maximum estimated

Table 1 Categories of tasks and median number of tasks for each category for the 44 *10-minute consultation* articles examined

Task category (n)	Median number of tasks relating to this category across the 44 articles (range)
History (262)	5 (1–17)
Examination (76)	1 (0–8)
History and examination (10)	0 (0–2)
Organising investigations (56)	1 (0–5)
Review records (8)	0 (0–2)
Explanation/advice (136)	3 (0–9)
Obtaining consent (2)	0 (0–1)
Use clinical tool/calculator (13)	0 (0–2)
Shared decision-making (12)	0 (0–3)
Review medication (7)	0 (0–10)
Prescription (47)	1 (0–3)
Referral (83)	1 (0–10)
Signposting (7)	0 (0–2)
Arrange hospital admission (3)	0 (0–1)
Safety netting advice (5)	0 (0–1)
Follow-up (55)	1 (0–6)
Other (26)	0 (0–4)

The total number of tasks across all articles was 808.

consultation lengths were charted by year and grouped into 5-year periods. Trends for median estimated consultation length over time were assessed using linear regression modelling. For these models, we assessed the year-on-year trend assuming a linear trend and also assessing changes over 5-year time periods.

More information regarding the analysis is provided in the pre-registered protocol.[16] There were two substantive deviations from the protocol. First, we included three articles prior to the stated starting point of 2002 in order to include articles from the beginning of the series in 2000. Second, the protocol stated we would add the mean, rather than the median, additional times added for standard tasks as median times were not available when the protocol was registered.[15] Sensitivity analyses were undertaken as per original protocol.

Patient and public involvement

Patients and the public were not involved in this study.

RESULTS

A median of 17 tasks were outlined per article, 10 of which were required for all patients. The median minimum estimated consultation length was 15.7 min (IQR 12.6–20.9) and the median maximum estimated consultation length was 28.4 min (IQR 22.4–33.8). The 'maximum estimated consultation length' refers to the total duration of all tasks listed in the article, although for several articles all tasks would not plausibly pertain to a single patient. The median minimum estimated consultation lengths for all articles exceeded 10 minutes. Figure 1 presents the estimated consultation lengths for *10-minute consultations* by year of publication category, while figure 2 presents the estimated consultation lengths for each of the four GPs individually.

Articles included a median of one red flag diagnosis (range 0–8) that GPs should consider in their assessments. Data for the entire period 2000–2022 and in 5-year intervals (with the exception of the 3-year interval 2020–2022) are presented in table 2 and figure 1. The median number of tasks per task category across the 44 papers is presented in table 1, and online supplemental table S3 presents the estimated durations for each task category. The most frequent tasks related to history taking and providing explanations and advice. A small number of the tasks which were not required for all patients pertained to situations which were mutually exclusive, for example, two tasks outlining actions if red flag symptoms were or were not present. These are summarised in online supplemental table S4.

Linear regression demonstrated no significant changes over time in estimated consultation lengths, either when grouping the articles into 5-year (aside from 2020 to 2022) periods or when assessing for annual change (table 3).

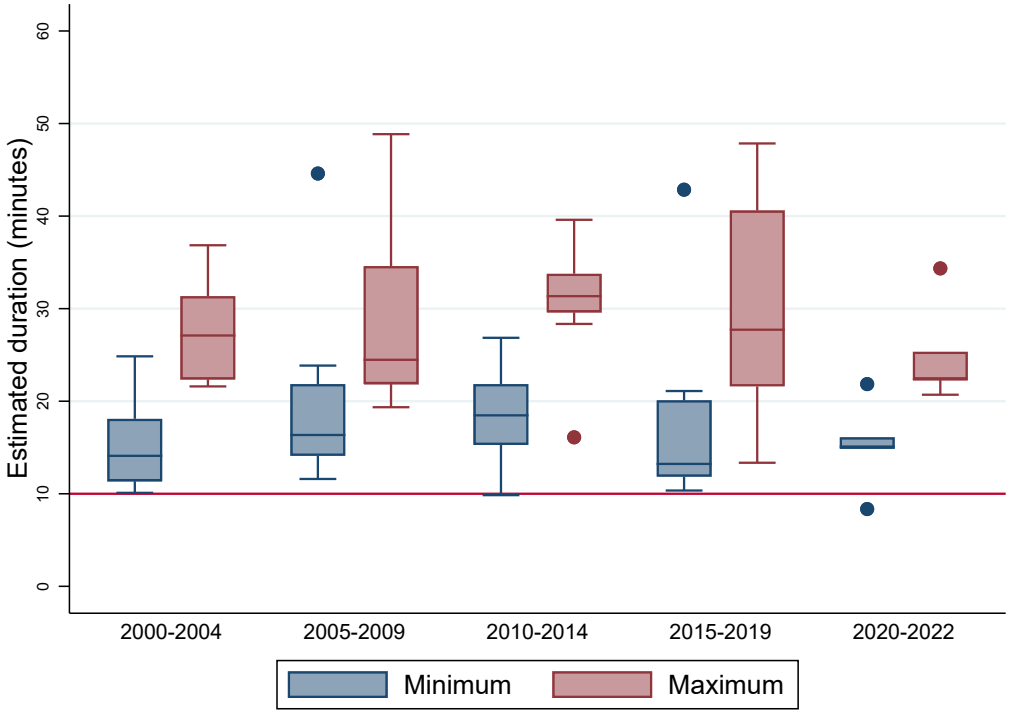

Figure 1 Box plot of minimum and maximum estimated consultation lengths for *10-minute consultations* by year of publication category.

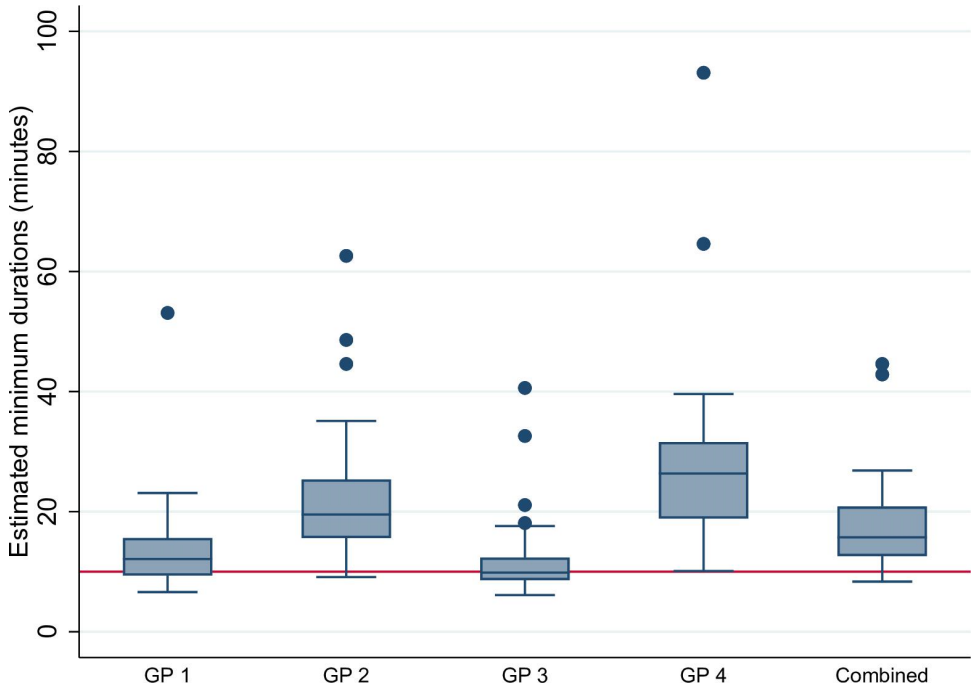

Figure 2 Participating general practitioners' (GP) estimates of minimum estimated consultation lengths required for *10-minute consultation* articles across the 44 included articles. The combined data are the median of all four GP estimates. Median (IQR) minimum durations are GP 1: 12.1 (9.4, 15.6), GP 2: 19.5 (15.6, 25.4), GP 3: 9.9 (8.6, 12.4), GP 4: 26.4 (18.9, 31.6), combined: 15.7 (12.6, 20.9).

ICC demonstrated consistency that was moderate between the GPs' estimates of minimum estimated consultation lengths (0.68, 95% CI 0.35 to 0.83) and poor for maximum estimated consultation lengths (0.46, 95% CI 0.07 to 0.70). There was substantial discordance between GPs' estimates of consultation lengths across all 44 articles. Figure 2 and online supplemental figure S1 show each GP's median and maximum estimated consultation lengths, respectively, across all 44 articles. The lowest median minimum estimated consultation length across the 44 articles was 9.9 min (IQR 8.6–12.4), while their corresponding median maximum estimated consultation length was 14.6 min (IQR 13.1, 18.4).

Sensitivity analyses were consistent with the findings outlined above (online supplemental tables S5 and S6 and figures S2–S4).

DISCUSSION

Summary of principal findings

Using estimates from four experienced GPs, this analysis indicates that the care recommended in *10-minute consultations* exceeds the time available to GPs to deliver this care. However, estimates of time required did not increase according to publication year.

Interpretation and comparison with other studies

Previous work has demonstrated that the time required to deliver care recommended by clinical guidelines greatly exceeds the time which is available to clinicians in routine consultations.[12 13] *10-minute consultations* are not guidelines and they are explicitly written with respect to care that might reasonably be expected to be delivered within a single standard consultation. To our knowledge, this study is the first that has assessed the time required

Table 2 Median number of tasks in the 44 articles categorised according to whether they apply to all patients (median minimum estimated consultation length) or also included tasks relating to specific circumstances only (median maximum estimated consultation length)

Period	Median number of tasks recommended for all patients (IQR)	Median minimum estimated consultation length (IQR)	Median number of tasks, including those for specific circumstances only (IQR)	Median maximum estimated consultation length (IQR)
Overall (2000–2022)	10 (7, 12)	15.7 (12.6, 20.9)	17 (14, 22)	28.4 (22.4, 33.8)
2000–2004	6 (6, 8)	14.1 (11.4, 18.1)	15 (12, 15)	27.1 (22.4, 31.4)
2005–2009	10 (8, 12)	16.4 (14.1, 21.9)	18 (13, 22)	24.5 (21.9, 34.6)
2010–2014	14 (10, 17)	18.5 (15.3, 21.9)	21 (17, 28)	31.4 (29.6, 33.8)
2015–2019	10 (8, 12)	13.2 (11.9, 20.1)	17 (13, 24)	27.7 (21.6, 40.6)
2020–2022	9 (8, 12)	15.1 (14.9, 16.1)	15 (14, 15)	22.4 (22.4, 25.4)

Table 3 Results from linear regression models of change in estimated consultation lengths (minutes) both annually (2000–2022) assuming a linear trend and compared by grouping into categories

	Change per year/period for minimum estimated consultation lengths (95% CI)	Change per year/period for maximum estimated consultation lengths (95% CI)
Annual	−0.06 (−0.41 to 0.30)	0.01 (−0.38 to 0.39)
Publication year category		
2000–2004	Baseline	Baseline
2005–2009	3.79 (−3.28 to 10.86)	0.69 (−6.84 to 8.22)
2010–2014	3.13 (−3.94 to 10.20)	3.08 (−4.45 to 10.61)
2015–2019	1.61 (−5.45 to 8.68)	2.22 (−5.31 to 9.75)
2020–2022	−0.46 (−9.04 to 8.12)	−2.66 (−11.80 to 6.58)

to deliver care according to brief and accessible pragmatic recommendations pitched directly to clinicians, as opposed to formal clinical guidelines. Greater inclusion of, and consultation, with 'front-line' clinicians including GPs has been suggested to help ensure guidelines and recommendations are realistic. Estimates of the time required to implement *10-minute consultations* are lower than estimates relating to clinical guidelines, but meeting the standards recommended by the articles is still not realistic within a standard general practice appointment. *10-minute consultation* articles are typically authored by GPs, suggesting their inclusion in formulating recommendations should not be considered a panacea. It may be that authors tend to include more tasks than can be undertaken within 10 minutes to anticipate criticisms that important considerations had been overlooked or it may be that additional tasks were identified during the peer review process. Alternatively, it could be the case that there is a fundamental dissonance between presenting recommendations that are sufficiently comprehensive as to be deemed defensible practice in a prestigious journal with the limits of what can actually be achieved in so short a period. However, it may also be the case that *10-minute consultation* articles describe relatively more complicated problems than are typical and that such presentations may, to some extent, be counterbalanced by very straightforward presentations which GPs can conclude in less than 10 minutes.

Delivering *10-minute consultations* within the stated time frame could be even more challenging than our work indicates. Direct observation has demonstrated that GPs frequently contend with time and attention-consuming system failures and interruptions during consultations.[15] In addition, GPs normally address several problems in a consultation—not just one, as this analysis is predicated on. An analysis of recorded consultations published in 2013 reported a mean of 2.5 problems discussed (95% CI 2.3 to 2.6, IQR 1–8).[17]

Strengths and limitations of the study

The study employed novel methodology to estimate how long recommended aspects of clinical care could take to implement in routine clinical appointments, by asking clinicians themselves to estimate how long instituting these tasks could take, rather than drawing on estimates from literature or routinely collected data. The study was also novel in that it examined recommendations authored by clinical peers including GPs, rather than official guidelines from regulatory bodies or disease or organ-specific societies. Therefore, the recommendations that we examined might be supposed to be more sensitive to time constraints in general practice.

Enabling real-world implementation of guidelines requires guideline bodies to consider clinician time in a structured way. Approaches for measuring clinician time include time-motion methods, self-report through retrospective interview, self-report through time sheets and patient flow analysis.[18] The time estimates generated by these different approaches can vary significantly, but this variation is most marked for clinician activities carried out when clients are not present. Time-motion studies, which are often considered the gold standard approach for measuring clinician time, have been criticised for variability in the specification and categorisation of observed tasks, the approach to multitasking and interruptions, and the rigour of training and reliability of results between observers.[19] All of the approaches, by their very presence, might change the activity patterns and time estimates of the events under observation (eg, Hawthorne effect).

The approach we employed allowed us to generate estimated timings for the very specific tasks outlined in *10-minute consultations*, which would not have otherwise been possible. However, several limitations of relying on GPs' own estimations of time required to deliver care should be acknowledged. The estimate of consultation durations might differ substantially if data was collected from observing consultations, both because of the multiplicity of patient, system and clinician influences on consultations and because of the risk that individual clinicians are not able to accurately estimate how long consultation tasks take. It is also possible that if GPs were observed and timed undertaking tasks they might employ pragmatic strategies, or 'short cuts' to help consult within allotted appointment times. However, observing enough consultations in undifferentiated clinic lists to ensure that all the situations outlined in the *10-minute consultation* could be observed would not be feasible, nor would it be possible

to ensure that GPs carried out all the tasks that were recommended so that these could all be timed.

While the total duration estimated for all the tasks in each article is described as the 'maximum estimated consultation length', for several articles it is not plausible that all described circumstances could apply to a single patient. Ten tasks out of 808 (1.2%) were identified which described circumstances which could not apply to a single patient, for example, separate actions to undertake if red flag symptoms were or were not present. These are reproduced in online supplemental table S4.

The clinical problems which are covered in *10-minute consultations* are not necessarily representative of those most commonly encountered in primary care. Indeed, as the topics chosen were deemed suitable for elaboration in an education article they might be considered more complex or difficult. It is important to recognise that the study aimed to examine the feasibility of performing tasks as outlined in *10-minute consultations* and cannot demonstrate whether the presentations which actually do typically present to primary care can be performed satisfactorily within 10 minutes. However, reference to the titles of the 44 articles examined in this study (online supplemental table S1) suggests the topics were not unusually complex and the majority could be considered typical problems presenting to primary care.

Our study is a pragmatic attempt to understand whether the volume of tasks described in *10-minute consultations* might reasonably be accomplished in that time frame and whether the burden of expectation has grown over the last 22 years. The study provides persuasive evidence that the consultations described in the series cannot be expected to be undertaken in 10 minutes. We did not find evidence that the time that would be required to deliver care according to authors' recommendations has increased, but there were only a relatively small number of articles within each time period so it is possible that any differences in terms of clinical topics between time periods could have overwhelmed any smaller differences, for example, any underlying tendency for expectations to have increased over time.

Inter-rater reliability was moderate or poor. This discordance may reflect different working habits of the GPs and variations in consulting speeds. It may also reflect difficultly that GPs had in estimating how long tasks would actually take with accuracy and that estimates were generated by only four GPs. It is also possible that GPs interpreted instructions, which were to estimate how long tasks would take 'in routine primary care' differently and their estimates may have been varyingly influenced by the real-world existence of time restraints.

An additional limitation is that the study did not involve patients. The project was not funded and we were reluctant to request that patients also contribute their time and expertise without reimbursement.

The study analysis plan was pre-registered, thereby mitigating the possibility of post hoc calibration of the analysis to deliver particular findings, a potential weakness of many observational studies. Similarly, data were extracted from the *10-minute consultation* articles in a robust and reproducible manner and all study data and the analysis code has been shared, so that readers can explore the data and judge whether they feel the estimated timings reflect their own experience.

Policy implications

This study provides evidence supporting calls for increasing appointment length. There are important barriers to abandoning the *10-minute consultation* model, particularly the reduction in the availability of total number of appointments to accommodate longer consultations. While this situation cannot be readily remedied, clinicians and health service leaders could acknowledge explicitly that appointment durations are not long enough to deliver standards of care recommended by members of the profession.

Projecting the median minimum consultation time in this study (15.7 minutes) across 37 consultations per day[11] each with 2.5 problems would necessitate GPs spending over 24 hours/day consulting with patients, not including any additional time for breaks or administrative tasks. The sheer impossibility of delivering care as recommended at the volume of demand faced by GPs indicates the need for health service leaders to temper high expectations on behalf of patients with a sense of pragmatism and understanding for those working in primary care.

Recent policy, particularly in England, has sought to involve and broaden the general practice team to include several non-medically qualified clinicians, in order to allow GPs to focus particularly on patients with more complex problems.[20] It is not yet understood whether this approach could help GPs to offer longer appointments for patients with more complex needs or less straightforward presentations. Remote consultations have previously been hailed as a means to free up time for GPs, however, experience suggests that while the technology has important benefits in terms of convenience of access it does not necessarily reduce time required for GPs.[21]

As an immediate measure we recommend that the *10-minute consultation* article series is renamed. The articles provide useful exemplars of primary care consultations, but labelling these as *10-minute consultations* perpetuates unrealistic expectations of what can be achieved within a short appointment. Given the well-documented pressures on primary care,[22] this risks contributing to moral distress of GPs who wish to provide high-quality care as outlined in *10-minute consultations*, but who would not routinely be able to do so within the time they have available. Authors and editors of *10-minute consultations* could also acknowledge the intense time pressures GPs work under and for each problem identify a core set of essential tasks that could realistically be undertaken within 10 minutes.

CONCLUSION

This research indicates that the primary care consultations outlined in *BMJ*'s long-running education article series take longer than a standard appointment length and that the title *10-minute consultations* is a misnomer. *BMJ* should consider renaming the article series in order to avoid placing unrealistic expectations on GPs.

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Contributors SHB conceived the study in discussion with JW and authored the first draft of the manuscript. All authors contributed to subsequent revisions of the manuscript. SHB prepared the study protocol with JW, AH and LS contributing revisions. AH performed the data extraction. NT, HD, HP and JG provided the estimated timings for tasks. CS provided data on timings for standard tasks in GP consultations. LS undertook the statistical analyses.

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Competing interests SHB, CS, NT, HD, HP, JG and JW are general practitioners (GP), while AH is a GP trainee.

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.

Patient consent for publication Not applicable.

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Article title	Date of publication	DOI
Menorrhagia	14/10/2000	https://doi.org/10.1136/bmj.321.7266.935
Binge eating	10/02/2001	https://doi.org/10.1136/bmj.322.7282.343
First episode of psychosis	15/12/2001	https://doi.org/10.1136/bmj.323.7326.1408
Rhinitis	16/02/2002	https://doi.org/10.1136/bmj.324.7334.403
Food allergy	07/12/2002	https://doi.org/10.1136/bmj.325.7376.1337
Chronic low back pain	08/03/2003	https://doi.org/10.1136/bmj.326.7388.535
Recurrent urinary tract infection in women	20/11/2003	https://doi.org/10.1136/bmj.327.7425.1204
Persistent crying in babies	05/02/2004	https://doi.org/10.1136/bmj.328.7435.330
Family history of breast cancer	30/12/2004	https://doi.org/10.1136/bmj.330.7481.26
Tinnitus	27/01/2005	https://doi.org/10.1136/bmj.330.7485.237
Snoring	03/11/2005	https://doi.org/10.1136/bmj.331.7524.1063
Erectile dysfunction	09/03/2006	https://doi.org/10.1136/bmj.332.7541.593
Problem drug use	21/09/2006	https://doi.org/10.1136/bmj.333.7569.639
Collapse with loss of awareness	18/01/2007	https://doi.org/10.1136/bmj.39070.390961.DE
Occupational dermatitis in a hairdresser	23/08/2007	https://doi.org/10.1136/bmj.39252.524317.94
Smoking cessation	24/01/2008	https://doi.org/10.1136/bmj.39248.531748.47
Sleep disorder (insomnia)	28/11/2008	https://doi.org/10.1136/bmj.a1245
Transient ischaemic attack	23/03/2009	https://doi.org/10.1136/bmj.a2343
Malignant melanoma	04/09/2009	https://www.bmj.com/content/339/bmj.b3078
Pollen food syndrome in a teenage student	01/02/2010	https://www.bmj.com/content/340/bmj.b3405
Gout	15/11/2010	https://doi.org/10.1136/bmj.c6155
Hypoglycaemia	16/02/2011	https://doi.org/10.1136/bmj.d567
Dyspepsia	30/09/2011	https://doi.org/10.1136/bmj.d6234
Reviewing a patient with coeliac disease	17/01/2012	https://doi.org/10.1136/bmj.d8152
Dry eye	15/11/2012	https://www.bmj.com/content/345/bmj.e7533
Assessment and management of renal colic	21/02/2013	https://www.bmj.com/content/346/bmj.f985
Tremor	12/12/2013	https://doi.org/10.1136/bmj.f7200
A feeling of a lump in the throat	07/01/2014	https://doi.org/10.1136/bmj.f7195
Breast lumps	05/09/2014	https://doi.org/10.1136/bmj.g5275
The drooling child	29/01/2015	https://doi.org/10.1136/bmj.h38
Diagnosing chronic obstructive pulmonary disease	24/11/2015	https://doi.org/10.1136/bmj.h6171
Stopping antidepressants following depression	18/02/2016	https://doi.org/10.1136/bmj.i220
A painful tingling hand	01/12/2016	https://doi.org/10.1136/bmj.i6386
New diagnosis of polycystic ovary syndrome	12/01/2017	https://doi.org/10.1136/bmj.i6456
Aural microsuction	29/06/2017	https://doi.org/10.1136/bmj.j2908
Birth options after a caesarean section	11/01/2018	https://doi.org/10.1136/bmj.j5737

HIV post-exposure prophylaxis (PEP)	29/11/2018	https://doi.org/10.1136/bmj.k4928
HIV pre-exposure prophylaxis (PrEP)	17/01/2019	https://doi.org/10.1136/bmj.k4681
The maternal six week postnatal check	02/12/2019	https://doi.org/10.1136/bmj.l6482
Adult flatfoot	24/02/2020	https://doi.org/10.1136/bmj.m295
A lump in the throat: laryngopharyngeal reflux	02/11/2020	https://doi.org/10.1136/bmj.m4091
What is my COVID risk?	16/03/2021	https://doi.org/10.1136/bmj.n637
Primary herpetic gingivostomatitis in children	31/12/2021	https://doi.org/10.1136/bmj-2021-065540
Chronic anal fissure in adults	12/01/2022	https://doi.org/10.1136/bmj-2021-066834

Table S1: Titles of the 44 *10 minute consultation* articles examined in this study

GP	**Clinical sessions per week**
GP1	10 sessions until 2017, thereafter reduced until retirement 2022
GP2	5 sessions
GP3	6 sessions
GP4	9 sessions

Table S2: Weekly clinical commitment of participating GPs

Task category (number)	**Median number of tasks relating to this category across the 44 articles (minimum, maximum)**	**Median time required for each task category (IQR)**				
		GP1	**GP2**	**GP3**	**GP4**	**Combined**
History (262)	5 (1, 17)	0.5 (0.5,1.0)	2 (1.0, 3.0)	0.5 (0.5, 1.0)	2.0 (1.0, 4.0)	1.25 (0.5, 2.0)
Examination (76)	1 (0, 8)	1.0 (0.5, 2.0)	1.0 (1.0, 2.0)	0.5 (0.5, 1.0)	2.0 (1.0, 3.375)	1.0 (0.5, 2.0)
History and examination (10)	0 (0, 2)	1.0 (0.5, 2.75)	2.0 (1.375, 3.75)	0.5 (0.5, 1.0)	3.75 (1.0, 7.25)	1.5 (0.5, 3.0)
Organising investigations (56)	1 (0, 5)	1.0 (0.5, 2.0)	1.75 (1.0, 2.0)	0.5 (0.5, 0.5)	1.0 (0.5, 1.5)	1.0 (0.5, 2.0)
Review records (8)	0 (0, 2)	1.0 (0.5, 1.75)	1.5 (0.625, 2.875)	0.5 (0.5, 1.75)	1.75 (0.625, 2.0)	1.25 (0.5, 2.0)
Explanation/advice (136)	3 (0, 9)	1.0 (0.5, 1.0)	1.0 (1.0, 2.0)	0.5 (0.5, 1.0)	2.0 (1.0, 2.5)	1.0 (0.5, 2.0)
Obtaining consent (2)	0 (0, 1)	1.5	1.5	0.5	2.75	1.5 (0.5, 2.75)
Use clinical tool/calculator (13)	0 (0, 2)	0.5 (0.25, 1.0)	1.0 (1.0, 2.5)	0.5 (0.5, 0.5)	1.0 (1.0, 2.0)	0.75 (0.5, 1.375)
Shared decision making (12)	0 (0, 3)	0.5 (0.5, 1.0)	2.25 (1.625, 3.0)	1.0 (0.5, 1.0)	2.75 (1.0, 4.0)	1.625 (0.625, 2.375)
Review medication (7)	0 (0, 10)	0.5 (0.5, 1.0)	2.0 (1.0, 2.5)	0.5 (0.5, 1.0)	3.0 (2.0, 5.0)	1.25 (0.5, 2.0)
Prescription (47)	1 (0, 3)	1.0 (0.375, 1.0)	1.5 (1.0, 2.5)	0.5 (0.5, 0.5)	0.5 (0.5, 2.0)	0.75 (0.5, 2.0)
Referral (83)	1 (0, 10)	0.5 (0.0, 2.0)	2.0 (2.0, 2.5)	0.5 (0.5, 0.5)	1.0 (1.0, 2.0)	0.75 (0.5, 2.0)
Signposting (7)	0 (0, 2)	0.5 (0.0, 0.5)	2.0 (2.0, 2.5)	0.5 (0.5, 0.5)	1.0 (0.5, 2.0)	0.75 (0.0, 2.0)
Arrange hospital admission (3)	0 (0, 1)	0.0 (0.0, 0.5)	4.5 (3.0, 10.0)	1.0 (0.5, 2.0)	5.0 (3.0, 5.0)	2.75 (0.5, 4.875)
Safety-netting advice (5)	0 (0, 1)	0.5 (0.0, 1.5)	1.0 (0.75, 2.5)	0.5 (0.5, 1.0)	2.0 (0.75, 3.5)	0.75 (0.5, 2.0)
Follow-up (55)	1 (0, 6)	0.0 (0.0, 0.5)	2.0 (1.0, 2.0)	0.5 (0.5, 0.5)	1.0 (0.5, 1.5)	0.75 (0.5, 1.0)
Other (26)	0 (0, 4)	0.5 (0.0, 1.0)	2.0 (1.375, 3.625)	1.0 (0.5, 1.0)	1.0 (1.0, 4.0)	1.0 (0.5, 2.0)

Table S3: Categories of tasks and median duration estimated for these by each of the four GPs.

Article	Task	GP1	GP2	GP3	GP4
Chronic back pain	If red flag signs are present refer him to a specialist for further evaluation and advise him to rest and to avoid physical activity until then.	3	2.5	0.5	2
	If no red flags are present, reassure him that there are no indications of serious spinal pathology and that a full recovery from this acute episode is likely. Nerve root pain is not itself a cause for alarm, and conservative treatment (which may take 6–8 weeks) should be effective.	0	2.5	1	2
Urinary Tract Infection	Upper urinary tract infection in otherwise healthy women can be treated with oral antibiotics for 7-10 days, with an early review.	1	1	0.5	0.5
	Women who are systemically unwell should be admitted to hospital.	0	4.5	1	5
Snoring	Possible medical interventions—Treat any nasal congestion with decongestant and steroid nasal sprays.	1	1	0.5	1
	If this proves unhelpful consider getting an opinion from an ear, nose, and throat specialist.	1	2	0.5	1
Drooling Child	Offer reassurance to the parents of otherwise healthy children under 6 years old. • Explain to parents that drooling will probably resolve spontaneously when the child becomes more socially aware. • Advise parents to encourage children to wipe their mouths, swallow with their mouths closed, and obtain the upright head position. Such measures often resolve the problem.	1	1.5	0.5	4

	In children who do not respond to head posture adjustments and oral motor skills training, who are over 6 years old and otherwise healthy, consider drug treatment: • Anticholinergic agents (hyoscine hydrobromide patches, oral glycopyrronium bromide, and trihexyphenidyl) are used "off license" for the control of drooling, although their use is widespread.	1	2.5	0.5	2
Carpal Tunnel Syndrome	If for non-surgical options, consider corticosteroid injections into the carpal tunnel.	0.5	1	0.5	1
	Offer referral for a surgical opinion if there are any of the following: • Severe or constant symptoms • Severe sensory disturbance and/or thenar motor weakness • Progressive motor or sensory deficit • No improvement within three months of conservative treatment	0.5	2	0.5	1

Table S4: Tasks which are not required for all patients which address mutually exclusive conditions, for example separate tasks for those above or under a certain age or presence/absence of red flag symptoms, along with the timing attributed by each GP.

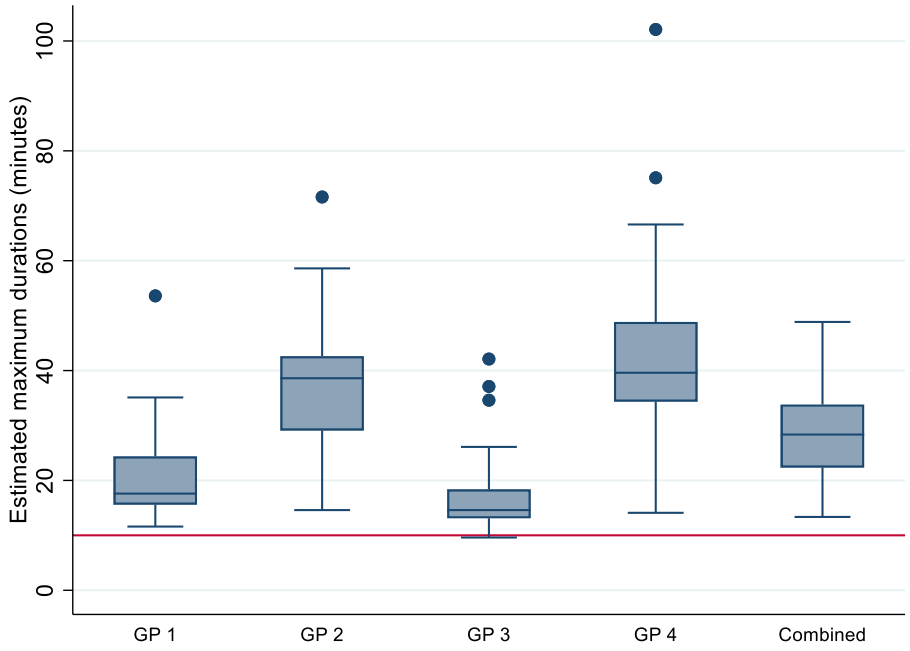

Figure S1: Participating GPs' estimates of maximum estimated consultation lengths required for *10 minute consultation* articles for the 44 articles examined**.** Combined is the median of all four GP estimates. Median (IQR) maximum estimated consultation lengths are GP 1: 17.6 (15.6, 24.4), GP 2: 38.6 (29.1, 42.6), GP 3: 14.6 (13.1, 18.4), GP 4: 39.6 (34.4, 48.9), combined: 28.4 (22.4, 33.8)

Sensitivity analysis

The study protocol stipulated inclusion of articles beginning in 2002. Since the series began only shortly before this, in 2000, it was decided to include articles from the publication of the first *10 minute consultations* article. In addition the protocol stated that the following additional timings would be used, which were the mean times recorded from observing 61 GPs (*Sinnott C et al. Identifying how GPs spend their time and the obstacles they face: a mixed-methods study. Br J Gen Pract 2022;72(715):e148-e60) :*

- Preparing to see patients 1 minute 17 seconds
- Calling in patients 44 seconds
- Documentation in electronic health record 1 minute 40 seconds

Subsequently median timings became available and these were used instead.

The following sensitivity analysis reports the findings as per original protocol - excluding articles published in 2000 and 2001 and with addition of 3 minutes 41 seconds (mean of observations in Sinnott) rather than 2 minutes 38 seconds (median of observations in Sinnott).

Period	Number of tasks required for all patients (IQR)	Median minimum estimated consultation length (IQR)	Median number of tasks, including those for selected patients only (IQR)	Median maximum estimated consultation length (IQR)
2002-2022	10 (8, 12)	17.2 (14.0, 21.7)	17 (14, 22)	29.5 (23.5, 34.9)
2002-2006	8 (6, 12)	18.6 (13.2, 19.2)	16 (15, 20)	28.8 (24.0, 35.7)
2007-2011	10 (5, 11)	16.3 (14.5, 23.0)	16 (10, 20)	27.3 (22.0, 32.2)
2012-2016	14 (9, 18)	19.6 (16.4, 23.0)	23 (17, 28)	32.5 (29.5, 34.9)
2017-2022	9 (8, 12)	16.0 (13.0, 17.5)	15 (14, 26)	26.5 (22.7, 35.5)

Table S5: Median number of tasks excluding three articles published in 2000 and 2001, categorised according to whether they apply to all patients (median minimum estimated consultation length) or also included tasks relating to specific groups of patients (median maximum estimated consultation length)

	Change per year/period for minimum estimated consultation length (95% confidence intervals)	Change per year/period for maximum estimated consultation length (95% confidence intervals)
Annual	-0.11 (-0.52, 0.29)	-0.01 (-0.44, 0.43)
Publication year category		
2002-2006	Baseline	Baseline
2007-2011	-1.6 (-8.4, 5.2)	-3.7 (-11.0, 3.6)
2012-2016	1.6 (-5.2, 8.4)	2.1 (-5.1, 9.4)
2017-2022	-4.2 (-10.8, 2.5)	-2.3 (-9.4, 4.8)

Table S6: Results from linear regression models of change in estimated consultation lengths both annual change and compared by grouping into categories, excluding articles published in 2000 and 2001

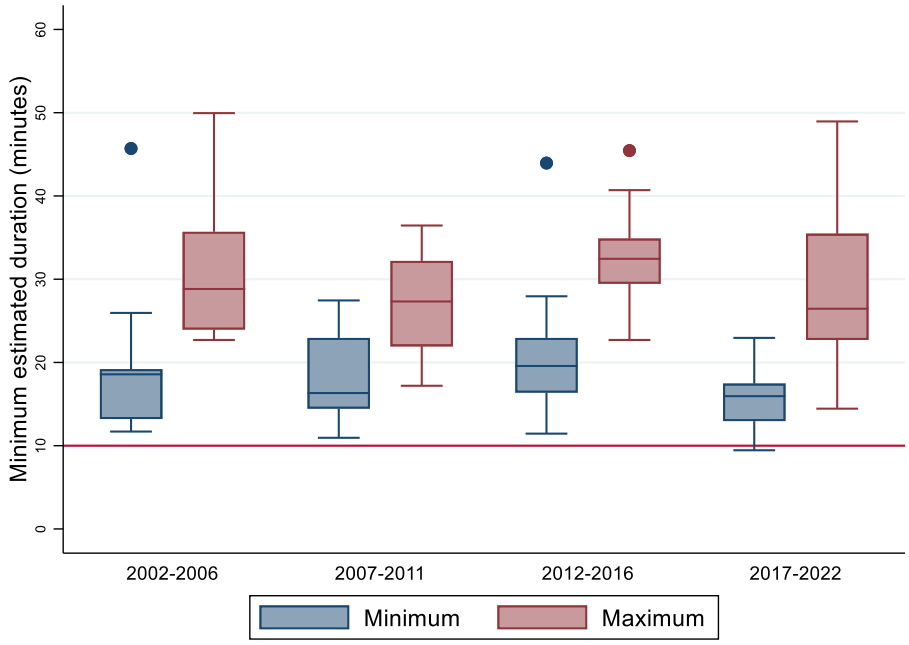

Figure S2: Boxplot of minimum and maximum estimated consultation lengths (minutes) for 10 minute consultations by year of publication category 2002 – 2022, including 3 minutes 41 seconds for standard tasks (calling in patients etc)

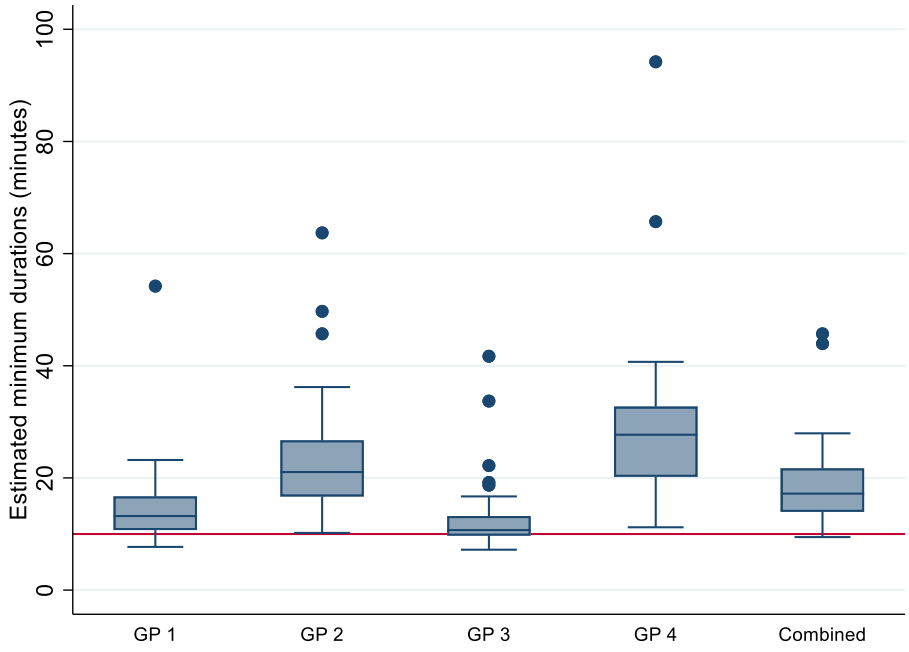

Figure S3: Participating GPs' estimates of minimum durations required for *10 minute consultation* articles. Combined is the median of all four GP estimates. Incudes 3 mins 41 secs for standard tasks (calling in patients etc). Median (IQR) minimum durations are GP 1: 13.2 (10.7, 16.7), GP 2: 21.1 (16.7, 26.7), GP 3: 10.7 (9.7, 13.2), GP 4: 27.7 (20.2, 32.7), combined: 17.2 (14.0, 21.7)

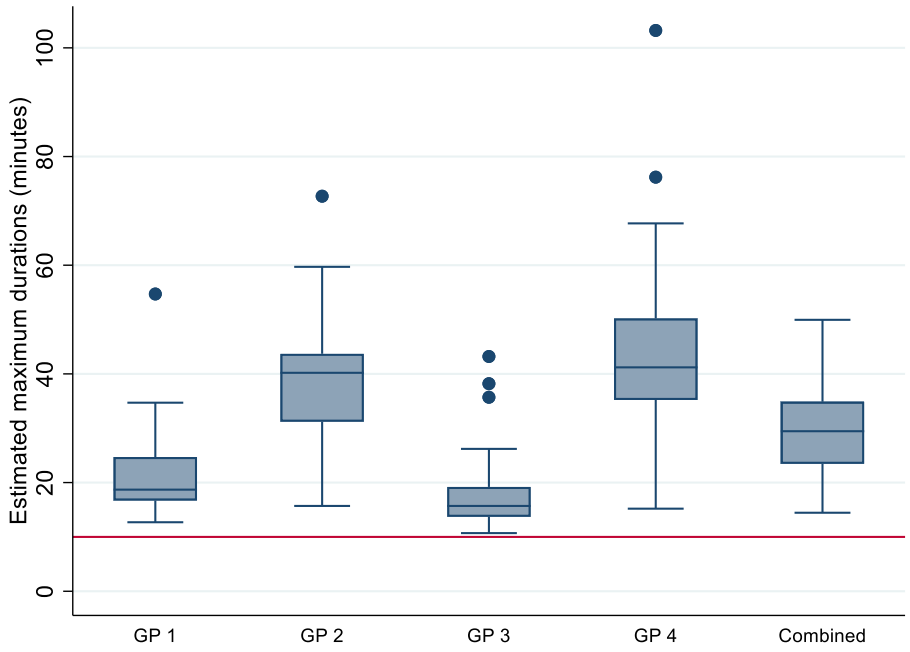

Figure S4: Participating GPs' estimates of maximum durations required for *10 minute consultation* articles. Combined is the median of all four GP estimates. Incudes 3 mins 41 secs for standard tasks (calling in patients etc).Median (IQR) maximum durations are GP 1: 18.7 (16.7, 24.7), GP 2: 40.2 (31.2, 43.7), GP 3: 15.7 (13.7, 19.2), GP 4: 41.2 (35.2, 50.2), combined 29.5 (23.5, 34.9).