Does inflation threaten the NHS (and what can policymakers do about it)?

I. Introduction

Inflation in the UK has soared to a rate not seen in four decades, with growth in the consumer price index (CPI), which captures price changes across a standard basket of household goods and services, reaching a peak of 11.1% between October 2021 and October 2022 and remaining above historical averages.[1] As a major employer and purchaser of goods and services, the NHS is inevitably exposed to macroeconomic conditions, including price changes. Health chiefs have reacted to the combined effects of increasing health needs and rising prices by arguing that NHS spending levels are inadequate.[2] The first half of 2023 has seen a series of NHS strikes and greater demand for services due in part to an influenza and COVID-19 'twindemic'.[3,4,5] In February 2023, 7.2 million people were on waiting lists for NHS consultant appointments, twice the number that was waiting for care in 2015.[6] Meanwhile, internal estimates suggest inflation alone may cost the NHS £6-7bn over 2023/24,[7] equivalent to approximately 4% of the £160bn NHS England budget,[8] due to expected increases in prices for labour and goods. Some would argue that the NHS cannot afford to pay higher prices and still provide access to quality services on its current budget.[9,10]

To be sure, other countries are also facing similar difficulties in the wake of the Covid-19 pandemic.[11] The Westminister government believes that by committing an additional £3.3bn in 2023/24 and 2024/25, the NHS in England will be able to address inflationary pressures and still deliver both improved primary care and emergency services.[12] As a country already committing 9.9% of its GDP to government-financed health care, 2nd only to Germany in Europe, the government can argue that sufficient resources are available to continue delivering care, even in the context of high inflation.[13] Some might also argue that the NHS suffers from widespread inefficiencies, such as providing inappropriate or unnecessary services, and that there is potential to reduce this wasteful expenditure and use those savings to cover the cost of paying higher prices.[14]

Here we examine these competing views and ask whether the NHS, given current budgetary expectations, will be able to deliver the volume and quality of care demanded by constitutents in an inflationary environment, or whether major changes to funding levels are necessary to meet care needs.

II Understanding how inflation affects the NHS

The NHS depends on inputs ranging from energy needed to power lighting and machinery, to skilled labour needed to coordinate and deliver complex surgery. To obtain these inputs, it either accepts market prices or, where it can do so, uses its purchasing power or other mechanisms to lower them.

Crucially, the headline inflation figure conceals important variations in the prices of these inputs. By March 2022, prices for electricity and gas were already 28.7% and 71.5% higher than the previous year, respectively.[15,16] The costs of producing other inputs dependent on intensive energy use, such as building materials, chemicals and pharmaceuticals have also risen along with energy prices.

Inflation has also increased cost burdens on households which, in turn, creates demand for higher wages in all sectors, including health.[1] By November 2022, annual pay growth in the private sector overall rose to 7.2%, the highest on record outside the pandemic, putting pressure on the NHS to follow suit.[17]

Given that staff wages account for 65% of the NHS operational budget, even small increases in pay would have profound consequences for expenditures.[18]

In addition to putting pressure on the aforementioned input prices, there are other indirect effects. Many Private Finance Initiative schemes are structured so that Trusts, rather than the companies that took the loans, bear the risk of the increased interest rates used to curb inflation.[19] Inflation may also adversely impact population health as people struggle with the costs of food and energy, thereby increasing demand for health services. [20]

III. The government and the NHS have been able to keep most health prices artificially low (so far)

While NHS providers have been unable to avoid energy price increases, they have been able to limit exposure to price growth in other areas, including for both labour and commodities.

With its dominant role in the market for health workers, the NHS has been able to suppress pay growth below the CPI inflation rate for over a decade.[21] In England, ministers have set the parameters for the notionally independent NHS Pay Review Boards and, if they wish, override them to keep NHS salary increases low.[22] These arrangements shield the NHS from case-by-case pay negotiations in the open market, which could drive up salary costs in response to inflation, as is the case in the private sector.[23]

Additionally, the NHS, given its size in the market for health care products can exert substantial downward pressure on the prices it pays for health care commodities. This has been most apparent with medicines, where it has engaged in confidential agreements that are thought to have saved billions.[24] Indeed, since 2019, many suppliers have voluntarily committed to a scheme capping growth in NHS branded medicine spending to 2% in order to obtain market access to the NHS.[25] Similar voluntary mechanisms have been in place for some time. In combination, these mechanisms, alongside shifts to generic medicines, the prices paid for which also being informed by NHS negotiation, enabled a fall in net pharmaceutical ingredient costs across most British National Formulary drug groups between 2006-2016.[26]

Increasingly, the NHS has attempted to extend the application of its purchasing power to wider commodity inputs using the NHS Supply Chain to increase bulk purchasing,[27] but here the NHS typically has less purchasing power due to its smaller market share. Although, for some services such as health IT and electronic patient record systems, the NHS's large market share may allow for some price control.

Overall, owing to the way most prices are determined in the NHS, economy-wide price inflation does not automatically translate into higher prices for the majority of health care inputs. The NHS is therefore, in principle, well-insulated from short-term price fluctuations.

IV. Consequences of a long-term divergence between economy-wide prices and prices paid for health care inputs

There has been substantial divergence between growth in prices paid by the NHS and growth in broader consumer prices for at least a decade. As an example, Figure 1 compares changes in consumer prices with mean basic pay for all NHS staff per full-time equivalent, as well as with earnings across the public and private sectors indexed as if all four were equivalent in 2011. NHS basic pay has consistently grown more slowly than consumer prices, as well as more slowly than earnings growth in the public and private sectors overall.

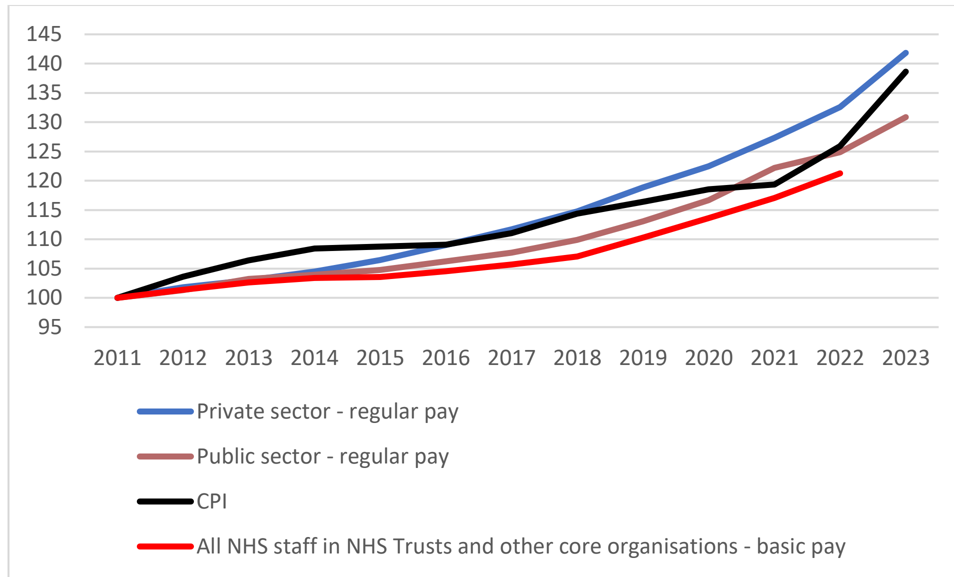

Figure 1. The gap between consumer prices (CPI) and NHS basic pay has grown since 2011

Source: Author's calculations based on data from the Office for National Statistics[28 29] and NHS Digital[30]

Economic theory posits that suppliers will provide goods or services so long as the price they receive is in excess of their marginal cost of production. Put simply, if costs faced by suppliers increase more quickly than the prices paid by the NHS, we would expect a reduced supply of said inputs.

Indeed, we observe that staff are leaving the NHS in record numbers; over 40,000 nurses left the NHS in the year to June 2022.[31] We would expect this to increase further given the overload of those remaining, poor working conditions, and burnout.[32] In 2022, fewer than half (42.1%) of NHS staff felt their work was valued by their employer and only 25.6% were satisfied with their level of pay.[33] The extent of dissatisfaction is evidenced by the scale of strike action and the ongoing failure to fill vacancies, with over one in ten nursing roles unfilled.[34] As well as creating care gaps, declining staff numbers drive up costs, with many hospitals paying high locum fees to cover shifts. [35] Some pharmaceutical companies have also withdrawn from voluntary NHS pricing agreements in 2023.[36] Although mandatory schemes will remain, it does threaten price control mechanisms and pharmaceutical supply, with one large company choosing to reduce its UK footprint due to cost control schemes at a time of high inflation.[37]

For these reasons, we believe that prices paid by the NHS for its inputs – particularly labour and commodities -- will need to grow more rapidly than they have in recent years to catch up with prices in the rest of the economy.

V. Efficiency gains can provide only marginal respite from the pressures of high inflation

If the prices paid by the NHS are to more closely keep pace with those in the rest of the economy, the question arises as to where the resources will come from. Additional funding – beyond the level in the 2022 Autumn Statement – would require difficult trade-offs. Money can only come from spending cuts

in other sectors, tax rises, or borrowing at high interest rates. None of these is attractive to the government, leaving the NHS to make do with its current budget.

All health systems have inefficiencies and some argue that one solution would be for the NHS to redirect poorly utilized resources to cover the costs of higher input prices. There have been substantial gains in NHS productivity in recent years, increasing by 16.7% between 2004/5 and 2016/17, but some estimates suggest productivity has declined more recently, which may mean there is scope for using productivity gains to pay for price increases.[38 39]

Yet this logic is severely flawed. Productivity considers the level or mix of output per input; productivity gains imply either more or better output using the same or fewer inputs (e.g. providing more visits without increasing the budget), or using fewer inputs to produce more or the same level or mix of outputs (e.g. reducing the unit cost of each visit).[40]

It is only the second of these that offers scope to generate any savings, and indeed, there are a number of preconditions for such savings to result in additional budgetary space[41]. However the NHS needs to increase both the price *and,* particularly in the case of labour, the volume of its inputs to address backlogs and meet societal expectations. An increase in both the price and volume of inputs necessitates a higher level of expenditure, as expenditure equals the sum of the price x volume of inputs, regardless of whether that expenditure produces more output per input, or not.

Importantly, in many respects, the NHS is already highly efficient, with administrative costs amongst the lowest in the OECD[13]. Indeed, accounts from the frontline indicate that a lack of inputs is now undermining efficiency and limiting the volume of care that can be delivered, exemplified by the fact only 17% of midwives are able to meet all of the conflicting demands on their time.[32] These problems are exacerbated by the unreliability of obsolete or poorly maintained equipment and the very high costs of locum or agency staff. [35] Put simply, if staff and equipment are already working at almost full capacity, it is impossible to reduce the volume of inputs whilst ensuring complex packages of care can be assembled at the right time in the right place.[42]

VI. The NHS requires more funding to raise prices and manage inflationary pressures

Basic economic theory tells us that the prices paid by the NHS will need to align more closely with price increases in the rest of the economy if it is to retain health workers and obtain goods. Although the NHS has strong mechanisms to control prices and limit the impact of inflation, we argue that, in the face of current inflation rates, overutilizing these mechanisms will hinder the NHS' ability to preserve care volumes and quality. Ministers need to make an important decision on whether they will inject funding on the scale that the NHS needs or allow inflation to further erode the health service.

The current inflationary crisis makes this decision urgent. NHS performance is already driving flight to the private sector. The proportion of UK spending on out-of-pocket and voluntary insurance is now approximately four times what is was four decades ago, the fastest rise in the G7, [43] with private spending on health care amounting to £1 out of every £50 of GDP—high for a system that claims to provide universal free health coverage.[44] In the short-term, realistic pay deals are essential to to stem the exodus of staff, as is a major programme of building and equipment maintenance, despite higher building costs. There is widespread agreement, but little action, on the need for rapid investment in

social care to support the release of the approximately 13,000 NHS beds occupied by those medically ready to be discharged. [45]

While extreme inflationary pressures may soon be easing, price growth is likely to remain high going forward in comparison to recent decades.[46] A one-off cash injection may help ease the current crisis, but it will not be enough to sustain the compound effects of high year-on-year price inflation. Continued suppression of wage growth will exacerbate the workforce crisis while failure to invest in capital will contribute to inefficiency and restrict access to new medical technologies. There are also areas in which there is no scope to control cost increases, such as energy, and these costs will need to be covered by the budget.

For the NHS to weather the current crisis, it must pay realistic prices for the goods and services it needs. Our estimates based on Figure 1 suggest, for example, that NHS pay rates would need to increase by around 15% in 2023 in order to bring health worker salaries in line with the purchasing power NHS staff enjoyed in 2011. If the NHS is to avoid further reduction in the volume and quality of care it has only one viable option: a profound and sustained investment and transformation to build up a system that is fit for purpose, and that can restore the trust that has been lost in the last decade.[42] This will require not only higher spending *levels* today, but also higher year-on-year *growth* in spending that more closely reflects what is happening in the wider economy.

Key messages

The NHS has a range of mechanisms that enable it to keep the prices it pays for inputs – particularly labour and commodities – below market rates.

High inflation is rendering these mechanisms unviable in the short-term, and raises questions over their viability long-term.

To survive the inflationary crisis, the NHS needs to raise the prices it pays for inputs to be more closely aligned with those in the rest of the economy.

This will require greater funding and higher annual growth rates for NHS budgets.

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Competing Interest

MM is President of the BMA but writes in a personal capacity.

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