population matters
for a sustainable future

Public services in the UK

For many years, the UK has guaranteed quality education and healthcare, predominantly free of charge, for all its residents. Population growth has put a big strain on these two major public services. Schools cannot keep up with pupil numbers, and so face difficulties when recruiting teachers. The National Health Service (NHS) faces an increasingly large funding gap and, due to this growing demand, has been forced to increase its waiting times.

In this briefing the challenges faced by both public services, and the consequences this has for society, will be explored. It will be argued that, although technology and healthier lifestyle choices have the capacity to improve the situation, they cannot do so indefinitely. Only population stabilisation will allow people to fully enjoy all aspects of public services in the future. Consequently, the government should include the promotion of such policies in its agenda.
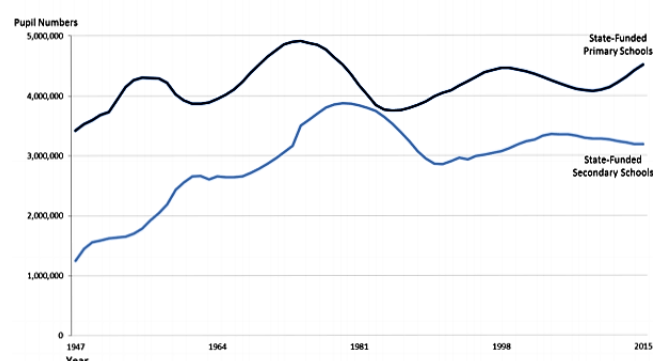
Education

A shortfall of 63,000 primary school places was predicted across the UK in 2014.[1] Moreover, approximately 100,000 students missed out on their first choice of secondary school in March 2016.[2] In some areas half of all students did not get allocated to their first choice of school, and around 1,000 students did not get a place in any of the six options they had listed.[3] These figures illustrate two worrying trends in the UK:

1. There is a difficulty in allocating all pupils to a school of their preference. Furthermore, siblings are increasingly being forced to attend different schools due to a lack of places.[4]

2. School councils face a serious challenge in creating enough places for all pupils. Hounslow, a borough in West London, received 5,151 allocation requests for only 2,907 available places.[5] Unfortunately, Hounslow is only one of many local authorities that are experiencing such a shortfall.

Pupil numbers through the years

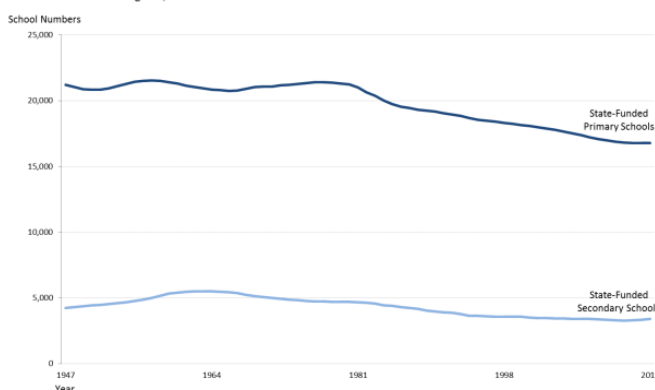
Pupil Numbers in England, 1947-2015

Graph: Department of Education

The graph above shows that the total number of pupils enrolled in state-funded primary and secondary education in England increased strongly between 1947 and 2015. The number of

pupils grew from approximately 4.7 million in 1947 to 8.4 million in 2015.[6] The growth curve has fluctuated over time. Education laws and population growth have had the biggest impact on pupil number increase. In 1947 the minimum school leaving age was raised to 15, and from 1972 onwards children have had to attend school until the age of 16.[7] This adjustment naturally caused pupil numbers to increase overall. At the same time, however, Britain faced great natural population growth: the baby boom generation was comparatively large.[8]

Following a period of decline, England has seen its pupil numbers grow consistently since 2010. Between 2014 and 2015 an additional 107,000 pupils were added to the overall pupil numbers, an increase of approximately one per cent.[9] The biggest increase, for now, is among primary school pupils. Consequently, it is reasonable to expect that the relatively flat growth rate of 0.1 per cent that is currently visible in the secondary education graph, will increase rapidly in a few years' time.[10]

Number of Schools in England, 1947-2015

Graph: Department of Education

While the number of pupils has increased, the number of schools has decreased. Thirty schools closed between 2014 and 2015.[11] The number of large schools has, however, increased over time. Similarly, the average class size is growing after a

century in which the ratio of pupils to teachers fell almost continuously. Currently, around 100,800 infant pupils are taught in classes of more than 30 children — an increase in class size of approximately 40 per cent since 2013.[12]

It was predicted in 2013 that the UK will on average see its school population increase by eight per cent by 2016 – 17, while London faces a growth rate of 17 per cent.[13] A recent baby boom and inward migration are causing this increase.[14]

Consequences of rising pupil numbers

The sharp increase in pupil numbers poses great challenges for the UK. Resolving these challenges is costly, but the UK will face more costs over the long term if the government fails to solve them.

Direct costs

- Building new schools is very expensive. London boroughs had £576 million to spend on building projects between 2013 and 2015, but they still faced a shortfall of £1.04 billion if they were to guarantee each pupil in London a permanent school place in 2015 – 16.[15]

- Britain faces a teacher recruitment crisis. In 2015, 42,050 teachers left their jobs, and it has been particularly difficult to retain

mathematics and science teachers.[16, 17] While the teaching workforce grew by 1.3 per cent, pupil numbers grew faster.[18] Too few teachers means that schools might have to exceed the legal limit of 30 children per class.[19] It might also mean that schools have to send pupils home due to a lack of staff, as happened in 2001 – 02.[20] Additionally, it is probable that subjects will be taught by teachers without the necessary qualifications. In 2014, 28 per cent of physics classes were taught by unqualified teachers, as compared to 21 per cent in 2010.[21] To minimize problems, schools often turn to supply agencies. This cost England £733 million in 2014.[22] It is, moreover, estimated that some schools have to pay up to £10,000 to fill one vacancy.[23]

- Schools are forced to cut spending in areas including essential school maintenance and teaching materials.[24] While pupil numbers keep growing, spending per pupil is predicted to reduce by eight per cent between 2015 and 2020.[25] Consequently, schools have had to cancel school trips, scrap courses from their curriculum and increasingly rely on photocopies rather than books.[26]

Indirect costs

- While studies are inconclusive, it has been suggested that bigger class sizes have a negative impact on lower-attaining pupils.[27] Primary school pupils, especially those with less-educated parents, taught in classes with 20 or fewer peers generally perform better than pupils in larger classes.[28] Class size matters less for older children, but good results in early life increase the likelihood of good graduation results.[29] Teachers who have to teach in large classes are also more likely to burn out and leave the education system.[30] Consequently, bigger classes will affect society adversely over the long term.

- Increasing numbers of children in the UK are growing up in poverty. As a result, hunger in the classroom is a common phenomenon. Around one in seven children are going to school hungry. It has been estimated that up to 38 per cent of all children eligible for free school meals do not receive them.[31] Hunger in the classroom burdens teachers, too, because they have to deal with the effect this has on children. Hungry pupils cannot concentrate well, and are more likely to show bad behaviour. Hunger prevents them from reaching their full potential.[32]

- Schools do not have sufficient funds to support children from poor families. As a result, around 40 per cent of all pupils do not have all the required school books and equipment, 30 per cent do not have a full school uniform, and 85 per cent have missed at least one school trip. Around 35 per cent of children cannot afford to take subjects which would require extra materials, including art and technology subjects. Finally, 50 per cent of all children

cannot afford to participate in extracurricular activities.[33] All of these barriers affect the overall performance of each student.

- By law, local authorities are obliged to provide a school place to each child within two miles from their home, but the law does not state that those locations need to be easily accessible for parents.[34] As a result, many parents see the school run as the most stressful part of their day.[35] School runs are becoming increasingly time-consuming, limiting the hours parents can work effectively.[36]

Healthcare

Population growth and longevity, resulting from improved medical knowledge, are placing an increasing strain on the NHS.[37] Hospitals are so full that patients are being discharged in the middle of the night when beds are required for other purposes.[38]
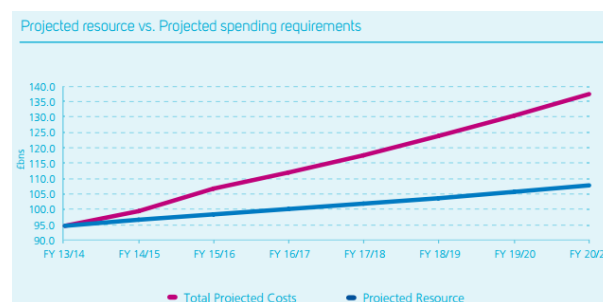
Moreover, hospital overcrowding can lead to an increased likelihood of tragic events. At the Mid Staffordshire NHS Foundation Trust, as many as 1,200 patients may have died unnecessarily due to poor care between 2005 and 2009.[39] Nationally, in 2015, up to 500 patients died

because they could not be helped sufficiently due to overcrowded hospitals.[40] Of these 500 patients, 350 experienced a delay in diagnosis or treatment and 150 could not be offered a bed even though their condition required admittance.[41]

Healthcare through the years

Since its foundation in 1948, the NHS has guaranteed equal healthcare to all residents in the UK. Financed with tax money, it provides the majority of healthcare services free of charge.[42] Throughout the years, the NHS has changed in many ways, but its foundational premise – that healthcare should be equally accessible for all – remained unchanged.

In recent years, NHS expenditure has increased rapidly: in 2003 – 04 it spent £64 billion, but by 2014 – 15 this had almost doubled to £113 billion.[43] This increase is not solely caused by population growth: health expenses per capita have also increased. Whereas the NHS spent, on average, £1,841 per person in 2009 – 10, this rose to £1,994 in 2013 – 14.[44]

Graph: NHS — projected resource vs. projected costs

The share of the gross domestic product (GDP) spent on the NHS grew from approximately three per cent in the 1950s to around eight per cent in 2009.[45] It is predicted that government decisions will cause this share to decline, even though it has been suggested that the NHS may have to start

charging for more services if spending is not increased.[46] It has been estimated that the NHS could face a funding gap of £30 billion by 2021. Productivity improvements could, however, reduce this deficit to £22 billion.[47] To overcome the gap entirely and maintain its service level, the NHS would need at least an additional £8 billion of funding per year.[48]

Consequences of the strain on healthcare

- The NHS has already been able to save £11 billion by making budgetary cuts that were easy to justify: it has frozen staff salaries, reduced management costs and decreased the fees hospitals are paid to carry out treatments.[49] This means that it can now only cut out things that patients care about, such as sufficient staff and good service. Such measures would change the image of the NHS severely and have an adverse effect on the experience of patients receiving healthcare.[50]

- In the past, when money has been cut, the NHS has also been forced to do less. This has meant that waiting times grew significantly and that the quality of service slipped. Pressure from the media and the public has led to such choices no longer being deemed acceptable. As a result, the NHS has often

chosen to run out of money rather than to be criticized for a care scandal.[51] In spite of this, waiting lists have increased. In the first half of 2014 approximately 10,000 patients had to wait over two months for specialist treatment for cancer — an increase of 27 per cent compared to a year earlier.[52]

- The NHS might have to charge for more services, challenging its founding principle of making good healthcare accessible to all regardless of income.[53] While such a change might save the UK some money, it could also mean that people wait longer to seek help, which may in the end inflict greater costs onto society.[54]

- General practitioners (GPs), who are seen as the gatekeepers of the NHS, argue that they have an almost impossible daily workload to contend with.[55] It is not uncommon for a GP to see around 45 patients per day and to work until deep in the night to process all necessary letters and test results, while also performing home visits.[56] As a result, many GPs leave their jobs, emigrate, or retire early. Consequently, the NHS is facing an acute shortage of GPs — it needs to recruit approximately 20,000 new GPs by 2020.[57]

- Pharmacies have helped to reduce the pressure placed on GPs. This collaboration has not affected the quality of healthcare and is liked by both pharmacists and GPs. It is also much cheaper, with treatment from a pharmacist costing on average £29 per patient per year, while treatment from a GP would cost £82.[58] In spite of these positive results, the Government has announced plans to cut funding for pharmacies in 2016.[59]

Future possibilities

The existing strains on two major public services in the UK — education and healthcare — present the Government with a major challenge. To tackle this challenge successfully, it should pay attention to technology, healthy lifestyle and population stabilisation.

Technology

Increasing the use of technological advancements in the education and healthcare sectors can reduce the pressure on employees. At the same time, technology could create greater efficiency and save resources in the long term.

Education

Technological advancements could aid teachers and possibly replace a part of their job, including administration and some homework correction tasks. This would enable teachers to spend more time planning the curriculum and assisting those children in need of extra help and care.

Technological innovations might also reduce the need for schools to replace educational material frequently to keep up to date. Traditional books might be replaced with e-readers, for example, which would not only bring down school material costs, but also save a lot of trees.

Healthcare

The development of improved medication and vaccines would allow humans to live longer and healthier lives. Most health costs occur in the last years of people's lives. Improved treatments would mean that the NHS would suffer less from the extra healthcare demands created by increased longevity.[60]

Robots could also be employed to relieve the strain on the NHS:

- Advanced robots could assist medics during operations and medical check-ups. This would not only increase efficiency and speed, but also reduce the number of medical errors and relieve the pressure on healthcare personnel.[61]

- Robots could carry out mundane tasks in hospitals, allowing staff to spend more time on the social aspects of their jobs.[62]

- Robots could also assist the elderly in their homes, which would allow them to live independently for longer. Japan and Germany are currently experimenting with such robots. So far, most elderly people are happy to let robots carry out impersonal mundane tasks.[63]

Healthy lifestyles

Education

Ensuring that children never go to school on an empty stomach would improve their academic

results. To achieve this, the Government should raise awareness and promote initiatives that show that healthy eating does not have to be expensive.

Blogs such as *A girl called Jack,* written by a single mother who cooks bargain meals for herself and her son, show ways of preparing healthy meals that could cost as little as 10p per serving.[64] While this will not eliminate hunger completely, it has the potential of reducing it significantly. It has the added benefit that healthy eating will also improve the general health of the population.

Healthcare

A bigger focus on the prevention of unhealthy lifestyle choices would decrease the number of patients suffering from non-communicable diseases such as obesity and diabetes.[65] In 2014, obesity-related costs were a greater burden on the UK economy than war and terror.[66] Moreover, a 20 per cent reduction in the obesity rate could save the UK up to £16 billion a year.[67]

Population stabilisation

Even though technology and lifestyle changes can improve the situation, they cannot do so indefinitely without compromising quality. Robots have the capacity to replace humans in many tasks, but they cannot fulfil the more socially complex demands of public service jobs. At the same time, teaching may be made more efficient with the help of improved equipment, but it cannot replace school trips and teacher attention.

Only when population size is stabilised, can people be confident of enjoying public services in the future without seeing their quality go down. Consequently, the government must promote population stabilisation policies.

Conclusion

Public services in the UK — most notably education and healthcare — are confronted with a higher demand than ever before. They struggle to keep up with population growth rates, and face financial shortages. As a result, it has been difficult to uphold their quality standards.

While technological improvements and better lifestyle choices can improve the situation significantly, they cannot do so indefinitely. Ultimately, population size needs to stabilise, so that citizens do not have to accept lower standards. Consequently, the Government must promote policies that aim at population stabilisation.

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