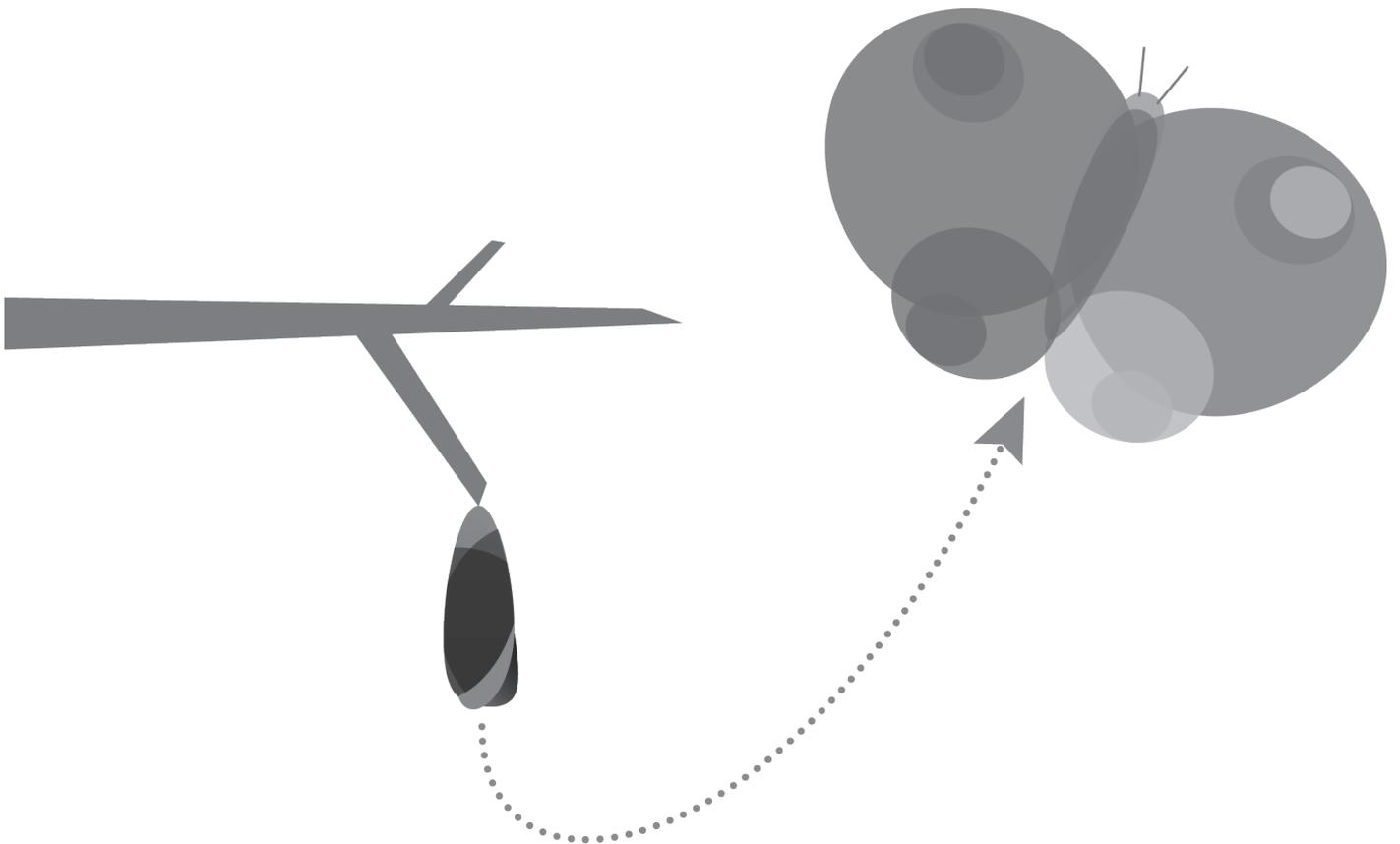


Making change possible: a Transformation Fund for the NHS

Appendix 2: Estimating the size of the Transformation Fund



The appendix was produced as part of the work by the Health Foundation and The King's Fund on the report *Making change possible: a Transformation Fund for the NHS*.



For more details, see www.health.org.uk/makingchangepossible and www.kingsfund.org.uk/makingchangepossible

Estimating the size of the Transformation Fund

The King's Fund and the Health Foundation both support the concept of a Transformation Fund for the NHS in England. The two organisations came together to undertake a programme of work detailing the key aspects of such a fund.

This appendix to the report explains the methodology used to estimate the size of the Transformation Fund needed for the initial three strands.

Introduction

This appendix explains how we produced the scenarios used to provide estimates for the potential costs for the initial three strands of a Transformation Fund for the NHS in England. In the longer term, we hope that the Transformation Fund will become a fundamental part of the health service and its funding system, and other strands will arise in the future. While the investments in future strands would need to cover the same components that we discuss in this appendix, we have not speculated on them here.

It is important to be clear upfront that we are unable to offer a definitive answer about the true amount of funding that will be required, due to the complexity involved. Instead we have explored a series of scenarios, based on sensible assumptions, to help inform discussion around what investment should be made available for the Transformation Fund. Obviously, any changes to the assumptions would change the size of the fund required. Unless otherwise stated, all monetary values in this appendix are in 2015/16 prices, using the March 2015 deflator.¹

As outlined in the full report (and summarised in figure 1 overleaf), we propose that the initial three strands for the Transformation Fund are split into two phases:

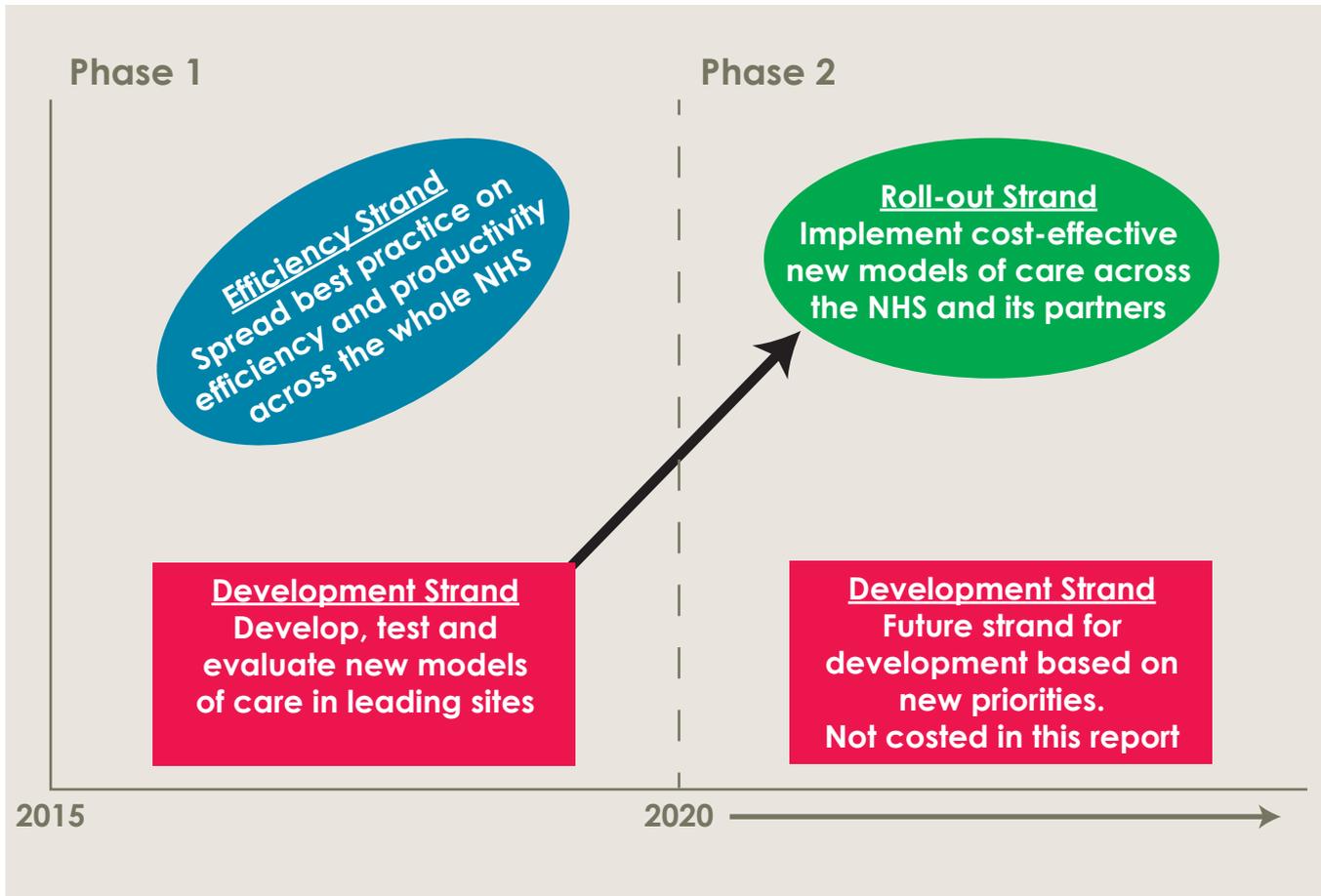
Phase 1 (2016/17–2020/21) – two strands:

- An **Efficiency Strand** – to support implementation of plans to achieve higher rates of efficiency growth across all services and organisations in the NHS, to ensure that current services are delivered cost-effectively.
- A **Development Strand** – to invest for a subset of the population in a range of new models of care that can test the optimal scale and nature of transformation required to redress the balance in how services are delivered to meet the needs of the future population.

Phase 2 (2021/22 and beyond) – one strand:

- A **Roll-out Strand** – to embed the innovative models of care that have been found to deliver the best value for money, in terms of improved quality, across the NHS and partner organisations. Phase 2 would also incorporate a continuation of the Development Strand for some sites.

Figure 1: An NHS Transformation Fund – phasing and strands



Gathering evidence

Fundamental to providing estimates for the size of the Transformation Fund was crowd sourcing the requirements for investment that are necessary to achieving successful transformation. Some of this information came from the six case studies described in appendix 1. In addition, we had a series of discussions with experts who have been involved in delivering both small and larger-scale change in the NHS. Short summaries of the organisations we met with are presented in ‘Examples of local transformative care’ at the end of this appendix.

Our key aims for these discussions were to:

- identify the essential components for successful implementation of change
- inform estimates for costing of these components
- provide information on the nature of changes, including required investment, likely outcomes, and timing to achieve outcomes.

The lessons from these experts have been invaluable for our final proposed design and costing of the Transformation Fund.

Essential components of transformative care

From our discussions with experts who have overseen transformative care, and messages from the case studies described in appendix 1, we identified four consistent components for delivering change successfully:

- **Staff time and support**, including:
 - training and coaching
 - team development
 - relationship building
 - cultural development
 - clinical pathway design and implementation
- **Physical infrastructure**, including:
 - data to support service delivery and evaluation
 - IT systems to help understand data
 - facilities
- **Programme infrastructure**, on a local and a national level, with expertise on:
 - change management
 - programme design
 - evaluation and learning
 - governance
 - contracting and pricing mechanisms
 - data analytics and informatics
 - public and patient engagement
- **Double-running of new services**, while still providing current services

The level of investment required for each of these components would depend on the scale and type of transformation. However, each component must be properly accounted for if the transformation is to be successful. We have therefore considered the costs of each to help provide estimates for the scale of investment for each Transformation Fund strand.

Staff time and support

The most vital, and often overlooked, component of successful transformation is proper investment in staff, through engagement, relationship building and training. It is clear from the various examples we looked at during this work that large financial investments will achieve little without proper staff involvement; equally, good staff engagement can achieve greater results for smaller financial input.

Building relationships, both within and across organisations, to integrate and transform care can take several years. Establishing trust and understanding each other's roles naturally takes time. Within organisations this process can be aided by the creation of multidisciplinary teams. Across organisations it becomes more challenging, but is not impossible.

For successful transformation it is essential that staff are given sufficient time away from their day jobs to undertake any necessary training and to develop an understanding of how their jobs will be affected by any changes. This time must be protected predominantly by backfilling the roles with temporary staff, to avoid competing priorities taking precedence. Crucially, staff must be able to return to their day jobs with the skills and time needed to work in the desired way.

Physical infrastructure

A good physical infrastructure, predominantly IT, that is accessible and easy to use is necessary for transforming care and enabling the sharing of key patient data. However, it has been cited as one of the most difficult things to develop. There are a number of reasons for this, including concerns around patient confidentiality, the difficulty of integrating different systems across organisations, and existing systems being outdated for current purposes.

Programme infrastructure

It is important to develop a solid programme infrastructure on which service transformation is based. This is likely to consist of both national and local functions, depending on the current objective for the Transformation Fund.

A well-defined change management process, alongside an ongoing evaluation process would help the Transformation Fund to run as smoothly as possible and enable learning throughout to inform its development. Expertise on governance (clinical and informational), contracting and pricing mechanisms, data management (analytics and informatics) and evaluation would also be needed. Throughout the entire process, engagement with the public and patients would be required to ensure that the Fund develops so that it meets their needs.

Double-running

Often the greatest upfront cost of delivering new models of care is double-running of services. Transformation in the NHS requires investment in a new service (or services) to replace or reduce the use of other services. It is unrealistic to assume that the investment will have an instant impact. Instead, the old service(s) must continue to be funded while the new service(s) are set up and embedded. To ensure that the maximum benefit of any transformation is achieved, it is vital that old services are properly closed as they are no longer needed, to minimise the extent of double-running costs.

Estimating costs for phase 1: Efficiency Strand

The key components for the Efficiency Strand are staff time, physical infrastructure and programme infrastructure. We have not included double-running costs, as the focus of this strand is on improving the way the current services are delivered, rather than redesigning or introducing new services.

Staff time and support

As a starting point we have assumed that all staff would need an average 2.5 days a year away from their jobs for training, relationship building, coaching, etc. We have not made any assumptions about the breakdown of this – some staff may need more time than this, and other staff less. This figure (2.5 days) is purely an average for the scenario, and therefore we have applied the average annual earnings of £31k a year.² This is roughly £136 per day, assuming that staff work approximately 230 days per year.

It is important that this extra time is truly protected time away from the job, so staff duties will need to be backfilled by temporary staff. We know from NHS providers' financial accounts data³ that agency staff cost the NHS an average of 30% more than permanent staff; therefore, we increased the average earning to reflect this.

There are currently 1.4m permanent staff in the NHS in England.⁴

Based on these assumptions, the total investment in staff time for this strand would be approximately £610m a year:

£136 per day * 1.3 for agency staff * 1.4m staff * 2.5 days ~ £610m a year*

Physical infrastructure

This would require a similar style of investment to that for the national programme for IT (NPfIT), but on a smaller scale. In 2013, the National Audit Office (NAO) estimated that £7.3bn was spent on NPfIT between 2002 and 2012, in 2004/05 prices (NAO 2013). This is worth £9.3bn in 2015/16 prices, or approximately £1bn a year.

Although investment in IT would be required for this strand, we have assumed that it would build upon the successful aspects of NPfIT, and so would not be as large. For these purposes we have included funding worth around one quarter of the average annual investment on NPfIT: £250m a year.

Programme infrastructure

While it is difficult to estimate the true scale of investment required for programme infrastructure, we have used a working assumption of £5 per head of the current population of England. This is worth £270m each year. The £5 per head figure is based on discussions held in the various workshops, although we acknowledge that this is lower than the funding per head provided in most of the major case studies (see appendix 1 for more details).

Therefore, in total, for the Efficiency Strand the three components would require investment of £1.1bn each year between 2016/17 and 2020/21 (see table 2).

* Figures rounded to ~610m

Table 2 – Investment for Efficiency Strand

Investment type	Average investment per year	Total
£5pp	£270m	£1.4bn
Staff development (2.5 days)	£610m	£3.1bn
IT (£4.5pp, ¼ of NPfIT)	£250m	£1.3bn
Total	£1.1bn	£5.7bn

Note: Numbers do not sum due to rounding.

Estimating costs for phase 1: Development Strand

For the Development Strand, we have applied similar assumptions regarding staff time, physical infrastructure and programme infrastructure components as for the Efficiency Strand. However, there are two key differences:

- Development of new services would be likely to require more staff time, so we have assumed five days a year rather than 2.5.
- The Development Strand would not apply to the whole NHS from the start; rather, the strand would occur in two waves, each covering around 10% of the population. The first wave should receive funding from 2016/17, and the second from 2017/18. The annual amounts for staff time, programme infrastructure and physical infrastructure have been reduced to reflect the smaller scale (ie, costs are 15% of those for the Efficiency Strand in 2016/17, rising to 30% from 2017/18 – see tables 3 and 4).

In addition to these costs, we have included double-running costs for this strand. The detailed work to estimate double-running costs was primarily carried out for phase 2, and we describe this in more detail in the next section. For the phase 1 Development Strand, we have applied the central scenario from the phase 2 double-running estimate to the two waves, reduced to 10% of the cost for each wave to reflect the population covered.

We have assumed that sites included in the first wave would already have well-developed plans for transformation of services, and so would begin investing in new services immediately. To reflect this, we have included double-running costs from the first year. However, for the second wave, beginning in 2017/18, it is likely that sites would need additional time for planning, and so we have not included double-running costs until 2018/19.

Table 3 – Investment for Development Strand – first wave of 10% of population

Investment type	2016/17	2017/18	2018/19	2019/20	2020/21
£5pp	£27m	£27m	£27m	£27m	£27m
Staff development (five days)	£123m	£123m	£123m	£123m	£123m
IT (¼ of NPfIT)	£25m	£25m	£25m	£25m	£25m
Investment subtotal	£175m	£175m	£175m	£175m	£175m
Double-running costs	£202m	£428m	£413m	£175m	-£53m
Total	£377m	£602m	£587m	£350m	£112m

Note: Some numbers do not sum due to rounding.

Table 4 – Investment for Development Strand – second wave of 10% of population

Investment type	2016/17	2017/18	2018/19	2019/20	2020/21
£5pp	£0	£27m	£27m	£27m	£27m
Staff development (five days)	£0	£123m	£123m	£123m	£123m
IT (¼ of NPfIT)	£0	£25m	£25m	£25m	£25m
Investment subtotal	£0	£175m	£175m	£175m	£175m
Double-running costs	£0	£0	£202m	£428m	£413m
Total	£0	£175m	£377m	£602m	£587m

Note: Some numbers do not sum due to rounding.

As outlined in the next section, the double-running costs assume that investment in out-of-hospital services rises annually, followed by a gradual decrease in hospital services. Therefore, the total cost changes over time.

Table 5 shows the total costs for phase 1 of the Transformation Fund, including both the Efficiency Strand and the Development Strand.

Table 5 – Annual costs of scenarios for phase 1

	2016/17	2017/18	2018/19	2019/20	2020/21
Efficiency Strand	£1.1bn	£1.1bn	£1.1bn	£1.1bn	£1.1bn
Development Strand	£0.4bn	£0.8bn	£1.0bn	£1.0bn	£0.7bn
Total phase 1 Transformation Fund	£1.5bn	£1.9bn	£2.1bn	£2.1bn	£1.8bn

Estimating costs for phase 2: Roll-out Strand

For the Roll-out Strand, we have assumed that the requirements for staff time, physical infrastructure and programme infrastructure would be similar to those for the Efficiency Strand. We have kept staff time at 2.5 days, as the aim would be to implement what has been shown to work, rather than testing what works. The evaluation results from the Development Strand would help inform the true level of investment required.

Table 6 – Investment assumptions for the Roll-out Strand

Investment type	Years	Average investment per year
£5pp	1 – 3	£215m
Staff development (2.5 days)	1 – 3	£490m
IT (¼ of NPfIT)	1 – 3	£200m
Total	1 – 3	£905m

Note: the values are lower for this table compared to table 2, because they are only applied for 80% of the English population. The remaining 20% is accounted for in the Development Strand.

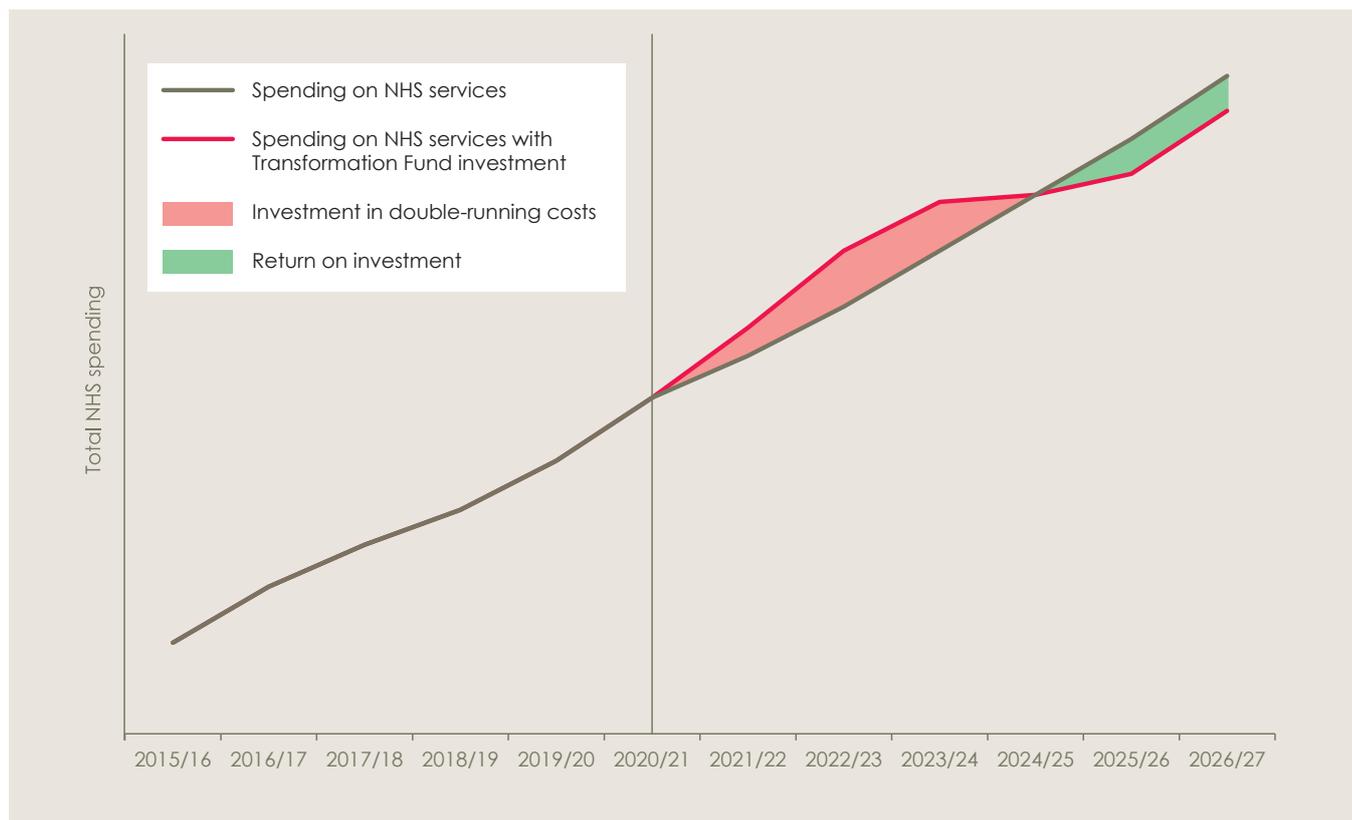
Double-running costs

On top of these, we anticipate that the Roll-out Strand would require substantial double-running costs. At this stage it is impossible to say with certainty the scale of investment that would be required. Instead, we have produced a series of scenarios, guided by our discussions with those who have introduced transformative changes (see ‘Examples of local transformative change’) and ongoing engagement with experts.

Our approach builds on the economic model that we use to create projections for total spending on different NHS service types.* This model combines separate trends for different NHS services to produce a bottom-up estimate for total NHS spending in England. The model uses trends in spending for admission to hospitals (both emergency and elective, with different assumptions on the lengths of stay), outpatients, A&E, GP visits, mental health contacts, community services and pharmaceuticals. By adjusting the assumed rate of growth in spending on these different services, we can create a range of estimates for the amount of investment required in new services (predominantly out-of-hospital services). We can also estimate the return on investment resulting from reduced use of other services (predominantly in-hospital services). The combination of investment and return on investment provides an estimate for the double-running costs, shown by the red area in figure 2.

* Initially developed by the Nuffield Trust (see Roberts A, Marshall L, Charlesworth A. *A decade of austerity?* Nuffield Trust, 2012. www.nuffieldtrust.org.uk/publications/decade-austerity-funding-pressures-facing-nhs). The model was further developed by the Health Foundation (see Roberts A. *Overview: NHS funding projections*. Health Foundation, 2015. www.health.org.uk/publication/nhs-funding-projections).

Figure 2 – Illustration of double-running costs in phase 2 of the Transformation Fund



Although we aren't currently able to say the extent of the transformation that would occur in the Roll-out Strand, it is likely that the changes would focus on the delivery of services to certain groups of the population, in particular:

- adults in the last year of their life
- adults with mental health problems
- adults with other long-term conditions
- frail and elderly people.

To reflect this, where possible we have limited the impact of our scenarios so that they only impact on services provided to these groups. The extent to which we can achieve this depends on the service type.

For in-hospital services (inpatient, outpatient and A&E) the model accounts for different levels of service use depending on characteristics, including age, chronic conditions and whether a person is in their last year of life (see Roberts et al, *A decade of austerity?* for more details⁵). This allows us to limit the impacts of the scenarios to the four population groups for most services.

As people with mental health problems is one of the four population groups highlighted above, we have applied changes for the whole service.

For GP services we are only able to split trend by age (people aged under 70 and those aged 70 and over), so we have limited the changes to services provided to people aged 70 and over, and our estimate for the change in prescriptions was directly linked to this.

For community services we were unable to identify services specifically for these groups, but it is likely they are already the key recipients of current community services.

To help produce the scenarios for the likely transformation that would occur in the Roll-out Strand, we held discussions with attendees at our workshops on the likely impact on the different services for the four population groups. The conclusions from these discussions are shown in table 6, where ▲ represents an increase above the current trend in activity, ▼ represents a reduction in the current trend and — assumes no change. The box on pages 13 and 14 provides a description of each population group, and the rationale for the assumed impact of the Roll-out Strand on them.

Table 6 – Nature of the service change on trends in activity for four population groups

Population group	Elective admissions	Non-elective admissions	Mental health	Community contract	A-LOS (elective)	A-LOS (non-elective)	O/P	A&E	GP	Prescriptions
Mental health	▲	▼	▲	▲	▲	▼	▼	▼	▲	▲
Frail and elderly	—	▼	▲	▲	—	▼	▼	▼	▲	▲
End of life	—	▼	▲	▲	—	▼	▼	▼	▲	▲
Long-term care	—	▼	▲	▲	▼	▼	▼	▼	▲	▲

Estimated impact of transformation on population groups

The information provided here was based on discussions with a number of people with subject expertise.

Adults with mental health problems

20% of the English population have a mental health problem.⁶ The *Five year forward view* has recognised that the provision of mental health care must be vastly improved to achieve parity with physical health.⁷ There is significant overlap between physical and mental health, and this represents an opportunity for intervention. As 30% of people with long-term physical health conditions also have a mental health problem,⁸ there is scope for identification of mental health problems in physical health services. Psychosis, which has a UK prevalence of 0.4%⁹ (although this is likely to be an underestimate), also represents an opportunity for intervention. It is estimated that early intervention in patients with psychosis could enable 45% of them to work and 97% of them to be managed in their own homes. This has significant implications for both the NHS and the wider economy. Upfront investment in managing psychosis would create savings by reducing the need for low and medium security beds, through reductions in youth offending and by reducing pressure on the prison and care services.

Changes expected from new models of delivering services:

- Increased mental health diagnoses due to better recognition of unmet need.
- Recognition of previously unidentified physical co-morbidities resulting in an increase in elective admission.
- Improved management of physical illness resulting in fewer non-elective admissions and A&E attendances, and a fall in the average lengths of stay for elective and non-elective admissions.
- A shift towards community-based care and better access to GP services resulting in increased contacts in both settings.
- A rise in prescriptions due to increased management in the community.
- Decreased outpatient appointments because of a reduction in first referrals and follow-ups due to better community-based care.

Frail and elderly

The English population is ageing. As use of health services tends to rise with age,¹⁰ this is adding to the current pressure on the NHS. Elderly people account for a disproportionate number of emergency hospital admissions¹¹ and their older age is a risk factor for an increased length of stay.¹⁰ Increased age also confers an increased risk of frailty in many older people⁹ and this further contributes to their high risk of hospital admission. It is clear that this group represents a prime target for intervention, as the NHS shifts towards new models of delivering services.

Changes expected from new models of delivering services:

- Non-elective admissions and A&E attendances should decrease due to improved out-of-hospital care.
- Better care provision should improve recognition of mental health problems resulting in an increase in diagnoses.
- Increased community-based care and better access to GP services should increase contacts in these settings.
- Average length of stay for non-elective admissions is likely to fall with better out-of-hospital management.
- Average length of stay for elective admissions is not expected to change.
- Prescriptions, including those for mental health problems, would be likely to increase due to increased management in the community.
- Decreased outpatient appointments due to better community-based care provision, reducing the need for first referrals and follow-ups.
- We don't foresee any specific impact on the trend in elective admissions for frail and elderly people.

Adults in the last year of their life

An increasing number of people are admitted to hospital as emergencies in their last year of life. This needs to be addressed by improving access to generalist services such as GPs and district nurses, and improving the availability of people to provide care. Enabling people to be better cared for in the community (at home and in institutions) would reduce the number of unnecessary hospital admissions and allow patients to be discharged home more quickly.

Changes expected from new models of delivering services:

- Improved care should decrease the number of non-elective admissions, A&E attendances and the average length of stay for non-elective admissions.
- Improved out-of-hospital management should increase community and GP contacts.
- Mental health diagnoses should rise due to the identification of unmet need and additional support for mental health issues associated with being at the end of life.
- Prescriptions should rise as patients will require more medication in the community.
- Better community care and support for people at the end of life should reduce the need for referral to outpatient services.
- The number of elective admissions – and associated lengths of stay – should not change as, with improved end-of-life care and effective community-based management, there should be no medical indication for an elective admission for most people.

Adults with long-term conditions

People with long-term conditions tend to have high levels of service use, accounting for half of all GP appointments, almost two-thirds of outpatient appointments and 70% of inpatient bed days.¹² They make up 30% of the population yet account for 70% of the health service budget.¹² Clearly, improved self-care and increased prevention for this group will be vital in a transformed service.

Changes expected from new models of delivering services:

- Improved management of physical health resulting in a reduction in the number of non-elective admissions and A&E attendances.
- Elective admissions are not likely to change.
- Increased community-based care and access to GP services should cause a rise in contacts in both settings.
- Increased mental health diagnoses due to unidentified need being uncovered through better identification and management of physical health problems.
- Average length of stay for elective and non-elective admissions should decrease as people remain in better health due to the new models of delivering services.
- Prescriptions should rise due to better patient education about medication use and adherence.
- Better community-based care provision should reduce the number of patients requiring first referrals and outpatient follow-ups.

Using the projection model for services, we have assumed that the changes expected following transformation will lie somewhere within the ranges in table 7. It is important to note that we are adjusting the assumed rate of increase in these cases. As such, we do not assume a situation in which the number of emergency admissions (for example) is below the current level, rather that they are lower than they would be without the transformation. Where possible, the ranges in table 7 are informed by data from the projection model and the local examples described later in this appendix. However, we have simplified them in recognition that they are not fully informed scenarios.

Table 7 – Summary of assumption for changes in service delivery trends for population groups

Section	Lower bound	Base case	Upper bound
GP visits (growth in number of visits per person for the over 70s)	0.5 visits	1 visits	2 visits
Prescriptions (% increase proportional to GP visits)	Linked to proportional increase of GP visits.		
Community (% growth in activity)	5%	10%	15%
Mental health (% growth in prevalence)	5%	10%	15%
Outpatient visits (% reduction in visits)	-10%	-15%	-20%
Average length of stay (reduction – calculated from economic model as share of difference between population group and the “base”)	1/4	1/2	3/4
Non-elective inpatients (% reduction)	-10%	-20%	-25%
A&E (% reduction)	-5%	-10%	-15%

We have then assumed that investment in increasing services (GP visits, prescriptions, community and mental health) occurs during years 1–3 of the Roll-out Strand (2021/22 – 2023/24), while impact on other services is not seen until year 3 (2023/24) and is only fully observed by year 5 (2025/26). We then ran scenarios for different assumptions on the need for investment, the return on investment, and the time. The return on investment here only looks at cost – it does not consider cost-effectiveness (ie, the quality or health gain that might arise following the transformation). Of course, when determining whether and how to proceed with new models of care, cost-effectiveness rather than actual total cost should inform decisions.

The size of the double-running costs will vary as the assumptions vary, as shown in table 8. An explanation of each scenario is given in table 9. Under our base case assumptions, the total double-running costs would be £9.7bn* between years 1 and 4 (2021/22–2024/25) but results in a less costly service. The total cost would be recouped by year 13 (2033/34).

* This figure includes financial benefits from assumed savings due to the phase 1 Development Strand.

It is important to note that under some assumptions, the costs of the resulting services are higher than not performing the transformation, although the new services may provide better value for money. For example, in the worst case cost scenario, the total cost for double-running could reach £23bn for years 1–4, and result in a more costly service in the long run.

However, the aim for the Roll-out Strand should not be seen as purely a cost saving investment, rather an investment to change the way that care is delivered to better meet the needs of the population. If the result of the transformation is a substantial increase in the quality of services provided, it may still increase value and so be a worthwhile investment. Equally, it is likely that the results will have additional impact on other areas of people’s lives, and so the total social benefit may be much higher.

Table 8 – Variation in double-running costs under different assumptions

Scenario	Total double-running costs	Years	Annual average	Year of recouped investment (not discounted)
Base case	£9.7bn	1 - 4	£2.4bn	13
Best case	£2.5bn	1 - 2	£1.2bn	4
Worst case	£22.6bn	1 - 4	£5.7bn	Never
Upper bound	£24.7bn	1 - 11	£2.2bn	25–30
Lower bound	£5.8bn	1 - 4	£1.4bn	12

Table 9 - Explaining scenarios run – variations from the base case

Scenario	Cost categories at lower bound	Cost categories at upper bound
Best case	GP visits, community activity, mental health, prescriptions	Average length of stay, non-elective inpatients, A&E, outpatient visits
Worst case	Average length of stay, non-elective inpatients, A&E, outpatient visits	GP visits, community activity, mental health, prescriptions
Upper bound	None	All categories
Lower bound	All categories	None

Total cost of the Roll-out Strand

Under the base case assumptions, the costs for the phase 2 Roll-out Strand would be as shown in table 11. However, the actual costs would depend on the ranges of the double-running costs and would be informed by the results of the Development Strand.

Table 11 – Cost of the Roll-out Strand under base case assumptions

Investment type	2021/22	2022/23	2023/24	2024/25	2025/26	Total cost over five years
Double-running costs	£1.6bn	£3.4bn	£3.3bn	£1.4bn	-£0.4bn	£9.3bn
Infrastructure and staff costs	£0.9bn	£0.9bn	£0.9bn	£0	£0	£2.7bn
Total phase 2 Transformation Fund – Roll-out Strand	£2.5bn	£4.3bn	£4.2bn	£1.4bn	-£0.4bn	£12bn

Examples of local transformative change

To inform our scenarios for the potential scale and impact of the Roll-out Strand, we contacted a number of experts who have overseen local transformation of health care services. We discussed with them the goals of the investments, scale of investment required, what was funded by these investments, and their returns on investment.

Because of the speculative nature of the scenarios used to calculate the Transformation Fund costs, we have not attempted to link them to specific results from these examples (summarised in table 12). Rather, they have provided essential assurance that the scale and timing for our scenarios are broadly realistic.

Below are descriptions of the work from each site. Table 12 provides a summary of the changes made. In some cases, there are gaps due to data being unobtainable or not having been collected as part of the programme evaluations.

Whitstable Integrated Social and Healthcare Project

The Whitstable Integrated Social and Healthcare Project was a two-year pilot successfully implemented in 2011 by Whitstable Medical Centre. It involved GP services working closely with the community and independent sectors, and the acute, mental health and ambulance trusts, to provide convenient, integrated care for patients. The outcomes presented in table 12 are from the care of the elderly aspect of the programme, which targeted frail and elderly people with long-term conditions. The programme implemented joint reviews, by a consultant geriatrician and a GP, of patients in nursing and residential homes to produce an anticipatory care plan. The care of the elderly pilot required investment of around £20k, affecting a population of approximately 300, worth approximately £34 per person, per year. Over one year, they achieved a 39% reduction in A&E attendances and a 55% fall in admissions. The impact on community and social care activity was not measured. We have not been able to obtain the data for changes in primary care and care of the elderly outpatient appointments. Compared to the national tariff, more than £43,000 of savings were achieved over one year.

Lincolnshire West

In 2010, Lincolnshire West CCG developed an integrated frailty pathway, based on the Canadian Frailty Scoring Tool,¹³ to identify people at high risk of unnecessary hospital admission. Those at high risk received care plans and appropriate community support to enable them to remain healthy and safe at home. This was achieved through close working between GPs, secondary care, mental health and social care providers, the ambulance service, community nurses and the third sector. A community geriatrician post, community response teams (and a team responsible for creating them) and case liaison officers providing administrative support were established. Care homes were offered additional training and increased GP support.

An investment of up to £200,000 was made, affecting a population of approximately 65,000 (around 44,000 65-74 year-olds and 20,000 over 75s), worth approximately £0.60 per person, per year. A year-on-year comparison from 2013/14 to 2014/15 (the most recent evaluation) showed a 3% decrease in emergency admissions for all conditions in over 65s and a 2.2% fall in emergency admissions for ambulatory care sensitive (ACS) conditions in over 65s. In over 75s, emergency admissions for all conditions decreased by 1.4%, and for ACS conditions by 0.7%. No changes were identified in community and primary care activity, but social care activity was reported to have increased, although this was not formally measured. Outpatient activity was not measured.

Newquay Pathfinder

The idea for the pilot was developed in 2010 following discussions between the voluntary, health and private sectors and the local authority, about how older people wanted to be supported and how that support could be provided. The aim was to reduce dependency on health and social care services by enabling people to achieve their goals and increase their self-confidence and ability to self-manage. People are supported by multidisciplinary teams including a volunteer, GP, district nurse, matron and social worker. The pilot was run over a one-year period with £100,000 investment for around 130 people, worth approximately £770 per person per year. All participants had at least two long-term conditions and were identified on the basis that they could potentially be cared for in the community. Over one year there was a 5% reduction in demand for social care. In the community, caseloads shifted between district nurses and community matrons but overall community activity did not change. We do not, however, have data on the overall change in primary care or outpatient activity and hospital admissions. Costs of non-elective admissions and social care packages fell.

Living Well Programme

The Living Well Programme in Penwith is based on the same premise as the Newquay Pathfinder. The programme aimed to reduce unscheduled use of health and social care services by instigating behaviour change in already high users. The pilot was run for nine months (January 2014 to September 2014) and participants had at least two long-term conditions and/or a social care package. Due to problems with data linkage, the number of people with long-term conditions was unknown. The project involved a risk stratification process and guided conversations that focused on the patient's goals and fed into an anticipatory care plan. Integrated care teams,

based around a GP practice and supported by volunteers, were developed to coordinate care. £200,000 was invested for an affected population of around 300 people, worth approximately £890 per person, per year. Over a six-month period (pro-rata) there was a 43% decrease in people admitted to hospital, and a 49% decrease in non-elective admissions. Outpatient activity fell by 13% and A&E attendances by 49%. Community care activity was expected to rise overall, partly accounted for by an increase in district nurse and community matron activity. Data on social and primary care were not available. Over six months, savings of £1,000 per week in social care and £200,000 in acute care were achieved.

Stockport Together

In 2014 the Stockport Together partnership embarked on a major five-year programme of integrated health and social care. It will focus on: primary prevention; the delivery of local care through multi-agency neighbourhood teams based around GP surgeries; urgent and non-urgent care with people triaged via an urgent care assessment hub; and planned care. They have so far invested £6.7m and anticipate that a further £1.8m will be required to achieve a 30% reduction in admissions and A&E attendances, and a 10% reduction in outpatient appointments. These reductions are likely to be seen in the frail and elderly, people with long-term conditions and those at the end of life. It is expected that community care, primary care and social care activity will increase, and savings of around £80m could be made.

Table 12 – Impacts of local transformation

Site	Registered CCG population	Affected population	Total investment (£)	Investment per head CCG pop (£)	Investment per head of affected pop (£)	Duration (years)	Investment per head affected pop/year (£)	Time over which changes were measured (years)	Change in hospital admissions	Population group in which changes in admissions seen
Whitstable	214,000	300	20,000	0.09	67	2	34	1	-55%	Frail elderly with LTC [^]
Newquay	562,000	130	100,000	0.18	769	1	769	1		LTC [^]
Penwith	562,000	300	200,000	0.36	667	0.75	889	0.5 (pro rata)	-43%	All incl LTC [^]
Lincolnshire West	228,000	65,000	200,000	1	3	5	0.6	1	-49%	NEL incl LTC [^]
								1	-3%	>65s, NEL*, frail (all conditions)
								1	-2%	>65s, NEL* avoidable conditions, frail
								1	-1. %	>75s, NEL*, frail (all conditions)
								1	-0.7%	>75s, NEL*, frail (ACS conditions)
Stockport	301,000		8,500,000	28				5	-30%	NEL in frail elderly, EoL•, LTC [^]

Note: numbers are rounded, so some calculations may appear incorrect.

Key: Underlined = anticipated changes, * = non-elective admission, • = end of life, ^ = long-term conditions

Table 12 – Impacts of local transformation (continued...)

Site	Impact on outpatient appointments	Impact on A&E attendance	Impact on social care activity	Changes in community care activity	Changes in primary care activity	Savings (£)
Whitstable		-39%				43,000
Newquay			-5%	—		
Penwith	-13%	-36%		▲		£1,000/week in social care £200,000 in acute care (6m)
Lincolnshire West			▲	—	—	
Stockport	-10%	-30%	▲	▲	▲	80m

Note: numbers are rounded, so some calculations may appear incorrect.

Key: Underlined = anticipated changes, * = non-elective admission, • = end of life, ^ = long-term conditions

References

1. HM Treasury. *GDP deflators at market prices, and money GDP: March 2015 (Quarterly National Accounts)*. HM Treasury, 2015. www.gov.uk/government/statistics/gdp-deflators-at-market-prices-and-money-gdp-march-2015-quarterly-national-accounts March 2015 deflator
2. Health and Social Care Information Centre. *NHS Staff Earnings Estimates to July 2014, Provisional statistics*. www.hscic.gov.uk/searchcatalogue?productid=16212&topics=0%2fWorkforce&sort=Relevance&size=10&page=1#top (accessed November 2014).
3. Author's analysis of NHS providers' financial accounts, 2013/14
4. Health and Social Care Information Centre. *NHS Workforce Statistics*. www.hscic.gov.uk/searchcatalogue?productid=17425&topics=0%2fWorkforce&sort=Relevance&size=10&page=2#top (accessed 14 July 2015)
5. Roberts A, Marshall L, Charlesworth A. *A decade of austerity?* Nuffield Trust, 2012. www.nuffieldtrust.org.uk/publications/decade-austerity-funding-pressures-facing-nhs
6. Melthzer H, Brugha T, Bebbington P, Jenkins R. *Adult Psychiatry Morbidity Survey in England 2007*. London; 2009. Available from: www.hscic.gov.uk/catalogue/PUB02931/adul-psyc-morb-res-hou-sur-eng-2007-rep.pdf (accessed 14 July 2015)
7. NHS England. *Five year forward view*. NHS England, 2014.
8. Naylor C, Parsonage M, McDaid D, Knapp M, Fossey M, Galea A. *Long-term Conditions and Mental Health: The cost of co-morbidities*. The King's Fund, 2012. Available from: http://www.kingsfund.org.uk/sites/files/kf/field/field_publication_file/long-term-conditions-mental-health-cost-comorbidities-naylor-feb12.pdf
9. Royal College of Psychiatrists. *No Health Without Public Mental Health - The case for action*. Royal College of Psychiatrists, 2010. Available from: <http://www.rcpsych.ac.uk/PDF/Position Statement 4 website.pdf>
10. Cornwell J. *The Care of Frail Older People with Complex Needs: Time for a revolution. The Sir Roger Bannister Health Summit*. The King's Fund, 2012. p. 1–16. Available from: http://www.kingsfund.org.uk/sites/files/kf/field/field_publication_file/the-care-of-frail-older-people-with-complex-needs-mar-2012.pdf
11. Smith P, McKeon A, Blunt I, Edwards N. *NHS Hospitals Under Pressure: Trends in acute activity up to 2022* [Internet]. 2014. Available from: http://www.nuffieldtrust.org.uk/sites/files/nuffield/publication/ft_hospitals_analysis.pdf
12. Long-term conditions team. *Long Term Conditions Compendium of Information*. Department of Health, 2012. Available from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/216528/dh_134486.pdf
13. Dalhousie University. *Clinical Frailty Scale*. Available from: <http://geriatricresearch.medicine.dal.ca/pdf/Clinical Frailty Scale.pdf> (accessed 14 July 2015).



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