



Department
of Health

Strategic Business Case

Estates Guidance and Activity DataBase

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Strategic Business Case

Estates Guidance and Activity DataBase

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Executive summary

The Department of Health (DH) has provided estates technical guidance for over 50 years and the Activity DataBase (ADB) tool to support the guidance, for over 20 years. The NHS is faced with unprecedented challenges – patient expectations are higher than ever whilst capital budgets are static and the NHS faces a major efficiency challenge. Furthermore, the nature of healthcare delivery is changing – a focus on greater levels of localised care, seven days a week, and a focus on more preventative models of care in both primary care and mental health will all have an impact on the estate.

The DH has therefore initiated a process to review the options for future delivery of the technical standards and guidance and ADB. Following a DH internal report in October 2015 which investigated the potential options, this business case appraises the possible options and recommends a preferred way forward. It reviews a do nothing, do minimum option (produce guidance only) and expansion options based on different dimensions (update the guidance and expand ADB's functionality, generating income nationally and internationally, across both in-house and external delivery methods). **The recommended way forward is the do minimum option.**

The technical guidance produced by the DH is widely regarded as a best practice industry standard for healthcare capital building globally. Pre-2000, over 300 documents were produced, which has been rationalised to ~80 currently to provide a more focussed suite of guidance, to manage with diminishing resources. The guidance is deemed essential by NHS stakeholders (NHS Trusts, NHS property companies and suppliers i.e. architects and construction advisors) as well as wider NHS partners (e.g. regulators) and the 2015 report concluded that having a nationally recognised set of technical standards and guidelines against which to set baseline requirements was imperative. Maintaining a fit-for-purpose set of documentation within existing resources is no longer possible. Failure to keep the guidance up to date presents significant risks to patient safety, a likelihood of major incidents increasing, legal costs, redevelopment costs to rectify estates issues, failure to support regulators in performing their roles, reputational risks, as well as duplication and inefficiencies in the system by moving the burden of developing the guidance onto providers, many of which are already at financial breaking point. 'Doing nothing' is not an option.

In order to develop high quality, up to date, independent estates guidance which sets the standard for a safe, clean and secure environment, whilst delivering within existing budgets, this business case appraises the following possible options.

Figure 1: Business case options

	<i>Do nothing</i>	<i>Do minimum</i>	<i>Option 1</i>	<i>Option 2</i>	<i>Option 3</i>
Option description	<ul style="list-style-type: none"> Do nothing and let the service decline Pdf copy guidance, no refresh programme, ADB stays as is Guidance in-house, ADB with current supplier Implement as soon as possible – April 2017; big bang; limited engagement 	<ul style="list-style-type: none"> Keep the guidance online (and refresh) but end ADB Pdf guidance and up to date, no ADB Guidance in-house, no ADB Implement 5 year guidance refresh; phased delivery; limited engagement DH funding to pay for guidance update, no income 	<ul style="list-style-type: none"> Keep the guidance online and keep ADB (refreshed) – core current markets Online digital copy guidance and up to date ADB with limited wider functionality New delivery model - development of guidance by professional body, with DH client review, outsourced ADB to current or new provider 5 year guidance refresh; ADB procurement; phased delivery of ADB / guidance; moderate engagement Private sector funding for guidance / ADB costs (covered by licence fee income) 	<ul style="list-style-type: none"> Keep the guidance online and keep ADB (refreshed and expanded) – wider markets Online digital copy guidance and up to date ADB with wider functionality New delivery model - development of guidance by professional body, with DH client review, outsourced ADB to current or new provider 5 year guidance refresh; ADB procurement; phased delivery of ADB / guidance; wide engagement Private sector funding for guidance / ADB costs (covered by licence fee income) 	<ul style="list-style-type: none"> Keep the guidance online and keep ADB (refreshed and expanded) – wider markets Online digital copy guidance and up to date ADB with wider functionality New delivery model - development of guidance by NHS (with other NHS body client role), NHS delivery of ADB 5 year guidance refresh; phased delivery of ADB / guidance; wide engagement Public sector funding for guidance / ADB costs (covered by licence fee income)

Each option has been evaluated against a common set of objectives to provide a high level value for money assessment as follows:

- Costs of delivering Do nothing to the DH are £1.1m over 5 years. This does not however include the wider 'economic' costs of doing nothing to the wider NHS. The wider NHS economy will incur increased costs both in terms of having to develop or update the guidance and in terms of liabilities for major incidents or building / maintenance costs for failure to comply. Further work needs to be completed to quantify these risks to the whole NHS.
- The Do minimum option meets the project objectives, investing in a £3.85m three year guidance investment programme, and can be delivered at low risk to the DH as it delivers on 'core business'. Subsequent investment of £0.2m per annum to maintain the guidance current is necessary. There would also be a one-off cost of around £0.08m to exit the ADB contract. The total cost of delivery over 5 years to DH is estimated at £4.64m.
- Option 1 meets the project objectives and invests in ADB to fund delivery of the guidance. It assumes doubling income from ADB¹ to market the product to wider UK healthcare customers. The cost for this option, exclusive of any income would be in the region of £5.52m to DH. Option 1 will support NHS providers with the additional design tool ADB.
- Option 2 and Option 3 increase income¹ three-fold versus the current baseline position, the former delivering the ADB service externally and the latter internally. These both represent an even higher risk than Option 1 as the ADB product would need to be marketed internationally require greater marketing investment² and a much greater

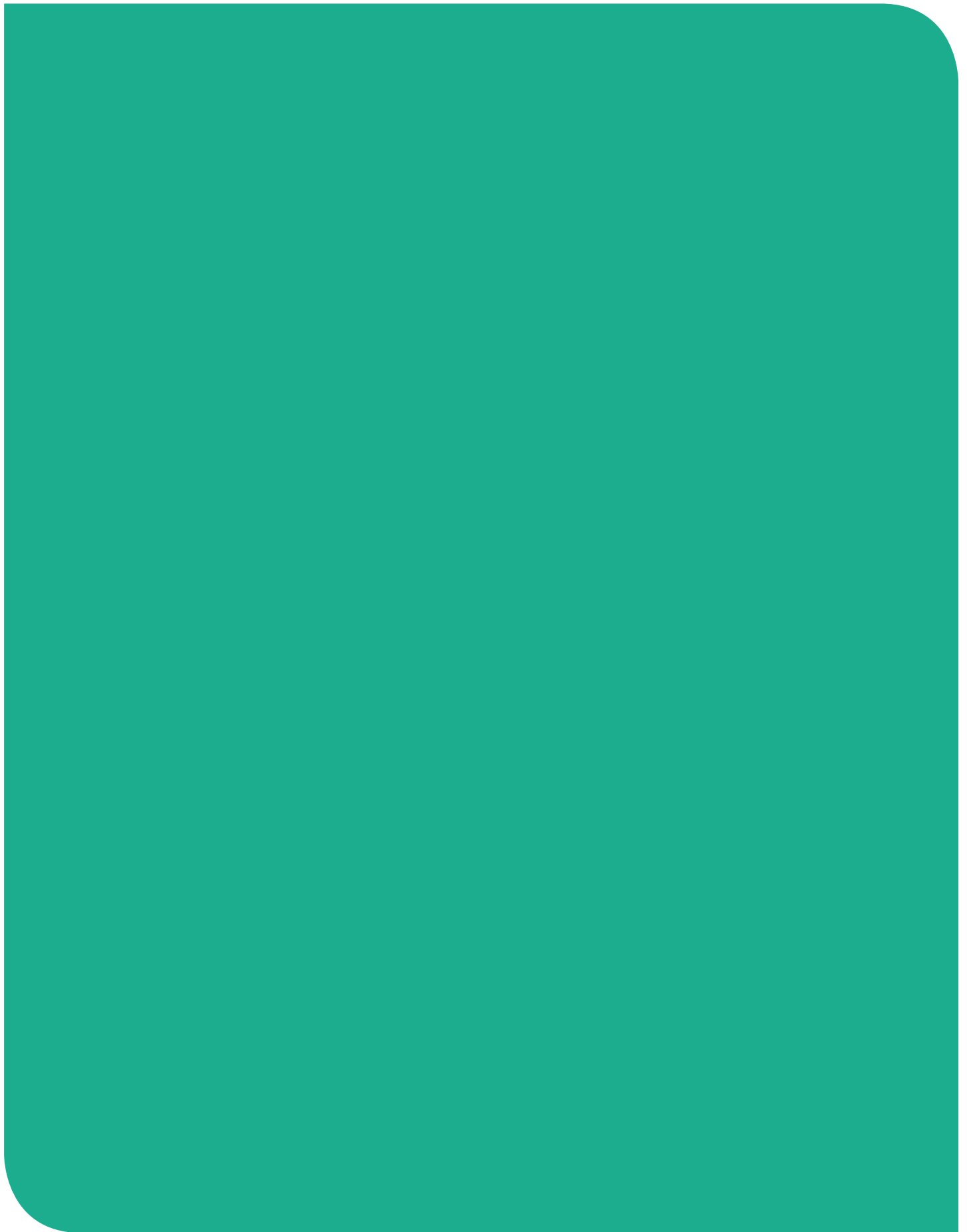
¹The potential to expand income from ADB licence fees is not tested

² An additional amount of 10% of the income from licence fee income is suggested for marketing for outside of the NHS and international markets. This is not included in these figures.

profile. Option 2 assumes that ADB is delivered externally, whilst Option 3 assumes that ADB is delivered in-house. Option 3 represents a skills risk as there is no track record of delivery for in-housed IT services. The cost of delivering Option 2 over five years is £5.52m and the net cost of delivering Option 3 is £5.59m, exclusive of any potential income from licence fee sales.

The do minimum is the lowest risk option for the DH – it meets the core objectives and will avoid the significant risks and costs of associated with doing nothing. Although there are options which can generate income from ADB, none of them are believed to bring a sufficient return to offset the full cost of updating the guidance and present significant delivery risks. Therefore, it is a policy decision as to whether to invest in the ADB system in addition to the guidance and this business case recommends focussing on the core business of updating the guidance.

The required next steps are to engage with NHS Scotland in relation to ADB, National Archives in relation to hosting payable guidance content and engagement with the incumbent ADB supplier and customers. It is also recommended that this 'strategic' business case is updated to reflect more detailed work on the costs of contract exit, doing nothing and market expansion to 'outline / full' business case stage prior to transition and implementation. Subject to completion of these activities by December, it is envisaged that the preferred option (establishment of a guidance update programme and contract termination for the current ADB supplier) could be implemented within the 2016-17 financial year.



Introduction and purpose

This purpose of this business case is to recommend a preferred way forward for the future delivery of the Department of Health's technical estates guidance and Activity DataBase.

It follows the HM Treasury template for a Business Justification Case as it is an internal DH change representing a low value of expenditure and is not novel or contentious in nature. The business case is at the 'strategic' stage, and once the preferred the way forward is agreed, will be updated to include more detailed costs in respect of the preferred option at 'outline' stage.

- **Strategic case** section. This sets out the strategic context and the case for change, together with the supporting investment objectives for the scheme.
- **Economic case** section. This demonstrates that the organisation has selected the choice for investment which best meets the existing and future needs of the service and optimises value for money (VFM).
- High level **financial, commercial and management** section:
 - confirms funding arrangements and affordability.
 - outlines the content and structure of the proposed commercial arrangements.
 - demonstrates that the scheme is achievable and can be delivered successfully to cost, time and quality.

PA Consulting was commissioned in September and October 2016 to support this review. The scope of its role was to undertake a feasibility study (see Appendix E) and develop a strategic business case (this deliverable) to establish which option for the future delivery of the guidance and ADB presents best value for money. The brief for PA Consulting's work is at Appendix D.

Strategic case

The strategic context

DH is charged with helping people to live healthier, longer and more independently. It leads the health and care system to ensure people experience a service that protects and promotes health and provides safe, effective and compassionate care. It also has a role as leader of the health and care system to ensure that the system as a whole delivers the best possible health and care outcomes for the people of England. DH works with partner organisations to develop policies that ensure services meet the expectations of patients, carers, users and the public for fairness, efficiency and quality. These include Executive Agencies and a number of Arms-Length Delivery Bodies.³

Figure 2: DH Arm's Length Bodies and Delivery Partners



In estates policy development, the Department of Health is responsible for providing the technical guidance necessary to ensure the complex nature of healthcare buildings is catered for. It has done this for more than 50 years, through its previous guises and Executive Agency (NHS Estates).

The case for change

The current situation

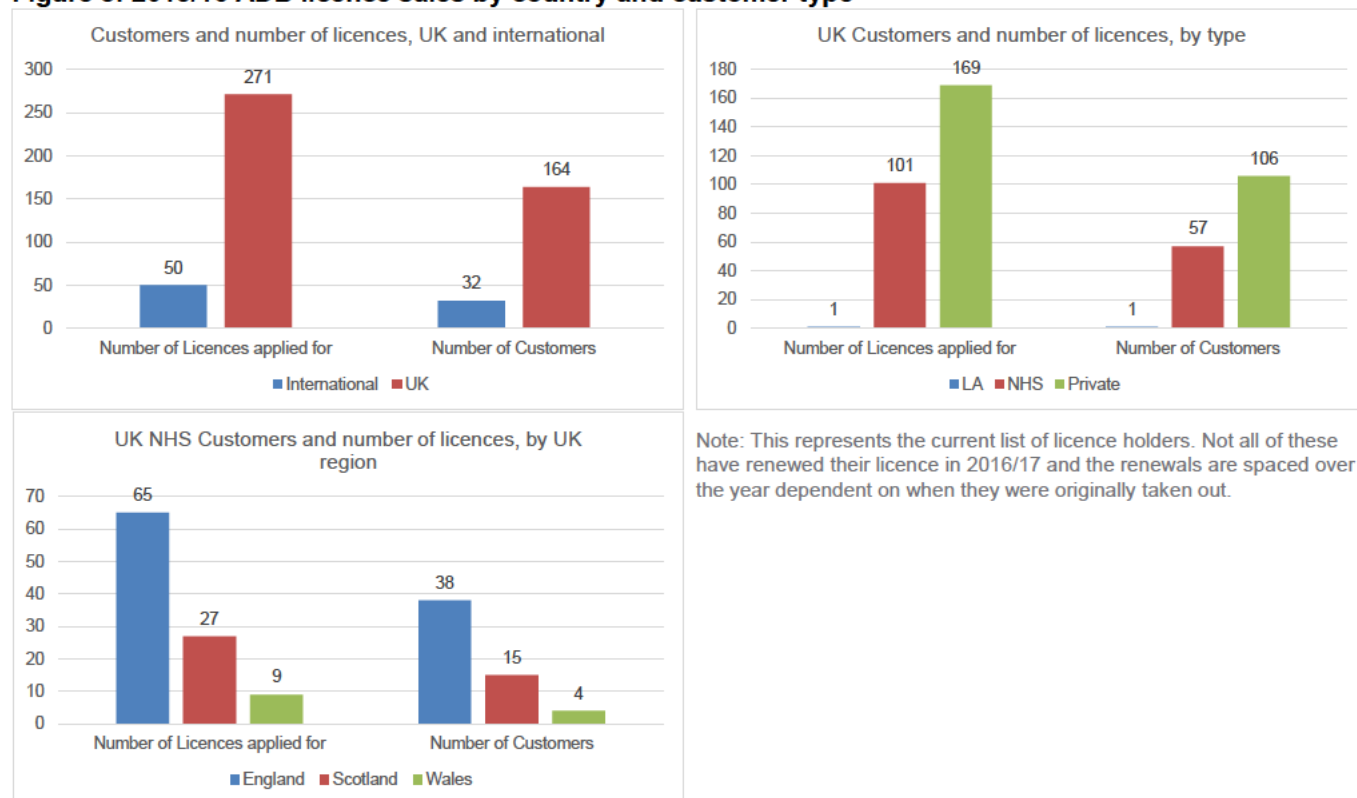
The Department has had a policy of publishing technical guidance related to NHS estates and facilities since the late 1950's. Over time, the guidance has evolved to meet the changing needs of the healthcare system and become regarded as the industry best practice standard. The guidance has been derived from a need to provide specialist requirements to meet clinical or technical requirements beyond that required by building regulations. It has been utilised by the NHS, private healthcare providers, designers, manufacturers and regulators as the benchmark for the design, engineering, operation and management of healthcare facilities. Predominantly, though not exclusively, the guidance has been aimed at the acute care sector. The guidance is known to be used across the world in over 80 different countries. Currently it is published through gov.uk as pdf documents⁴ and is free to anyone to access as it is published as Crown copyright material.

³ DH Annual Report and Accounts 2015-16

⁴ <https://www.gov.uk/government/collections/health-building-notes-core-elements>

DH also provides access to the Activity DataBase (ADB) as a payable service. ADB is a computerised package produced by DH to assist healthcare planners, architects, and teams involved in the briefing, design and equipping of healthcare environments. The content is developed from the technical guidance. Provision of the technical solution and a helpdesk service is currently delivered externally by Talon Solutions Ltd, which has delivered the service for over 20 years⁵. The service sells licences on an annual basis, with 170 customer organisations in the UK and abroad buying 280 licences. 84% of customers are UK based, and of those, 65% are private sector and 35% NHS. In terms of licences, 37% are NHS and 62% are private sector (architects and construction firms); there is one local authority customer. Of UK NHS customers, 67% are from England (mostly acute Trusts), 26% are from Scotland and 7% are from Wales.

Figure 3: 2015/16 ADB licence sales by country and customer type



The need for change

At its peak there were in excess of 300 documents in the technical guidance publications catalogue. The level of resources required to maintain and update these became unsustainable in the late 1990s. A rationalisation process of the catalogue took place in the early and mid-2000's to assess if there was scope to reduce the overall number of guidance documents. The culmination of that process resulted in a significant reduction of publications to the current level of ~80 technical documents comprising of Health Building Notes (HBNs), Health Technical Memorandums (HTMs) and Choice Framework for local Policy and Procedures (CFPPs). The rationale for reducing the scope of the service was to enable all of the guidance that existed to be updated regularly in a five-year rolling programme of updates.

Since then, resources have reduced even further and the current programme of guidance updates consists of minimal updates in response to Ministerial requests or for safeguarding – around two or three documents are refreshed each year. Work completed as part of a review in October 2015 and as part of this review, has cited significant risks of maintaining the status quo position. ~50

⁵ Integra were the original providers of ADB from inception, and entered into a working partnership with Talon solutions who now represent both organisations in respect of ADB.

stakeholders were consulted as part of the work in 2015, and further conversations have been followed up as part of this review. Both reviews have concluded that failure to update the guidance holds significant risks to patient safety and an increased likelihood of major incidents. In addition, further deterioration of the service will affect regulators of the NHS e.g. the Care Quality Commission (CQC) and introduce inefficiency to the wider NHS economy, by shifting the burden of updating the guidance onto local NHS providers, many of which already have financial issues.

The way that healthcare is being provided in the UK and the financial backdrop has also changed significantly since the height of technical guidance production. Capital budgets are under pressure, with the NHS needing to find £1 billion of estates related savings by 2020⁶. The nature of capital builds is also changing. Historically, major new build hospital programmes were the focus, whilst capital schemes are now more likely to be concerned with reconfiguration of the current estate or refurbishment and maintenance programmes. The 2015/16 healthcare capital pipeline has (at March 2016) ~£6 billion of schemes, reduced from £7.4 billion in 2012/13. A recent article in the HSJ commented that *“the backlog of ‘high risk’ maintenance problems at NHS trust estates increased by almost 70 per cent last year, as capital investment has continued to fall.”*⁷

Likewise, the delivery of care is changing. NHS England’s Five Year Forward View published in October 2014, set out a need to tackle three widening gaps: health and wellbeing; care and quality and funding and efficiency. This includes a focus on preventative models of care and a move away from traditional models of acute delivered care to localised models of primary and ‘out-of-hospital’ care. The NHS is also placing more national focus than ever before on mental health. The aim is to deliver a transformed mental health service by 2020/21, with an ambition to make put mental health on an equal footing to physical health in the NHS.

These changes to the way that the NHS is run and care is delivered, will mean that there is more of a need than ever for technical estates guidance, but the focus of that guidance is changing and it will need to remain much more flexible in adapting to the changing needs of the NHS in the coming years.

The scope of this project

As a result of these changes, DH has initiated a review of the technical guidance and ADB in order to identify the requirements of the future service and determine the possible delivery models that will present best value for money.

Figure 4: ADB / guidance objectives

- Deliver **high quality, up to date, independent estates guidance** to customers which provide services to anywhere where NHS funded care is delivered
- Provide the standards for a **clean, safe and secure** environment for the NHS
- Deliver an **affordable service**, with an aim to become self-funded in the medium term
- Support the **DH’s wider strategic objectives**, in particular around safe and high quality healthcare services, digital technology and information and improving efficiency and productivity

The next section will set out the possible options for delivering the future service, and appraise each one against the agreed delivery objectives.

⁶ Lord Carter review into operational productivity and performance in English NHS acute hospitals, February 2016

⁷ HSJ, Huge spike in ‘high risk’ maintenance problems at trusts

Economic case

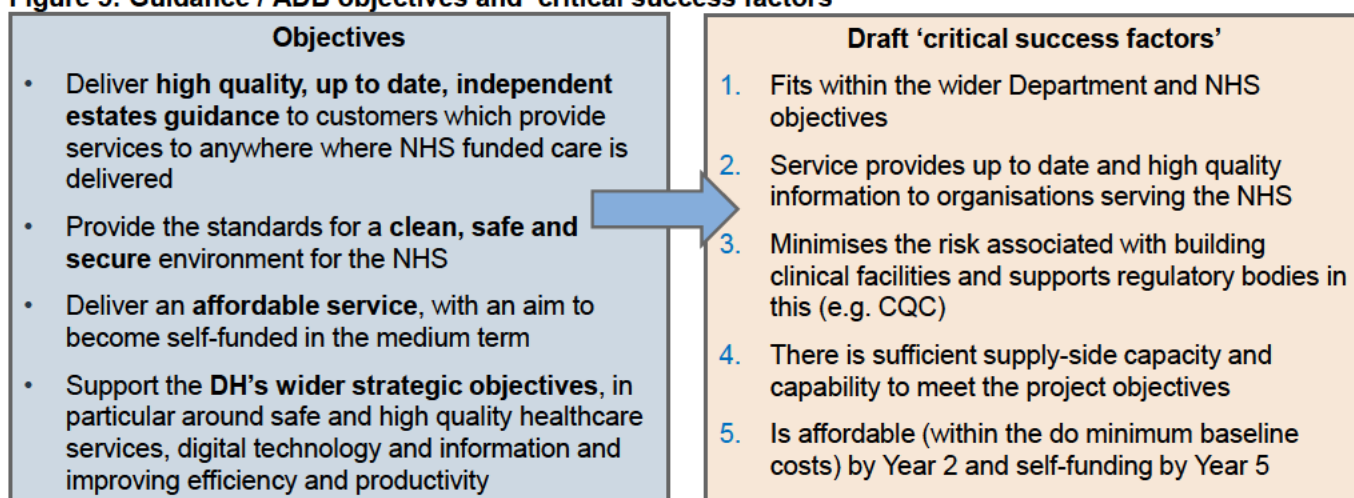
Introduction

The Strategic Case has set out the case for change. This section, the Economic Case, describes the current baseline for comparison and then appraises each of the shortlisted options for future delivery of the guidance and ADB service.

Critical success factors

A workshop on 13th October 2016 established the following objectives for the service. From these a set of 'critical success factors' (CSFs) were developed. Each option will be evaluated against the CSFs to develop the qualitative element of the value for money assessment.

Figure 5: Guidance / ADB objectives and 'critical success factors'



Options short-list

The project team has gone through a robust process to short-list the options for review in this business case in line with the HM Treasury (HMT) guidance. We have:

- Developed a long-list of options
- Assessed which options should be carried forward using HMT's 'options framework'
- Developed a short-list of options for evaluation in the business case

The figure below shows the short-list of options. As per HMT guidance, this includes a 'do nothing' and 'do minimum' option. A detailed list of the long-listed options and the process to reach a short-list is at Appendix A.

Figure 6: Short-listed options

	<i>Do nothing</i>	<i>Do minimum</i>	<i>Option 1</i>	<i>Option 2</i>	<i>Option 3</i>
Option description	<ul style="list-style-type: none"> Do nothing and let the service decline Pdf copy guidance, no refresh programme, ADB stays as is Guidance in-house, ADB with current supplier Implement as soon as possible – April 2017; big bang; limited engagement 	<ul style="list-style-type: none"> Keep the guidance online (and refresh) but end ADB Pdf guidance and up to date, no ADB Guidance in-house, no ADB Implement 5 year guidance refresh; phased delivery; limited engagement DH funding to pay for guidance update, no income 	<ul style="list-style-type: none"> Keep the guidance online and keep ADB (refreshed) – core current markets Online digital copy guidance and up to date ADB with limited wider functionality New delivery model - development of guidance by professional body, with DH client review, outsourced ADB to current or new provider 5 year guidance refresh; ADB procurement; phased delivery of ADB / guidance; moderate engagement Private sector funding for guidance / ADB costs (covered by licence fee income) 	<ul style="list-style-type: none"> Keep the guidance online and keep ADB (refreshed and expanded) – wider markets Online digital copy guidance and up to date ADB with wider functionality New delivery model - development of guidance by professional body, with DH client review, outsourced ADB to current or new provider 5 year guidance refresh; ADB procurement; phased delivery of ADB / guidance; wide engagement Private sector funding for guidance / ADB costs (covered by licence fee income) 	<ul style="list-style-type: none"> Keep the guidance online and keep ADB (refreshed and expanded) – wider markets Online digital copy guidance and up to date ADB with wider functionality New delivery model - development of guidance by NHS (with other NHS body client role), NHS delivery of ADB 5 year guidance refresh; phased delivery of ADB / guidance; wide engagement Public sector funding for guidance / ADB costs (covered by licence fee income)

The next section will appraise each of the options against qualitatively and quantitatively to develop a value for money assessment.

The technology solutions are detailed at Appendix E and map to the overarching options in the following way. The list of the potential technical solutions include:

1. Provide a downloadable guidance only through the existing GOV.UK platform
2. Provide paid-for downloadable guidance (and dataset) through 3rd party content portal
3. Continue with existing ADB and existing ADB supplier
4. Continue with existing ADB with new supplier
5. Commission AutoDesk (or competitor) directly to create plugins that meet the needs of ADB
6. Develop a new desktop solution with similar but enhanced functionality
7. Develop a new cloud based solution with enhanced functionality

The outline technical solutions are mapped below against the business options to support any future business case development.

Figure 7: Technical solutions mapped to business case options

	<i>Do nothing</i>	<i>Do minimum</i>	<i>Option 1</i>	<i>Option 2</i>	<i>Option 3</i>
Provide downloadable guidance only through GOV.UK	✓	✓			
Provide paid-for downloadable guidance (and dataset) through 3 rd party content portal	✓	✓			
Continue with existing ADB and existing ADB supplier	✓		✓		
Continue with existing ADB and new supplier	✓		✓		
Develop new desktop solution			✓	✓	✓
Develop new cloud solution				✓	✓

Do nothing

The 'Do nothing' option represents maintaining the status quo. The guidance continues to be delivered as currently and ADB is delivered by the incumbent supplier in its current form, and there is only minimal investment in both. The guidance is only kept up to date in accordance with ministerial requests or in response to major incidents.

Work completed in October 2015 by the Department concluded that 'do nothing' was not an option. This has been re-iterated by stakeholder discussions through this process. The option does not meet any of the objectives set out at the outset of this process, and brings significant risks in terms of patient safety, an increase in major incidents and an increase in costs to the wider health economy. Stakeholders that we have spoken to through this process cited the following risks:

- Risks to patient safety
- Likelihood of an increase in major incidents, and the associated financial risk due to redevelopment as well as potential litigation fees
- Failure to support regulators e.g. CQC
- Reputational risks to the DH and wider NHS, both nationally and internationally
- An increase in cost burden to NHS providers and suppliers as they will need to develop their own guidance
- A risk that the guidance will not be independent or driven by the needs of the NHS, instead being commercially driven

The costs of not having robust guidance in place could be significant in terms of failure to support regulators in having a benchmark best practice standard, potential litigation costs with regard to a likely increase in major incidents, higher development costs and higher design costs as each NHS organisation will need to develop its own materials. These risks are set out in more detail in the table below.

For this reason, the option is included in the business case as a baseline for comparison only.

Table 1: Do nothing qualitative assessment

Critical success factor	RAG rating against CSF	Benefits	Risks
Fits within the wider Department and NHS objectives			<ul style="list-style-type: none"> • Major risks to patient safety • NHS reputational risk, nationally and internationally • No promotion of efficiency and productivity
Service provides up to date and high quality information to organisations serving the NHS			<ul style="list-style-type: none"> • Does not meet objective as guidance not updated
Minimises the risk associated with building clinical facilities and supports regulatory bodies in this (e.g. CQC)			<ul style="list-style-type: none"> • Does not support regulators appropriately in providing a set of standards to measure against • Risk of failure to safeguard patient safety
There is sufficient supply-side capacity and capability to meet the project objectives			<ul style="list-style-type: none"> • Currently there is insufficient capacity to meet the required quality level • Currently there are insufficient resources to meet the required quality level for technical guidance

Critical success factor	RAG rating against CSF	Benefits	Risks
			<ul style="list-style-type: none"> Changes in the team will mean a loss of further knowledge and skills from the team There are commercial risks to renewing the incumbent's contract without going to market and DH Procurement's advice has been to initiate a procurement process May create a market for guidance, dominated by commercial interests The incumbent ADB supplier may develop its own product in response to lack of investment in the product Would disadvantage smaller refurbishments over large capital builds which have more resources to pay for the guidance
Is affordable by Year 2 and self-funding by Year 5		<ul style="list-style-type: none"> Assuming resources stay as current, is affordable 	<ul style="list-style-type: none"> Will increase costs to the NHS over the long term in terms of developing guidance Risk of financial and legal liabilities in relation to major incidents and patient safety

In the baseline position, DH will spend ~£1.1m net of income on delivering the technical guidance and ADB over 5 years. Gross costs consist of £3.0m ADB income is £1.9m over 5 years.

Table 2: Do nothing quantitative assessment

		2017/18	2018/19	2019/2020	2020/2021	2021/2022	Total
Expenditure ('000s)	ADB refresh cost						
	ADB running costs	213	263	213	188	183	1,060
	ADB marketing						0
	Client team costs	193	193	193	193	193	964
	Guidance update costs	200	200	200	200	200	1,000
Income ('000s)	ADB licence income - NHS	-436	-404	-374	-347	-321	-1,881
	ADB licence income - wider markets						
Net Position ('000s)	Total	170	252	232	234	255	1,143
	Cumulative	170	423	654	889	1,143	

Do minimum

Do minimum involves keeping the guidance in-house and investing in updating it to meet the required quality standard, but no longer delivering ADB. This option assumes provision of the guidance as a pdf through the gov.uk portal (as per the current model) or through a content licensing platform for some a proportion of payable content.⁸ A three year investment programme is implemented to return the guidance to the required standard, with an annual update investment programme. This option does not necessarily exclude commissioning a new supplier for ADB at some point in the future (as a new procurement needs to take place in any case) and brings the

⁸ It should be noted that any separation of the guidance into non-chargeable Crown material and payable content would need to be confirmed with National Archives. For example, the payable content could include the ADB database or additional guidance material / tools to supplement the core guidance.

benefit of breaking the current supplier relationship which has been existent for so long that it does not present a competitive position. It also does not exclude future provision of the guidance by a professional body, as stakeholder discussions have not raised any risks around this delivery route.

Table 3: Do minimum qualitative assessment

Critical success factor	RAG rating against CSF	Benefits	Risks
Fits within the wider Department and NHS objectives		<ul style="list-style-type: none"> Meets the core DH objectives of keeping patients safe with high quality, independent and up to date guidance Promotes efficiency in terms of an 'invest to save' model for the wider NHS economy 	<ul style="list-style-type: none"> No promotion of innovation / digital improvements
Service provides up to date and high quality information to organisations serving the NHS		<ul style="list-style-type: none"> Minimises risks to patient safety and the health estate as the guidance is refreshed 	
Minimises the risk associated with building clinical facilities and supports regulatory bodies in this (e.g. CQC)		<ul style="list-style-type: none"> Minimises risks to patient safety and the health estate as the guidance is refreshed Supports CQC and other NHS regulators e.g. NHS I 	
There is sufficient supply-side capacity and capability to meet the project objectives		<ul style="list-style-type: none"> Skills would need to be bought in to deliver the guidance updates P21 suppliers are more likely to engage and support the guidance if no other commercial interests are at play 	
Is affordable by Year 2 and self-funding by Year 5		<ul style="list-style-type: none"> Benefit of avoided costs of not providing the guidance to the wider NHS system Could provide some income, if some areas of the expanded guidance (or the ADB compatible input sheets) were sold as part of a hosted portal 	<ul style="list-style-type: none"> Increases design costs to a degree in the wider NHS (but to a lesser extent than do nothing), as an alternative system / tool needs to be used to implement the guidance (unless the ADB data content is sold on a payable basis)

It is estimated that it would cost ~£3.85m to refresh the technical guidance to meet the desired quality standard over the next three years. An additional £0.2m per annum would be required recurrently to maintain the guidance. In addition an assumption has been made that the contract exit costs would be less than the annual helpdesk costs.

The average P21 capital project in 15/16 was £13.0m, and the total healthcare capital expenditure schemes in 2015/16 was £1.4bn, therefore the £3.85m one-off guidance update expenditure represents 0.02% of the current year's total NHS capital spend alone. As professional fees could be ~15% of a typical capital build, the one-off guidance investment would cost less than the professional fees for 2 average NHS capital schemes.

Note that the option is currently modelled to assume no income generation. Stakeholder interviews through this process have emphasised that the guidance content is the most valuable service provided currently (more so than ADB) and subject to further consultation with users, the hypothesis is that additional services to the core guidance (e.g. the content data inputs for ADB, or additional tools as to how to implement the guidance), could be provided as a chargeable service. This would be subject to further exploration with National Archives and therefore has not been shown here.

There is a potential further opportunity as part of this option to generate income through hosting payable content through a portal, but further engagement with National Archives is required to verify this, and therefore the conservative scenario has been shown here. Although the ADB tool is useful to providers and suppliers to the NHS and is believed to save time and money, it uses out of date technology, is not currently used to its full capacity and is part of a suite of many tools used through the design process for capital projects and programmes. There are also risks around sustainability of the product (it could be easily replicated in the market) and the supplier relationship (knowledge at the supplier resides in a handful of individuals). It should be noted that this option does not exclude a new ADB product being developed at a later point in the future.

Should option 1, 2 or 3 be selected, a new procurement process will need to take place in order to meet required procurement standards, incurring cost in all options that recommend maintaining the service.

Table 4: Do minimum quantitative assessment

		2017/18	2018/19	2019/2020	2020/2021	2021/2022	Total
Expenditure ('000s)	ADB refresh cost						
	ADB running costs	82					
	ADB marketing						
	Client team costs	308	308	308	308	308	1,541
	Guidance update costs	950	1,700	1,200	200	200	4,250
Income ('000s)	ADB licence income - NHS						
	ADB licence income - wider markets						
Net Position ('000s)	Total	1,340	2,008	1,508	508	508	5,872
	Cumulative	1,340	3,348	4,856	5,364	5,872	

Option 1

Option 1 involves commissioning a professional body to deliver the guidance, and investing in updating it to meet the required quality standard. The option assumes that the ADB service continues with a provider to deliver the system as part of a five year contract (may be the incumbent or a new provider). Procurement regulations require that a procurement process determines which supplier provides the contract. ADB would be refreshed to include further functionality and the product marketed to sell licences to a wider UK healthcare customer base to expand use of ADB to the following sectors:

- Private healthcare provision
- Primary care
- Mental health
- Community care
- Residential care
- Dentistry

In terms of technology, the solution could include any of the following and has been costed conservatively as the highest cost option:

- Continue with existing ADB and existing ADB supplier
- Continue with existing ADB and new supplier
- Commission a plugin to a widely-used product e.g. AutoDesk

Table 5: Option 1 qualitative assessment

Critical success factor	RAG rating	Benefits	Risks
	against CSF		

Critical success factor	RAG rating against CSF	Benefits	Risks
Fits within the wider Department and NHS objectives		<ul style="list-style-type: none"> Meets the core DH objectives of keeping patients safe with high quality, independent and up to date guidance Promotes efficiency in the wider system through technology 	
Service provides up to date and high quality information to organisations serving the NHS		<ul style="list-style-type: none"> Minimises risks to patient safety and the health estate as the guidance is refreshed 	
Minimises the risk associated with building clinical facilities and supports regulatory bodies in this (e.g. CQC)		<ul style="list-style-type: none"> Minimises risks to patient safety and the health estate as the guidance is refreshed 	
There is sufficient supply-side capacity and capability to meet the project objectives		<ul style="list-style-type: none"> New skills would be required in terms of contract management and business development 	<ul style="list-style-type: none"> The incumbent supplier may develop its own product to the market (if it is unsuccessful in winning the contract) If the incumbent supplier is successful in renewing the contract, there are sustainability risks as the supplier is a very small company with the technical knowledge residing in one member of staff Construction and advisory firms that support wider development of the guidance / ADB may be less willing to support if the service becomes more commercialised
Is affordable by Year 2 and self-funding by Year 5		<ul style="list-style-type: none"> Benefit of avoided costs of not providing the guidance to the wider NHS system Brings in income from ADB, to fund the guidance updates 	<ul style="list-style-type: none"> There is a delivery risk associated with income generation as the market for capital schemes is not growing in the UK

This option brings in some income to offset the costs of updating the guidance, and will be income generating from year 3 onwards, but would still need a total net investment over the five year period of ~£3.2m.

This assumes:

- Growth in UK clients of 15% per annum;
- Increase in the 'client' function to market the service;
- A marketing investment in event attendance and print / online advertising to ~5% of income.

Detailed assumptions are at Appendix D.

The market for ADB exists, however it is not believed to be a sufficiently sustainable income stream to offset the full costs of updating the guidance. Furthermore, positioning the service as

'commercialised' may deter the many suppliers and advisors in the market from their continued proactive advice and support to the DH. As described in Figure 8, the ADB product is not believed to represent optimum conditions for public sector commercialisation, notably the delivery of a service which is critical to overarching delivery, and provides a reliable income stream.

Table 6: Option 1 quantitative assessment

		2017/18	2018/19	2019/2020	2020/2021	2021/2022	Total
Expenditure ('000s)	ADB refresh cost	525	0	0	0	0	525
	ADB running costs	50	50	50	50	50	250
	ADB marketing	34	34	35	36	36	175
	Client team costs	373	373	373	373	373	1,865
	Guidance update costs	950	1,700	1,200	200	200	4,250
Income ('000s)	ADB licence income - NHS	-552	-646	-754	-879	-1,022	-3,854
	ADB licence income - wider markets						
Net Position ('000s)	Total	1,380	1,511	903	-221	-363	3,211
	Cumulative	1,380	2,891	3,794	3,574	3,211	

Option 2

Option 2 involves commissioning a professional body to deliver the guidance, and investing in updating it to meet the required quality standard. The option assumes that the ADB service continues with a provider to deliver the system as part of a five year contract (may be the incumbent or a new provider). Procurement regulations require that a procurement process determines which supplier provides the contract. ADB would be refreshed to include further functionality and the service is marketed to sell licences to a wider customer base in the UK healthcare and international healthcare market.

In terms of technology, the solution could include either of the following and has been costed conservatively as the highest cost option:

- Develop new desktop solution
- Develop new cloud solution

Table 7: Option 2 qualitative assessment

Critical success factor	RAG rating against CSF	Benefits	Risks
Fits within the wider Department and NHS objectives	Green	<ul style="list-style-type: none"> • Meets the core DH objectives of keeping patients safe with high quality, independent and up to date guidance • Promotes efficiency in the wider system through technology 	<ul style="list-style-type: none"> • Goes beyond the core objectives for the project and delivers a service outside of the DH's core business, which may hold more risk than is required to provide an affordable service
Service provides up to date and high quality information to organisations serving the NHS	Green	<ul style="list-style-type: none"> • Minimises risks to patient safety and the health estate as the guidance is refreshed 	
Minimises the risk associated with building clinical facilities and supports regulatory bodies in this (e.g. CQC)	Yellow	<ul style="list-style-type: none"> • Minimises risks to patient safety and the health estate as the guidance is refreshed 	

Critical success factor	RAG rating	Benefits	Risks
There is sufficient supply-side capacity and capability to meet the project objectives		<ul style="list-style-type: none"> New skills would be required in terms of contract management and business development 	<ul style="list-style-type: none"> New skills in the 'client' function to drive business development and manage performance of the supplier may be difficult to recruit The incumbent supplier may develop its own product to the market (if it is unsuccessful in winning the contract) If the incumbent supplier is successful in renewing the contract, there are sustainability risks as the supplier is a very small company with the technical knowledge residing in one member of staff Construction and advisory firms that support wider development of the guidance / ADB may be less willing to support if the service becomes more commercialised
Is affordable by Year 2 and self-funding by Year 5		<ul style="list-style-type: none"> Benefit of avoided costs of not providing the guidance to the wider NHS system Brings in income from ADB, to fund the guidance updates 	<ul style="list-style-type: none"> There is a significant delivery risk associated with income generation Relies on further income generation of ADB (beyond peak historical levels), which is untested to date

In Option 2, ADB is sold more widely, including to international markets. The potential market is untested and therefore has been estimated conservatively using the following assumptions.

In addition to assumptions in Option 1:

- International clients are also targeted based on covering commonwealth and selected middle-eastern countries;
- A further marketing investment at 10% of international income.

This results in the service becoming income generating by year 4, and overall requiring additional funding of ~£2.0m over five years. Detailed assumptions are at Appendix D.

Table 8: Option 2 quantitative assessment

		2017/18	2018/19	2019/2020	2020/2021	2021/2022	Total
Expenditure ('000s)	ADB refresh cost	525	0	0	0	0	525
	ADB running costs	100	100	100	100	100	500
	ADB marketing	45	56	67	79	90	336
	Client team costs	373	373	373	373	373	1,865
	Guidance update costs	950	1,700	1,200	200	200	4,250
Income ('000s)	ADB licence income - NHS	-552	-646	-754	-879	-1,022	-3,854
	ADB licence income - wider markets	-107	-215	-322	-430	-537	-1,612
Net Position ('000s)	Total	1,333	1,368	663	-558	-797	2,010
	Cumulative	1,333	2,701	3,364	2,806	2,010	

Option 3

Option 3 involves commissioning a professional body to deliver the guidance, and investing in updating it to meet the required quality standard. The option assumes that ADB continues to be delivered, but is in-housed. ADB would be refreshed to include further functionality and the service is marketed to sell licences to a wider customer base in the UK healthcare and international healthcare market.

In terms of technology, the solution could include either of the following and has been costed conservatively as the highest cost option:

- Develop new desktop solution
- Develop new cloud solution

Table 9: Option 3 qualitative assessment

Critical success factor	RAG rating against CSF	Benefits	Risks
Fits within the wider Department and NHS objectives		<ul style="list-style-type: none"> • Meets the core DH objectives of keeping patients safe with high quality, independent and up to date guidance • Promotes efficiency in the wider system through technology 	<ul style="list-style-type: none"> • Goes beyond the core objectives for the project and delivers a service outside of the DH's core business, which may hold more risk than is required to provide an affordable service
Service provides up to date and high quality information to organisations serving the NHS		<ul style="list-style-type: none"> • Minimises risks to patient safety and the health estate as the guidance is refreshed 	
Minimises the risk associated with building clinical facilities and supports regulatory bodies in this (e.g. CQC)		<ul style="list-style-type: none"> • Minimises risks to patient safety and the health estate as the guidance is refreshed 	
There is sufficient supply-side capacity and capability to meet the project objectives		<ul style="list-style-type: none"> • New skills would be required in terms of IT, contract management and business development 	<ul style="list-style-type: none"> • The team does not have a track record of managing IT suppliers and it is not core business • New skills in the 'client' function to drive business development and manage performance of the supplier may be difficult to recruit • The incumbent supplier may develop its own product to the market (if it is unsuccessful in winning the contract) • If the incumbent supplier is successful in renewing the contract, there are sustainability risks as the supplier is a very small company with the technical knowledge residing in one member of staff • Construction and advisory firms that support wider development of the guidance / ADB may be less willing to support if the service becomes more commercialised

Critical success factor	RAG rating against CSF	Benefits	Risks
Is affordable by Year 2 and self-funding by Year 5		<ul style="list-style-type: none"> Benefit of avoided costs of not providing the guidance to the wider NHS system Brings in income from ADB, to fund the guidance updates 	<ul style="list-style-type: none"> There is a significant delivery risk associated with income generation Relies on further income generation of ADB (beyond peak historical levels), which is untested to date

Option 3 is the same as Option 2, except for the delivery method. It assumes therefore in addition to assumptions in Option 2:

- An increased 'client' team expenditure as it is assumed that it would require more resources to manage an internal IT supplier than an external one.

This results in the service becoming income generating by year 4, and overall requiring additional funding of ~£2.4m over five years. Detailed assumptions are at Appendix D.

Table 10: Option 3 quantitative assessment

		2017/18	2018/19	2019/2020	2020/2021	2021/2022	Total
Expenditure ('000s)	ADB refresh cost	525	0	0	0	0	525
	ADB running costs	100	100	100	100	100	500
	ADB marketing	45	56	67	79	90	336
	Client team costs	443	443	443	443	443	2,217
	Guidance update costs	950	1,700	1,200	200	200	4,250
Income ('000s)	ADB licence income - NHS	-552	-646	-754	-879	-1,022	-3,854
	ADB licence income - wider markets	-107	-215	-322	-430	-537	-1,612
Net Position ('000s)	Total	1,404	1,438	734	-487	-726	2,362
	Cumulative	1,404	2,842	3,575	3,088	2,362	

Conclusion to the economic case

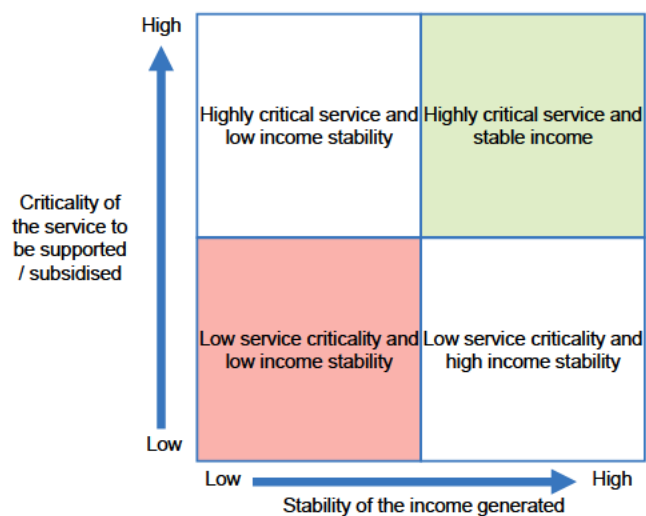
The do nothing position has not been considered to be a feasible option by both the previous DH review in 2015 as well as this review. Continuing the status quo position will bring risk to patient safety and increase costs to the wider NHS in the longer term. Do minimum invests in the guidance, but is not currently self-funding as ADB is no longer delivered. Option 1 offsets the guidance investment to a degree, and options 2 and 3 would offset the guidance investment further. However, even under option 2, a further four-fold increase in the licence income (£2m) versus current (£0.5m) would be needed to break even.

The diagram below shows the optimum conditions for a new delivery model in the public sector – service delivery of a highly critical service (i.e. core to objectives – the provision of technical standards and guidance), combined with a high level of income stability. The optimum solution therefore needs to be located in the top right box of the diagram.

ADB is not core business and feedback from stakeholders is that it is not essential to their daily work; it is therefore not a highly critical requirement. Although untested, it also is not believed to provide a stable income, as income generation will bring significant risks in terms of skills and the market for healthcare capital expenditure is not stable in the UK today.

The analysis in this business case shows that relying on ADB income to fund the guidance programme represents a high risk (low stability). The current position utilising some ADB income to support the guidance programme (a highly critical requirement) places it in the top left box. ADB as a product is located in the bottom left box.

Figure 8: Diagram showing the relationship between service criticality and income stability



It is therefore recommended that 'do minimum' is the preferred way forward, which meets the core objectives set, at a lower risk premium than other options. The next section will explore how it could be delivered and funded.

Commercial, financial and management arrangements

This section will set out the commercial considerations, potential funding options and management requirements for successful delivery.

Commercial considerations

The current supplier contract for ADB is due to expire, therefore under all options the existing contractual arrangement would end. Any eventual re-procurement of the ADB service or contract for delivery of the technical guidance would be procured in compliance with the EU Public Contracts Regulations 2015.

The key commercial risk if a do minimum position is taken would be around sustainable contract exit from the existing ADB contract, including appropriate customer transition to either a new service provided independently by the incumbent supplier or closure of the service.

Funding and affordability

The do minimum position requires one-off investment in the guidance of £3.85m over three years, one-off contract exit costs of £0.08m and a recurrent investment of £0.2m per annum.

Funding routes need to be explored further and could include:

- Incorporation into a wider programme of change in NHS estates through NHS Improvement;
- A policy decision to invest in the technical guidance through public sector funding;
- Investigation of an income generation route through payable content associated with the technical guidance on a hosted site (subject to agreement with National Archives).

Management and delivery

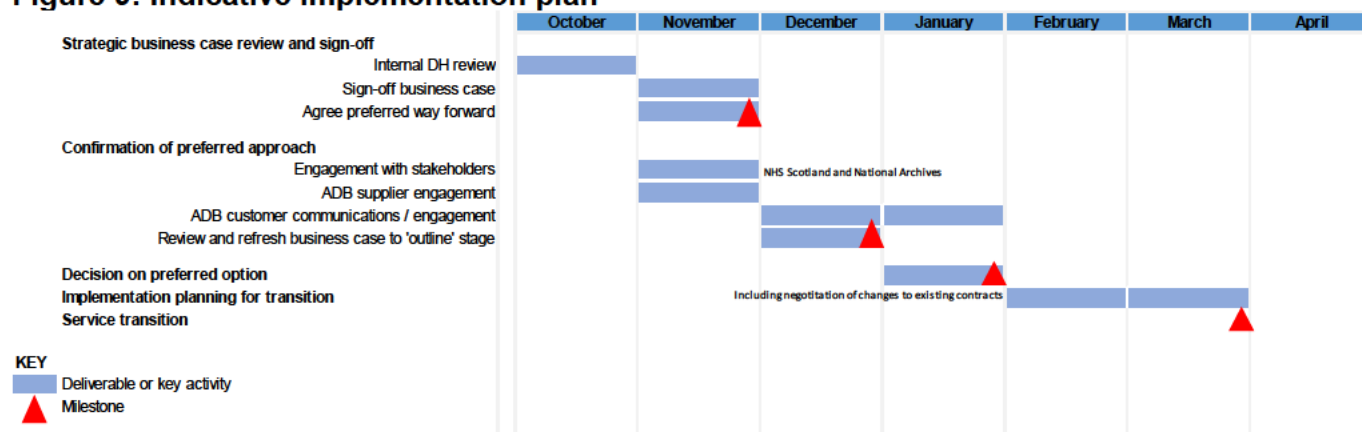
The following steps are required in order to move forward to implementation of the preferred solution:

- Internal review with DH leadership and NHS Improvement stakeholders to understand how the service fits into the wider strategy for change in NHS Estates and sign-off the recommended approach;
- Discussion with National Archives to understand the options for increasing the scope of technical guidance in a payable form;
- Discussion with NHS Scotland to consult on ADB and ascertain its ongoing requirements;
- Legal and procurement review of the current ADB contract, the costs and implications for transition and exit;
- Engagement with the incumbent supplier, to understand whether it would want to take forward the service, as well as to plan a sustainable transition for all parties involved;
- Communication and engagement with ADB customers once the preferred option has been agreed;
- A review point around the business case to update the costs to an 'outline / full' business case stage, to include more detailed exit costs, more details on the cost of risk in the do nothing option (e.g. case study litigation costs) and more detailed ADB market estimate costs;
- A review point around the future delivery model for the technical guidance once transition to the preferred option has been completed, and any changes to the scope or purpose of the technical guidance have been agreed.

Implementation plan

A draft implementation plan is shown below. This estimates that internal agreement on the preferred option would need to take place by the end of November in order for there to be time for the preparation for transition to be complete (i.e. agreement of the transition approach and terms of contract exit for ADB) by March 2017. It is assumed that this business case would be reviewed and costs refreshed to 'outline' stage to reflect the latest position once initial engagement with stakeholders and the incumbent ADB supplier has taken place. As this is not a high value, novel or contentious project it is assumed that a separate 'full' business case would not be required and that this 'business justification' format to cover both 'outline' and 'full' business case stages suffice suffices.

Figure 9: Indicative implementation plan



Communications and engagement plan and approach

Engagement will need to take place with customers (including local NHS bodies in Scotland, Northern Ireland and Wales) and existing suppliers (Talon Solutions). Once an agreed option is signed-off internally, any potential new suppliers (professional bodies) in respect of the guidance will need to be engaged in order to establish the approach for delivering the technical guidance. For the intermediate future, it is assumed that guidance production remains in-housed. In line with DH requirements, engagement will include an Equalities Impact Assessment which should be included at the next business case stage.

Governance arrangements

This business case will be signed off internally by DH's Commercial Director, with final approval residing with the Director General for Finance and Group Operations.

Risk management approach

Risks will be managed in line with DH's project management approach. Key risks are expected to be the following.

Risk	Mitigation
The incumbent supplier delivers its own product to the market	If the incumbent supplier takes on the risk of providing the product to the market this would not present a risk (assuming the content used is up to date) and would support NHS clients
That ADB NHS customers have to increase spending on professional advisers to compensate for the loss of ADB	Stakeholder discussions through this process have indicated that loss of ADB would not materially impact on total design costs. Nonetheless, options for providing additional tools in support of the technical guidance e.g. the ADB base content sheets (for a fee) should be investigated to increase support to NHS organisations, as ADB ceases
The appropriate resources cannot be obtained in the client team to supervise the guidance update	Expertise in the technical guidance resides in a few key staff internally. A final decision on the preferred option needs to take place quickly so that those skills and the existing knowledge can be secured through succession planning

Appendices

Appendix A: Long-list of options

A long-list of options was developed initially, incorporating all of the possible in-scope options. These were discounted against the critical success factors in order to develop a short-list.

Figure 10: Long-list of options

Scoping (coverage)	Do nothing and let the service decline	End the service	Keep the guidance online (and refresh) but end ADB	Keep the guidance online and keep ADB	Keep the guidance online and keep ADB (expanded)
	<i>Carry forward – do nothing option</i>	<i>Discounted – not a viable option (patient safety)</i>	<i>Carry forward - do minimum option</i>	<i>Carry forward - do maximum option</i>	<i>Carry forward - do maximum option</i>
Service solution	No guidance online, no ADB	Pdf copy guidance, no refresh programme, ADB stays as is	Pdf guidance and up to date, no ADB	Online digital copy guidance and up to date ADB with wider functionality	
	<i>Discounted – not a viable option</i>	<i>Must have a do nothing option. Needs clear evidence to discount</i>	<i>Carry forward - do minimum option</i>	<i>Carry forward - do maximum option</i>	
Service delivery – in-house	Guidance as current, bring ADB in-house	Guidance as current, end ADB contract / sell IP			
	<i>Carry forward – public sector comparator. Needs clear evidence to discount</i>	<i>Carry forward – do minimum</i>			
Service delivery – partnership / outsource	New delivery model - development of guidance by professional body, with DH client review, 'outsourced' ADB to current provider	New delivery model development of guidance to other commercial organisation, with DH client review, 'outsourced' ADB to current provider	New delivery model development of guidance to other commercial organisation, with DH client review, 'outsourced' ADB to new provider	New delivery model development of guidance to professional / academic body, with DH client review, 'outsourced' ADB to new provider	
	<i>Discount – there needs to be a competition</i>	<i>Discount - one of key principles is that guidance cannot be commercially driven</i>	<i>Discount - as per previous</i>	<i>Carry forward - do maximum option</i>	
Implementation - contractual	As soon as possible / when current contract ends – April 2017 – Big bang	Five year rolling term – Phased	Indefinite contract term - Phased		
	<i>Carry forward</i>	<i>Carry forward</i>	<i>Discounted – will not meet procurement guidelines / vfm</i>		
Implementation - engagement	Limited engagement – the bare minimum	Moderate engagement – with current customer market	Wide engagement – current and new potential customer markets		
	<i>Carry forward</i>	<i>Carry forward</i>	<i>Carry forward</i>		
Funding	DH resources to pay for guidance update	DH funding and resources for guidance / ADB costs (covered by licence fee income)	Private sector funding for guidance / ADB costs (covered by licence fee income)		
	<i>Must have – do nothing option</i>	<i>Carry forward – do minimum</i>	<i>Carry forward – do maximum</i>		

Note 1. 'Outsource' in this context may mean a range of contractual forms including outsource, concession, licence or franchise

Figure 11: Short-list of options

	Do nothing	Do minimum	Option 1	Option 2	Option 3
Scoping (coverage)	Do nothing and let the service decline	Keep the guidance online (and refresh) but end ADB	Keep the guidance online and keep ADB (refreshed) – core current markets	Keep the guidance online and keep ADB (refreshed and expanded) – wider markets	Keep the guidance online and keep ADB (refreshed and expanded) – wider markets
Service solution	Pdf copy guidance, no refresh programme, ADB stays as is	Pdf guidance and up to date, no ADB	Online digital copy guidance and up to date ADB with limited wider functionality	Online digital copy guidance and up to date ADB with wider functionality	Online digital copy guidance and up to date ADB with wider functionality
Service delivery	Guidance in-house, ADB with current supplier	Guidance in-house, no ADB	New delivery model - development of guidance by professional body, with DH client review, outsourced ADB to current or new provider	New delivery model - development of guidance by professional body, with DH client review, outsourced ADB to current or new provider	New delivery model - development of guidance by NHS (with possible DH client role if delivered by other NHS body), NHS delivery of ADB
Implementation	As soon as possible – April 2017; big bang; limited engagement	Five year guidance refresh; phased delivery; limited engagement	Five year guidance refresh; ADB procurement; phased delivery of ADB / guidance; moderate engagement	Five year guidance refresh; ADB procurement; phased delivery of ADB / guidance; wide engagement	Five year guidance refresh; phased delivery of ADB / guidance; wide engagement
Funding	N/A	DH funding to pay for guidance update, no income	Private sector funding for guidance / ADB costs (covered by licence fee income)	Private sector funding for guidance / ADB costs (covered by licence fee income)	Public sector funding for guidance / ADB costs (covered by licence fee income)

Appendix B: Stakeholders consulted as part of this review

Stakeholder organisation	Stakeholder role
IHEEM	Chief Executive
NHS England	Senior Estates Manager, London
Balfour Beatty	Programme Director
Interserve	Senior clinical estates planner
Guys and St Thomas' (Essentia)	Programme Manager, Estate Development
Essentia Trading	Commercial Director
Addenbrookes	Estates Business Services Manager
Talon Solutions	Chief Executive and wider team
HLM Architects	Healthcare Lead

Appendix C: Detailed costing assumptions

Baseline do nothing

Costs are based on the following components:

- ADB:
 - Helpdesk - £81,500 per annum
 - Revit add-on - £29,500 per annum
 - User licence activation - £27,000 per annum
 - Software update - £25,000 per annum from Year 2
 - Content updates – starts at £125,000 per annum in Year 1 and reduces to £20,000 per annum by Year 5
- Guidance updates of £0.2m per annum
- Client team costs are £0.19m per annum (as per current costs)

Income is based on the following:

- Based on 2015/16 in year 1
- Assumption that income reduces over time in proportion to historical income reductions (7% annually between years 1-5). This is due to a historical average reduction of ADB license income of 7% between the years 2012/13 and 2015/16.

Do minimum

Costs are based on the following components:

- Guidance update costs of £3.25m in the first three years and of £0.20m every year. This is based on historical costs and assumes that the an acceptable level of quality is reached
- Client team costs of £0.31m per annum. This includes 3.0 additional SEOs to manage the guidance production and an additional 0.5 HEO to project manage the activity
- Contract exit costs of £0.82 in year 1

Option 1

Costs are based on the following assumptions:

- ADB system costs (based on technical feasibility study at Appendix E):
 - One-off system transition costs of £0.5m (based on the cost of a new supplier developing the system)
 - Annual running costs of £0.05m per annum
- Guidance update costs as per Do Minimum
- Client team costs of £0.37m. This includes 3.5 additional SEOs to engage with customers, an additional 1.0 HEO to project manage business development activity and an additional 0.2 AO as administrative support
- Marketing costs of ~£0.03m per annum. These consist of fixed costs including exhibiting at 4 conferences, holding 4 regional training/marketing events and print and online advertising. Variable costs are calculated as one day of senior marketing manager time (at £400 per day) dedicated to each new high value client (assumed to be 30% of total new clients), with an additional 10% for expenses

ADB income is based on the following assumptions:

- Number of clients increases by 15% per annum
- Note that it was not possible in the short timeframe to gather data on the capital pipeline for all the UK NHS healthcare markets. More detailed assumptions could be developed if this data could be gathered from each NHS commissioning agency
- Each new client paying the existing licence cost of £3,350 per annum

Sensitivity analysis

- If only a 10% year-on-year increase in the number of UK clients can be achieved, the net position is £3.8m over 5 years
- If a 20% year-on-year increase in the number of UK clients can be achieved, the net position is £2.6m over 5 years

Option 2

Costs are based on the following assumptions:

- ADB system costs (based on technical feasibility study at Appendix E) as per Option 1 with the addition of £0.5m per annum running costs
- Guidance update costs as per Do Minimum
- Client team costs as per Option 1
- UK marketing costs as per Option 1. In addition, marketing expenditure at 10% of international income

ADB income is based on the following assumptions:

- UK income as per Option 1
- International customer income based on the following proxy assumptions:
 - The UK ratio of health capital expenditure to land and building capital expenditure was applied to the total health capital expenditure in Australia (released by the Australian Government). The average value of UK health estate project cost was then used to calculate the estimated number of health estate projects in Australia
 - The ratio of total health expenditure to health estate projects was then applied to total health expenditure (sourced from World Bank data) to other target markets to calculate the total number of health estate projects in all target markets (Canada, United Arab Emirates, Bahrain, Kuwait, Oman, Qatar and Turkey)
 - It was then assumed that only 30% of projects would purchase one UK Private Sector licence
 - This approach was used as a proxy because health capital expenditure values are not released by all of the target markets
 - High rates of expenditure in health capital projects are being seen in the target Middle Eastern markets, compared to Australia. Therefore the license income calculated using this methodology will likely provide a conservative estimate
 - With more time, it would be possible to commission or gather more detailed market data from each target market

Sensitivity analysis

- If only a 10% year-on-year increase in the number of UK clients can be achieved, the net position is £2.6m over 5 years
- If a 20% year-on-year increase in the number of UK clients can be achieved, the net position is £1.4m over 5 years

Option 3

Costs are based on the following assumptions:

- ADB system costs (based on technical feasibility study at Appendix E) as per Option 2
- Guidance update costs as per Do Minimum
- Client team costs of £0.44m. This includes in addition to Option 2, 0.5 G7, 0.5 SEO to manage the internal team, 0.5 additional HEO to project manage and 0.5 additional AO to administer the team
- Marketing costs as per Option 2

ADB income is based on the following assumptions:

- UK income as per Option 1
- International income as per Option 2

Sensitivity analysis

- If only a 10% year-on-year increase in the number of UK clients can be achieved, the net position is £2.9m over 5 years
- If a 20% year-on-year increase in the number of UK clients can be achieved, the net position is £1.7m over 5 years

Appendix D: PA Consulting scope of requirement

The scope of this work is to identify, in the form of a report and strategic business case, how a new model for the production of guidance and the continued development of ADB can best be achieved.

Key constraints are:

- governance must ensure the impartiality and integrity of the guidance
- if guidance is published as Department of Health (or NHS) branded material, it will be Crown copyright and as such must be available without charge under the Open Government Licence
- ADB would continue to be available through the payment of a licence fee, enabling access to greater, more detailed information, than that which is generally set out in the guidance

Deliverables - The outcomes from this work will be:

- Milestone 1. The production of a report, outlining and appraising all potential options.
- Milestone 2. The preparation of a strategic business case to take forward the Department's preferred option for delivering the guidance programme and ADB in the future.

In this context, the content of the report should include:

1. The identification of all the potential options for the production, updating and development of technical and design guidance, combined with further development and updating of ADB through a single or joint source; potential costs and income; clear recommendations on the optimum procurement route; together with detail on if or how the system could become self-funding within 3 – 5 years.
2. Assessment of the viability that income from the sale of ADB licenses could fully fund both elements (Guidance and ADB) of the project, such that the Department of Health has little or no financial commitment in the longer term. This should include the realistic likelihood for the sale of licences to increase in both the UK and overseas.
3. A demonstration of value for money of the option(s) for a Guidance+ADB model set against a comparator of a wholly DH funded guidance programme, without the support of offsetting ADB income.

Key to achieving point 2) above will be the need to test the viability of the self-funding option. The Department is particularly keen to understand the commercial potential of ADB; for example, to see if it is viable to charge a higher rate for ADB for overseas users working on non-NHS projects and how ADB could become the essential tool to use for all publicly funded healthcare projects.

Appendix E: PA Consulting feasibility report

Summary feasibility

Feedback on the guidance, through both a previous review and this review, indicates that Do Nothing is not a viable option

Engagement completed as part of this review and the previous DH-led review indicates that abandoning updates to the estates guidance would be a high-risk and costly approach.

Stakeholders have cited the following risks:

- Risks to patient safety
- Likelihood of an increase in major incidents, and the associated financial risk
- Failure to support regulators e.g. CQC
- Reputational risks to the DH and wider NHS, both nationally and internationally
- An increase in cost burden to NHS providers and suppliers as they will need to develop their own guidance
- Will disadvantage smaller, refurbishment schemes versus large capital builds
- A risk that the market is flooded with alternatives, some of which may be commercially driven

It is assumed therefore that as a minimum, the guidance should be updated to meet the required quality standard. It would either be maintained on the current gov.uk portal or dependent on the terms for Crown material, some of the data could be migrated to a portal which could be accessed by subscription.

A review of the ADB system indicated that whilst it saves money and time, it is an out of date system that could be replicated by competitors and presents sustainability risks in its existing form

The ADB system has a role in saving NHS organisations or NHS suppliers both money and time currently. The system provides guidance in a more useable form and allows for interface with other design tools. However, in its current form it uses out of date technology, has a mixed user experience and has some risks in terms of sustainability as a product.

<i>Technology</i>	<i>User Experience</i>	<i>Sustainability</i>
<ul style="list-style-type: none">• The functionality of the ADB system has not been updated in many years and is technically basic, but it does meet a need in its current form	<ul style="list-style-type: none">• A number of users pay for a licence and do not use it, or do not use it to its full functionality• The system is not currently an integral part of the NHS design process• There has been some negative feedback on customer service	<ul style="list-style-type: none">• There are risks around sustainability of the product as the system is replicable by others in the market (without the content)• It is reliant on a small number of individuals at the incumbent supplier

There are a number of options to deliver the ADB product, and as a result increase its customer reach

The ADB system could be updated and sold to a wider number of customers, but would need to provide additional functionality and be more user-friendly. Internal workshops explored the potential of providing licences to adjacent healthcare and care markets, more widely in the public sector and wider international markets.

Adjacent care markets	Public sector	International markets
Private providers	Defence	Commonwealth countries
Primary care	Prisons	Middle East
Community care	Education	Europe
Residential care		Far East
Dentistry		
Mental health		

In terms of technology, options for the ADB system include a refresh of the current system, a plugin to a widely used product e.g. AutoDesk or there could be a new desktop based or cloud system (see technical section below).

Technical feasibility

The overall review has determined a number of potential business options for taking forward the ADB and the associated guidance documentation. Each of these business options has a range of technical solutions that would meet the need – and some technical solutions would meet the needs of multiple business options.

The potential technical options are outlined in some more detail with indicative, Rough Order of Magnitude (ROM), associated costs for both transition and ongoing operations. The list of the potential technical solutions include:

1. Provide a downloadable guidance only through the existing GOV.UK platform
2. Provide paid-for downloadable guidance (and dataset) through 3rd party content portal
3. Continue with existing ADB and existing ADB supplier
4. Continue with existing ADB with new supplier
5. Commission AutoDesk (or competitor) directly to create plugins that meet the needs of ADB
6. Develop a new desktop solution with similar but enhanced functionality
7. Develop a new cloud based solution with enhanced functionality

The outline technical solutions are mapped below against the business options to support any future business case development.

Figure 12: Introduction to the technical options for future delivery of the service

	Do nothing	Do minimum	Option 1	Option 2	Option 3
Provide downloadable guidance only through GOV.UK	✓	✓			
Provide paid-for downloadable guidance (and dataset) through 3 rd party content portal	✓	✓			
Continue with existing ADB and existing ADB supplier	✓		✓		
Continue with existing ADB and new supplier	✓		✓		
Develop new desktop solution			✓	✓	✓
Develop new cloud solution				✓	✓

In order to support the do-nothing and do-minimum options an option would be to host the guidance and underlying codified dataset (i.e. the SQL database dataset) and license this content without an associated product. Numerous solutions exist in the marketplace for providing a payment authorised content licence.

There are a range of options for hosting the guidance alone without providing any ADB tool to enhance the adoption of this including:

- Reverting to download only version of guidance run through GOV.UK.

- Procuring a simple download only version of guidance but run through a paid-for 3rd party content licensing portal. (e.g. <https://gumroad.com/> , <https://www.sendowl.com/> , <https://selffy.com/>)

Figure 13: Technical solutions for the Do nothing or Do minimum options

	Provide download only guidance through GOV.UK	Provide paid-for downloadable guidance (and dataset) through 3rd party content portal
Outline	Continue publishing only PDF guidance through the existing GOV.UK portal. This would remove the need for a dedicated tool support and there will no longer be any further technical development. It is possible to include the SQL dataset files in addition to the PDF on GOV.UK.	Procure a content licensing platform that will provide the payment services and content control on the underlying ADB dataset as a set of data files only. Outsourcing the entire payments and content control mechanism to a third party. A transition effort would be required to extract the dataset from the ADB tool in an open format.
Key technical risks	<ul style="list-style-type: none"> • There will be no further revenue and no technical support to use the dataset. • Guidance could be misused or adopted incorrectly into new tools. 	<ul style="list-style-type: none"> • License adherence would be technically challenging to enforce without an installable product. Therefore, it would be highly likely that ongoing revenues would fall in future years.
Rough Order of Magnitude Cost (000s)		
Transition cost (capital year 1)	£0	£100
Run costs	£0	£25 (typically operate for free with a % fee per sale – assume approximately 5% of 450k)
5 year total cost	£0	£350

Under Option 1, the existing ADB technical solution could continue with either the current supplier or a new supplier. The existing solution is, in summary, a collection of third party components assembled within a bespoke software development that provides:

- Interface to a SQL database (typically Microsoft SQL Server database software, licenced separately by user) that holds the DH technical guidance dataset.
- Bespoke software that provides a cataloguing solution to assemble departments, rooms, and objects in rooms. This makes extensive use of Crystal Reports (a product from SAP Business Objects, but not licenced separately by the user) to create component reports.
- A bespoke 2D rendering and planning tool; and a bespoke 3D rendering tool. Both output in open standard formats.
- A bespoke plug-in designed for both AutoCAD and Revit to provide a two-way interface between the AutoCAD/Revit modelling tool and the ADB SQL Database. The majority of ongoing costs are to provide the support service

Continuing with ADB with limited change in functionality would lead to three potential options:

- The existing supplier continuing to support the ADB solution
- The ADB solution transitions as is to a new supplier who will provide the hosting and support going forward
- AutoDesk, Bentley Systems or other major 2D/3D modelling product developers (e.g. Trimble NES+ product) could be commissioned to update their products to provide a plug-in that supports and manages the DH guidance datasets for native data use. This could include a licence payment mechanism to the DH

Figure 14: Technical solutions for Option 1

	Continue with existing ADB with current supplier	Continue with existing ADB with new supplier	Commission AutoDesk to provide their own version of the plugin
Outline	The solution already exists with the current supplier and operates within the parameters expected. Procurement regulations require a competition to award any future solution.	A new procurement activity to identify a new supplier to provide the existing solution, to provide ongoing technical upgrades and helpline support. Depending on the arrangement with existing supplier may need to rebuild solution from scratch.	The AutoDesk plugin is one of the core features of the current ADB solution and could be enhanced to be the entire user interface. AutoDesk may be interested in developing the plugin themselves.
Key Risks	<ul style="list-style-type: none"> Existing supplier is a very small enterprise with skills and knowledge invested in a small (<5) number of individuals. Relies on third party product compliance with historical products. Although currently supported with a roadmap, there is no confirmation of the future of these products. 	<ul style="list-style-type: none"> Existing technical product is owned by the existing supplier and the knowledge is vested in a small number of developers. Any transfer would likely need substantial further transition funding. Significant risk that existing suppliers would not enter into transition agreement 	<ul style="list-style-type: none"> There would be no clear technology mechanism to support licencing A SQL Database of some form would still be required
Rough Order of Magnitude Cost (000s)			
Transition cost (capital year 1)	£0	£250-£525	£0-£500
Run costs	£140/year	£50/year	£0
5 year total cost	£500	£750	£0-£500

For Options 2 and 3, looking to the marketplace there are a range of potential market competitors to the current ADB that could replace and potentially enhance the overall solution:

- Software development agencies that could develop a new full solution and provide ongoing support to meet the needs of the tool, including licensing, etc. this solution could be developed to be operated:
 - As a desktop application similar to the existing product set with potentially more features
 - As a cloud based solution to provide additional value services and remove the need for local configuration.

Figure 15: Technical solutions for Option 2 and 3

	Bespoke development of desktop solution	Bespoke development of cloud solution
Outline	A new bespoke development that would provide many similar functions to the current ADB but with enhanced capabilities to meet user need. This would still take the same technical format of the existing ADB product but with some enhancements around usability and tailored to current user requirements	A new bespoke development that would provide new enhanced capabilities and would be entirely hosted in the cloud, removing the need for local configuration of ADB datasets. This would allow the control of the dataset, and greater licence adherence as well as providing additional value adding services run through a standard internet browser combined with the Revit or AutoCAD plugin.
Key Risks	<ul style="list-style-type: none"> Complete redevelopment could lead to substantial additional costs, which may not be recouped by licence fees 	<ul style="list-style-type: none"> Cloud solution may make users nervous about loss of control of their data and structures.
Rough Order of Magnitude Cost (000s)		
Transition cost (capital year 1)	£525 - May be more depending on new features desired as part of enhanced feature set – uses an order of magnitude of £1,000/development day.	£525 - May be more depending on new features desired as part of enhanced feature set – uses an order of magnitude of £1,000/development day.
Run costs	£100 – assuming ~20% year on year	£50 – assuming half of ~20% year on year because of a lower support cost without needing setup
5 year total cost	£1025	£775