

Northern Health Science Alliance (NHSA) – Written evidence (LSI0105)

About the NHSA

1. The Northern Health Science Alliance (NHSA) is a partnership of eight leading universities, eight leading NHS Hospital Trusts and the four Academic Health Science Networks of the North England, established to improve the health and wealth of the region by building on an internationally recognised life science and healthcare cluster.
2. The NHSA works to promote the combined value of its membership and to secure inward investment in the Northern health science cluster as a national asset. We would be delighted to give oral evidence to the Committee as part of the inquiry to provide further detail as to the vital role of clusters in delivering the Life Sciences Industrial Strategy (LSIS) and the need to ensure that all parts of the UK are supported to deliver the strategy.

Summary of recommendations and the role of the NHSA

3. We strongly believe that a commitment to implement the LSIS recommendations would simultaneously help to end northern inequality in health outcomes and boost life sciences investment, promoting the region's £17.5 billion contribution to the UK life sciences industry.
4. The impact of this sector is significant, the private sector alone employs over 38,000 people across 1,000 Northern life science companies. Combined, these companies exported £7.3 billion worth of medicinal and pharmaceutical products in 2015 equating to 44.7% of UK exports in this category¹. In total, the North's health and life science sector employs 570,000 people and is forecast to grow by 44.6% by 2030.
5. However, while the North has world-leading strengths in health innovation, it is equally challenged by deep-rooted health inequality compared to other regions of the UK. Recent research from the University of Manchester and University of York published in the British Medical Journal (BMJ)² identifies worryingly persistent health inequalities between the North and South of England. Strategic government investment, and a recognition of the link between investment in research and patient outcomes, stimulated through the opportunity of the LSIS and the Sector Deal, could be the catalyst that ensures the North realises its economic and social potential.
6. The NHSA has been working closely with Sir John Bell throughout the development of the Strategy as a formal member of the LSIS Board. We are delighted to have been highlighted specifically by the Strategy as a successful exemplar of regional strength. Through our current projects, we are already delivering world-leading programmes across a number of the Strategy's recommendations. By supporting the NHSA's projects,

¹ HMRC 2016

² <http://jech.bmj.com/content/71/9/928>

Government can immediately deliver on the Strategy's recommendations, including:

7. **Reinforcing the UK science offer:** *further improve UK clinical trial capabilities* - The NHTA is leading the next revolution in health science; we have already established a memorandum of understanding that links the four Northern NIHR Clinical Research Networks (CRNs), which deliver clinical trials in the NHS, and are uniquely placed to support the NIHR CRNs increase capacity and delivery through pan-regional collaboration. Benefits of connected working across the region have already been seen in the roll out of a new way of activating new Trusts into clinical research thereby enabling a new generation of clinical researchers.
8. **Growth and infrastructure:** *identifying and selling regional strengths* - With the North's world leading capability in life sciences through world class universities and research infrastructure, we are pivotal in developing further global recognition for the region as a research cluster through enhancement of joint working and the colocation of industry and academia. Over the past three years, the NHTA has significantly raised the national and international profile of the North's life sciences ecosystem and helped to secure £60 million worth of contracts for its members.
9. **Growth and infrastructure:** *support the growth of life sciences clusters* - The NHTA is a founding member of a self-assembled alliance of UK Clusters including NHS Research Scotland, MedCity, Life Science Hub Wales and the GW4 Alliance. Working with the Academy of Medical Sciences this group will work with Government to promote a 'single front door' to the UK for research collaboration, partnership and investment as well as cross-cluster collaboration.
10. **NHS collaboration** - The NHTA unites eight NHS Teaching Trusts, eight top universities and four Academic Health Science Networks. We are ensuring that health research projects work in partnership through a collaborative model with the potential to be rolled out across the UK to underpin the research in the NHS.
11. **Data** - Our central project, Health North: Connected Health Cities (CHC), harnesses patient data to diagnose and treat patients quickly and deliver services more effectively and efficiently. It is a prime example of an innovative data ecosystem across multiple geographies of 3-5m populations, enabling easy linkage and comparison of data, facilitating forecasting, joined-up care and real-world outcomes-based evaluation.
12. **Skills:** Through our direct work with leading teaching hospitals and NIHR BRCs in the region as well as the N8 partnership, the NHTA is improving the attraction and retention of skilled talent, including for first and second jobs after graduation, and is actively seeking to increase opportunities for vocational training.

Recommendations:

Science and Innovation

- The Government should commit to working with the NHTA to support the establishment of a northern fund to help improve the flow of patient capital into the life sciences sector.
- The needs of the healthcare and life sciences sectors must be prioritised as part of a reformed immigration system developed post-Brexit.
- The UK Government must work with geographical clusters across the UK to develop a dedicated programme to support the future skills needs of the life sciences sector.
- The Government must fully commit to the HS3 rail programme, to radically improve connectivity across the Northern cities and improve investment opportunities across the region.
- The North must be prioritised for future rollout of ultra-fast broadband to support increased connectivity in advance of improvements to transport links being finalised.

Industrial strategy

- The Government must ensure that innovation is targeted at populations of highest unmet need, to overcome persistent health inequalities between the North and South of England.
- The Government must learn from the implementation of the 2011 Life Sciences Strategy and ensure that all geographical regions from the UK benefit from the LSIS recommendations.
- As part of its response to the LSIS, the Government should recognise the success and progress made by CHC in becoming a world-leader in the use of data.
- The Government must build on the North's successful data and digital capabilities by investing £80 million across the next five years of the Connected Health Cities programme.
- £20 million of further investment must be secured for the Salford Lung Study over the next five years, to help deliver on the clinical trials capabilities identified in the LSIS.
- SMEs must be supported by Government to improve understanding of engagement with businesses and other manufacturers in the life sciences supply chain.
- The Government must ensure that 20% of the spending secured as part of the Sector Deal for life sciences is spent in the North.
- The Government must ensure that existing clusters play a central role in the delivery of the LSIS and Sector Deal.

NHS procurement and collaboration

- The Government should do more to improve understanding of the role of AHSNs and the opportunities of working with AHSNs to improve access to innovation.

Responsibility and accountability

- The Government should reinstate the role of Life Sciences Minister at the earliest opportunity.

- Responsibility for the delivery of the LSIS should sit with a reappointed Life Sciences Minister.

Brexit

- The Government must ensure that the life sciences sector is prioritised through the forthcoming Brexit negotiations through: the development of an immigration policy which prioritises availability of highly skilled talent in life sciences, securing access to EU-wide funding programmes and retaining the UK's place in the EMA's regulatory framework.
- The Government must continue to pursue an outward-looking approach to foreign investment and prioritise frictionless free trade with countries across the globe.

Science and innovation

- 1. How can investors be encouraged to invest in turning basic life sciences research into new innovations in treatment? Why has investment been lacking in this sector? Does the research base have the necessary infrastructure to be world-leading?**
- 2. Why has the UK underperformed in turning basic life sciences research into intellectual property? What needs to be done to address this historic weakness in the UK and grow new companies to commercialise new research and related technologies in the life sciences sector?**

1.1 The North produces the same number of life science patents as London but does not have access to the same commercial growth capital to fully exploit these inventions. In other clusters across the world strategic, focused investment and the use of fiscal incentives has driven economic growth across the cluster.

1.2 Over the past ten years risk and growth capital deployed by venture capital funds has coalesced with Universities in London and the South East. A number of these Universities are now establishing their own investment funds. Imperial Innovations has £346m under management; UCL has secured £50m; Oxford Science Innovation has £570m under management and Cambridge Innovation Capital has £100m under management. In total, the South East has over £1bn available for University linked innovation.

1.3 The North has no such capital fund, yet it has more 'world-class' research universities than Spain, Italy and France combined, it has generated over 220 patents in the last 10 years, creating over 250 spin-outs from university based research. For the UK to commercially and economically capitalise on the North's health innovation strengths, it requires a pan-northern growth fund linked to its universities, research intensive teaching hospitals and spin-out/start-up clusters.

1.4 The NHTA is establishing a northern fund to raise capital and invest in growing companies in the North from technology based research institutions and businesses in: Durham, Newcastle, Lancaster, Liverpool, Leeds, Manchester, York and Sheffield. The fund will support the growth, scale-up and market

access needed to develop innovative new medical innovations. We are calling on Government to commit to work with the NHTA to help directly and indirectly support the establishment of Northern Innovation Capital for the development of a new fund to invest in novel technology and healthcare companies.

Recommendation

- The Government should commit to working with the NHTA to support the establishment of a northern fund to help improve the flow of patient capital into the life sciences sector.

3. What can be done to ensure the UK has the necessary skills and manpower to build a world class life sciences sector, both within the research base and the NHS?

3.1 The NHTA fully supported the recommendations in the LSIS to ensure that the sector is able to continue to have access to the brightest and best from across the world. We believe that the healthcare and life sciences sectors should be prioritised as part of the upcoming Brexit negotiations to ensure the sector is able to reach its full potential, particularly in the North.

3.2 There is also a particular need in the UK to develop the specific skills needs of the future in the healthcare sciences sector, particularly in the management and development of healthcare data and digital capabilities. Through direct work with leading teaching hospitals and research intensive universities, the North is improving the attraction and retention of skilled talent, including for first and second jobs after graduation, and is actively seeking to increase opportunities for vocational training and in attracting inward investment.

Recommendation

- The needs of the healthcare and life sciences sectors must be prioritised as part of a reformed immigration system developed post-Brexit.
- The UK Government must work with geographical clusters across the UK to develop a dedicated programme to support the future skills needs of the life sciences sector.

4. How does the UK compare with other countries in the sector, for example Germany and the United States?

4.1 Unlike other international health innovation clusters that often reside within a single city such as Boston and Singapore, or cities in close proximity such as the Golden Triangle of London-Cambridge-Oxford, the Northern 'cluster' is distributed across its great cities and its population of 15.2 million people.

4.2 Together the clusters of the North have the required combination of deep science, embedded within its research intensive universities, clinical innovation within its nationally leading NHS trusts, and commercial application from its life science companies to address national and international health challenges.

4.3 Working collaboratively through organisations like the N8 research intensive universities alongside wider universities, the NHTA and BioNow, the North has the scale and ability to use its health innovation assets to tackle and deliver against the challenges of 21st century medical innovation.

4.4 However, the Northern cluster would benefit immensely from strategic investment in infrastructure underpinning successful, modern, enterprise. The North has the potential to become a mega-cluster in a variety of sectors, including in life sciences and healthcare. For it to be a true cluster it requires the ease and free movement of its people, as a successful cluster is an environment where you are able to conduct high risk work in a low risk environment. It also requires recognition that the cluster will only meet its economic potential by working in a way which brings together cities across the cluster in an efficient and effective way, building a critical mass of expertise. Transport infrastructure is critical to this ambition.

4.5 With this in mind the recent government announcements on funding for improvements and upgrades across the northern rail network have been disappointing. We are calling on the Government to fully commit to delivering on the High Speed 3 (HS3) rail programme, which will radically improve connectivity between cities in the North. Improved and faster connections between the great cities of the North would be a key enabler of entrepreneurial activity, allowing investment and ideas to transfer across different cities in the North and build the economics of different geographies together.

4.6 Without the connectivity between our great cities, its universities, NHS trusts and thriving company base the North will continue to lose out to some of the more mature and better connected clusters elsewhere in the country.

4.7 To support growth in the North's world leading digital sector, the region should be supported to lead Europe with ultra-fast fibre to the premises broadband for businesses, connection to EU and US and early adoption of 5G. HM Treasury should ensure that the National Productivity Investment Fund, which will run between 2017/18 - 2020/21 is invested strategically in 5G to ensure the North can be inter connected between all advanced industries and emerging technologies, joining the dots digitally before they will be fully linked by transport infrastructure.

4.8 As a first step, the North needs at least two trials of gigabit capable broadband supported by vouchers in the 2017 funding round, with a further Northern-wide funding stream made available to allow for co-ordinated decision making. Furthermore, the North must be allocated £70 million of the remaining fund from the Budget to bring together local public and initially larger private sector customers to create enough broadband demand to reduce the financial risk of building new full-fibre networks.

Recommendation

- The Government must fully commit to the HS3 rail programme, to radically improve connectivity across the Northern cities and improve investment opportunities across the region.
- The North must be prioritised for future rollout of ultra-fast broadband to support increased connectivity in advance of improvements to transport links being finalised.

5. What can be learnt from the impact of the 2011 UK Life Sciences Strategy? What evidence is there that a strategy will work for the life

sciences sector? How can its success be measured against its stated objectives?

5.1 The 2011 Life Sciences Strategy provided a strong indication to the life sciences sector, both in the UK and internationally, of the UK's commitment to life sciences. However, there were a number of key learnings which must be considered as the Government prepares its approach to implementing the LSIS and Sector deal.

5.2 A particular concern was the lack of recognition of the persistent health inequalities between the North and the South, and the link between investing in innovation at the local/regional level and improvements in health outcomes. Investment in innovation must be targeted at populations with the highest unmet need. We believe that the Government and the NHS must use the strategy as a vehicle to improve health outcomes across the UK, ultimately driving productivity and economic growth.

5.3 The strategy was also not as forward-thinking as the latest LSIS. Whilst there were encouraging developments through the 100,000 Genomes Project and the development of Academic Health Science Networks, the first strategy did not look towards the benefits that future technology could bring. The latest strategy is far better at articulating these future advances, including convergent technology.

5.4 National initiatives and centres that were set up to drive local growth through the strategy were also far too focused on London and the South East. As the Government prepares its approach to delivering the LSIS, it must ensure that all appropriate geographical cluster organisations are included in the planning and delivery of recommendations, to ensure the benefits of the LSIS are realised across the country.

5.5 The Government must also ensure that appropriate levels of funding are made available for the delivery of the LSIS. As a starting point, it should invest 20% of UK research funding in the North, to match levels of private sector investment, and overcome current inequalities in government funding awards between the regions of the UK.

Recommendation

- The Government must ensure that innovation is targeted at populations of highest unmet need, to overcome persistent health inequalities between the North and South of England.
- The Government must learn from the implementation of the 2011 Life Sciences Strategy and ensure that all geographical regions from the UK benefit from the LSIS recommendations.

6. Does the strategy contain the right recommendations? What should it contain/what is missing? How will the life sciences strategy interact with the wider industrial strategy, including regional and devolved administration strategies? How will the strategies be co-ordinated so that they don't operate in 'silos'?

6.1 The NHTA believes the LSIS is a comprehensive strategy with many encouraging recommendations to support the UK to build a world-leading life sciences hub.

6.2 We were particularly encouraged by the recognition of the importance of data to the strategy's recommendations. The Salford Lung Study, profiled as a successful data case study, is a programme actively supported by members from across the NHTA, and a demonstration of the power of healthcare organisations working together to deliver transformative outcomes for patients. As the Government and the NHTA look to work together to improve the UK's data capabilities and realise the potential of the NHS, we urge the Government to build on success that already exists, as opposed to replicating and duplicating efforts in other areas.

6.3 Recognising both the health needs of North England and the region's excellence in data-intensive health sciences, HM Treasury allocated £20m in the 2015 Spending Review to fund Health North: Connected Health Cities pilots. These pilots are a Government initiative to generate and spread innovations in data analytics that deliver more effective and efficient health and social care. The programme is also a practical response to the deep-rooted health inequalities identified earlier in this submission.

6.4 CHC supports cities and regions across the North to better plan for, and overcome, public health challenges across the region, and in turn also improve the economic potential and productivity of the North. The results thus far have been extremely encouraging, with support from patients, the academic community and clinicians. The programme has been promoted extensively in regional media, with one regional newspaper even using the headline 'Only data can save the NHS' to describe CHC, recognising the potential of data to radically transform healthcare outcomes.

6.5 Delivered by the NHTA, the initiative is piloting data-intensive health service optimisation methodology to understand how digital health can work most efficiently in regions, drawing on vital local understanding and ownership. NHTA's Connected Health Cities Hub is working to network the learnings across the northern regions – a model that has been developed to scale across regions outside the North.

6.6 Whilst the LSIS supports the development of data hubs for populations of 3 – 5 million people, the NHTA is already delivering an at-scale, successful, data-based approach to care planning and co-ordination covering some 15 million people across the North. With a successful data and digital economy now established alongside this programme, it is vital that it is supported by the Government to continue its work and deliver on the potential results for the Exchequer and patients. As part of its response to the LSIS and forthcoming Sector Deal, we are calling on the Government to recognise the success of CHC, and highlight the programme as an exemplar to be followed as systems across the UK develop and manage new data hubs.

6.8 With this in mind, **additional investment of £80 million will be required over the next five years for the pilot CHCs to be fully developed and sustainable.** The current 2-pathways per region model will be scaled-up to 10

pathways per region, creating a critical-mass effect within each region and across the North. This is a low-risk strategy as the additional pathways have already been identified and there is strong support for taking them forward.

6.9 The Salford Lung Study, a highly successful and world-first real-world Randomised Control Trial (RCT), should also be further supported by Government to enable the delivery of the clinical trials capabilities within the LSIS and continue to attract inward investment.

Recommendation

- As part of its response to the LSIS, the Government should recognise the success and progress made by CHC in becoming a world-leader in the use of data.
- The Government must build on the North's successful data and digital capabilities by investing £80 million across the next five years of the Connected Health Cities programme.
- £20 million of further investment must be secured for the Salford Lung Study over the next five years, to help deliver on the clinical trials capabilities identified in the LSIS.

7. What opportunities for small and medium sized enterprises (SMEs) are there/should there be in the strategy? How can they be involved in its development and implementation?

7.1 The NHTA believes that the full spectrum of companies and organisations involved in the development of life sciences in the UK should be represented as part of implementation plans for the strategy.

7.2 As a practical recommendation, the Government should introduce cross cutting support for SMEs to take advantage of pan-Northern supply chain opportunities, including working collaboratively across businesses to meet end manufacturers requirements and taking suppliers right through the process.

Recommendation

- SMEs must be supported by Government to improve understanding of engagement with businesses and other manufacturers in the life sciences supply chain.

8. Where should the funding come from to support the implementation of the strategy?

8.1 The Government must ensure that funding is made available to support all the recommendations of the LSIS, to ensure that all parts of the UK life sciences sector are supported to thrive.

8.2 The North has historically been underinvested in by the public sector in clinical and healthcare research, receiving only 13.6% of funding across the UK in 2014. Of the recent National Institute of Healthcare Research (NIHR) Biomedical Research Centres (BRC) funding allocation of £816 million, only 6.7% of the total funding went to the North, whilst 83% went to the Golden Triangle. Analysis has continually shown that investment in healthcare research has a significantly positive impact on patient outcomes, and as such, with the

identified widening health inequality between the North and the South it is extremely disappointing that more has not been done to address the research funding gap.

8.3 Increased investment in the North's research infrastructure would also ensure that the North can contribute more actively to the wider UK life sciences sector, which brings significant wider benefits to the UK economy. Studies have shown that collaborative R&D in bioscience has a Gross Value Added (GVA) of £3.97 for every £1 spent. Improving northern health would also lead to improved productivity and close the gap in GVA between the North and the South.

8.4 The Government has a short-term opportunity to deliver this much-needed investment through the forthcoming Life Sciences Sector Deal, building a long-term plan for life sciences investment in the UK. The NHS believes that the Sector Deal must recognise the importance and potential of investing in the Northern cluster to the whole of the UK economy. In order to do this, we are calling on the Government to invest 20% of the Life Sciences Sector Deal in the North, to enable the region to catch up with other regions in England. This would also further stimulate private sector investment in the region, which has continued to grow year on year in part due to the success of the North's key healthcare system leaders working collaboratively to secure investment through the NHS network.

Recommendation

- The Government must ensure that 20% of the spending secured as part of the Sector Deal for life sciences is spent in the North.

9. How do the devolved administrations and city regions fit into the strategy? Scotland has its own Life Sciences Strategy, how will the two interact?

9.1 The NHS believes that implementation of the LSIS should be driven through regional clusters, and the focus on clusters and place as drivers of growth within the LSIS was extremely encouraging.

9.2 The Strategy called for existing regional clusters to work together to provide a 'single front door' to the UK for research collaboration and investment. By bringing together cluster organisations, trade bodies and academic consortia, the Government can identify where the UK has globally competitive R&D excellence in life sciences to attract collaboration opportunities and inward investment to the right places.

9.3 The launch of the Life Sciences Industrial Strategy follows a year of intense collaboration between a group of life sciences organisations including Northern Health Science Alliance, MedCity, Life Science Hub Wales and the GW4 Alliance.

9.4 The group has been working together to better understand how regional clusters can support the delivery of the LSIS, with support from the Academy of Medical Sciences and Wellcome.

9.5 They are typically self-assembled to exploit regional expertise and excellence, and promote improved health and wealth both regionally and nationally.

9.6 Many act as multi-faceted 'convening' bodies which bring together the breadth of the value and supply chain including academia, NHS, Government, industry and membership organisations, to drive the economy.

9.7 They are supported by formal governance systems, strategies and infrastructure to deliver collaborative research and development at scale.

9.8 These groups are distinct from membership organisations which exist to represent member needs. Clusters have different finance and operational systems that enables independence, and aim to support regional organisations to drive economic value and health improvement.

9.9 This group has welcomed the recommendations of the Life Science Industrial Strategy and has called for the UK Government to continue to work closely with its members and the Academy of Medical Sciences to deliver a sector deal that will ensure that the sector remains at the leading edge of life science research and health innovation globally.

Recommendation

- The Government must ensure that existing clusters play a central role in the delivery of the LSIS and Sector Deal.

10. How can public procurement, in particular by the NHS, be an effective stimulus for innovation in the Life Sciences Sector? Can it help support emerging businesses in the Life Sciences Sector?

10.1 The scope of the NHS has the potential to be a fantastic asset for UK Plc, with the opportunity to harness the power of the NHS' single payor system to improve use and outcomes driven by patient data, and support technology companies to engage with the market at a national and a local level.

10.2 Since their creation in 2013, the Academic Health Science Networks (AHSNs) across the North have supported innovators to engage with the NHS marketplace and worked closely with local National Institute for Healthcare Research (NIHR) Clinical Research Networks (CRNs) to advance clinical trials capabilities and opportunities for inward investment.

10.3 AHSNs regularly work with companies across the life sciences sector, from SMEs to start ups and international life sciences investors, to provide advice on market access strategies and make recommendations for appropriate local contacts and entry points into the NHS. All of the four northern AHSNs place great importance on ensuring that only those ideas which present a real and valid opportunity for positively impacting upon patient care are progressed. As the Government prepares its response to the LSIS, it should do more to enhance recognition of the role of AHSNs and the opportunities for companies to use their expertise and local insight to improve opportunities to access effective products and new technologies.

Recommendation

- The Government should do more to improve understanding of the role of AHSNs and the opportunities of working with AHSNs to improve access to innovation.

11. How can the recommendations of the Accelerated Access Review (AAR) be taken forward alongside the strategy? Will the recent changes to the NHS England approval process for drugs have a positive or negative effect on the availability of new and innovative treatments in the NHS? How can quick access to new treatments and the need to provide value for money be reconciled?

No NHSA response.

12. How can collaboration between researchers and the NHS be improved, particularly in light of increased fiscal pressure in the NHS? Will the NHS England research plan help in this regard? How can the ability of the NHS to contribute to the development of and adopting new technologies be improved?

12.1 The NHSA model is unique in bringing together researchers, clinicians and innovators to work together to build world leading research capabilities and improve health outcomes for patients across the Region. Our members stand ready to work together to deliver on the aims and recommendations within the strategy, with full support from the NHS Trust Chief Executives, University Vice Chancellors and AHSN Chief Executives. We call on the Government to work closely with NHSA members to identify and deliver on a long-term programme of increased investment in northern healthcare sciences as set out in this submission.

13. Who should take responsibility of implementation of the LSIS and to whom should they be accountable? What should the UK Government's role be? What should the role of the academic, charitable and business sectors be?

14. What is the role of companies within the sector, particularly the large pharmaceutical companies, in the implementation of the strategy? How are they accountable for its success?

13.1 The NHSA believes that a renewed Life Sciences Minister should oversee implementation of the LSIS. Clear delivery metrics and a roadmap for implementation should also be signed and agreed with the members of the LSIS board, on behalf of their constituent parts of the UK and global life sciences ecosystem.

13.2 It is important that all parts of the sector – both geographically and in terms of size and scope – are represented as part of the implementation plans for the LSIS, given the diverse nature of the sector and the complex nature of the interactions between different companies and different parts of the Government and the NHS.

Recommendation

- Responsibility for the delivery of the LSIS should sit with a reappointed Life Sciences Minister.

15. Does the Government have the right structures in place to support the life sciences sector? Is the Office of Life Sciences effective? Should the Government appoint a dedicated Life Sciences Minister? If so, should that Minister have UK-wide or England-only responsibilities?

15.1 The Life Sciences industry is regularly described as one of the 'jewels in the crown' of the UK economy and as such, the support of a dedicated UK Life Sciences Minister would be invaluable. Indeed, the sector was deemed so crucial to the UK's future economic growth that the former Prime Minister, David Cameron, created the world's first Life Science Minister, a role first filled so expertly by George Freeman MP, and more recently by Lord Prior.

15.2 The appointment of a dedicated Minister demonstrated the commitment of the Government to the sector and signalled to the global industry that life sciences and healthcare innovation was at the forefront of the Government's economic and industrial agenda. A new role, combined with the government's continued support to areas such as dementia research and genomic medicine, would again be invaluable in reassuring the life sciences industry and restating the government's commitment to growing our scientific and industrial research base.

Recommendation

- The Government should reinstate the role of Life Sciences Minister at the earliest opportunity.

Brexit

16. What impact will Brexit have on the Life Sciences sector? Will the strategy help the sector to mitigate the risks and take advantage of the opportunities of Brexit?

17. How should the regulatory framework be changed or improved after Brexit to support the sector?

18. To what extent should the UK remain involved with and contribute to agencies such as the EMA post Brexit?

16.1 Brexit has led to a significant amount of uncertainty within the sector. Issues including access to European grant funding and the flow of talented students, academics and skilled workers from the EU into UK universities, laboratories and companies are a major concern. What is more, the departure of the European Medicine Agency (EMA) from the UK post-Brexit, with the associated need for clarity with regard to regulation, will not only lead to job losses but may result in delays in new medicines reaching UK patients.

16.2 NHS members were encouraged by the recognition within the LSIS of the need for continued access to highly skilled global talent post-Brexit, and the recommendation to pursue close regulatory co-operation with the EMA.

16.3 While the Brexit process poses a number of real risks to the UK's life science and health innovation economy, it also offers opportunity to try new approaches to regulation and greater collaboration with the Commonwealth and other countries around the world. The NHTA has proactively worked to develop investment links across the world since we were established in 2011, and has a regular presence on international trade missions and at international conferences around the world.

16.4 This year alone we will have visited the US, Japan, Australia and countries across Europe highlighting the benefits of investing in the northern cluster, building on the £60m+ of investment we have attracted into the region in the past six years. We have been encouraged by the Government's outward-looking proposals to become a champion of global trade. As the UK looks to identify its USP for global investors, the Government must actively champion the life sciences industry and the North, building on the Northern Powerhouse life sciences proposition agreed by UK Trade and Investment in 2016.

Recommendation

- The Government must ensure that the life sciences sector is prioritised through the forthcoming Brexit negotiations through: the development of an immigration policy which prioritises availability of highly skilled talent in life sciences, securing access to EU-wide funding programmes and retaining the UK's place in the EMA's regulatory framework.
- The Government must continue to pursue an outward-looking approach to foreign investment and prioritise frictionless free trade with countries across the globe.

21 September 2017