



Department of Health

From the Lord O'Shaughnessy
Parliamentary Under Secretary of State for Health (Lords)

Lord Jay of Ewelme
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Dear Lord Jay,

01 MAR 2018

Thank you for your follow-on letter of 8 February 2018 in response to our joint DHSC/BEIS letter, which addressed a number of the Health Select Committee's concerns regarding the future supply of medical radioisotopes when the UK leaves Euratom and the EU. In your latest letter you have requested further clarification on several specific areas, I hope the following information addresses the points you have raised. I note that BEIS's Parliamentary Under-Secretary, Richard Harrington MP has also received this letter, so I am also responding on behalf of both of us.

Medical isotope stakeholder meeting

The official meeting note from the stakeholder meeting held on 8 December can be found in Annex 1, which summarises the key points discussed at this meeting and follow up actions. This meeting note has been circulated to all invited attendees. A follow up meeting has now been scheduled for Friday 27 April. The invitation has been sent out to the same group of stakeholders that previously attended including the RCR, the BMA and the UK Radiopharmacy Group and many of these groups have already confirmed their attendance. I also plan to meet with the RCR and the BMA over the coming months to further discuss this matter and reassure them of the work taking place across Government to support the continued supply of medical radioisotopes.

Engagement with Industry stakeholders

Industry stakeholders were not represented at the 8 December meeting, as the primary objective of this meeting was to have an open discussion with our clinical community who have voiced public concerns about the future use of nuclear medicine within the NHS following our withdrawal from Euratom. We have, however, been engaging closely with the nuclear industry separately and their views, data and intelligence are already feeding into our work. We have asked companies to share details of their scenario planning and our consultants have already held in-depth interviews with the key suppliers of molybdenum-99 and technetium-99m. This information exchange between Government and the nuclear industry will provide a strong basis for any future contingency plans that may be required in the event of disruption to normal supply routes. We are

continuing to work closely with the nuclear medicine industry sector, and have opened our invitation to the second stakeholder meeting in April out to these companies.

Future customs arrangements

We note your concerns that a future list of priority goods could be extensive. However, HMRC, through its National Clearance Hub, already has a process to identify 'urgent goods' requiring faster treatment by their nature (e.g. perishable food, explosives, and hazardous chemicals). The process is and will remain under the control of HMRC and will be reviewed where necessary. This process is used now for products entering from outside the EU, and is an administrative measure that is not dependent on the UK's membership of the EU. As a matter of administration of the customs system, the question of enforcement of a decision does not arise.

Euratom Research and Development

The UK is a world leader in nuclear Research and Development (R&D), and the Government is committed to maintaining and building on our lead in this important field. As set out in a Written Ministerial Statement on Euratom published on 11 January the UK aims to seek a close association with the Euratom Research and Training programme, including the JET and ITER projects. The detail and precise nature of this association will be subject to future relationship negotiations with the EU, so we are unable to provide further details at this stage, but we shall ensure that we update you on any progress made in this area in due course.

Domestic production of technetium-99m

Regarding your concerns that domestic production of technetium-99m will be challenging as the existing cyclotron reactors are not powerful enough, we are engaging closely with Alliance Medical which has made significant progress on this project. In addition to the cyclotron they are building in Dinnington, which should be producing technetium-99m on a commercial basis by the end of 2019, Alliance already has plans to build another cyclotron in the south of England to commence in late 2019/early 2020. Alliance Medical has advised that going forward the capacity of these two cyclotrons will enable them to provide cyclotron-produced technetium-99m to support radiopharmacies throughout the UK.

While this extra manufacturing capacity on UK soil will, without a doubt, reduce the volume of imported molybdenum-99 that we require from Europe and the rest of the world in the future, I should make it clear that the intention is not for this to negate the need for molybdenum-99 imports entirely. The UK will still very much be reliant on the supply of these products from Europe and the rest of the world. Hence, we consider it a very high priority to negotiate a

future customs arrangement with Europe that ensures cross-border trade is as frictionless as possible. You may be aware that there are currently 4 new reactors that are scheduled to start producing molybdenum-99 and technetium-99m by 2022 in Argentina, France, Germany and Korea, which will increase the global supply of molybdenum-99 that the UK will have access to.

In addition to this, researchers around the world are continuing to explore new technologies for producing molybdenum-99 and technetium-99m. This includes the two US projects, which are making significant progress:

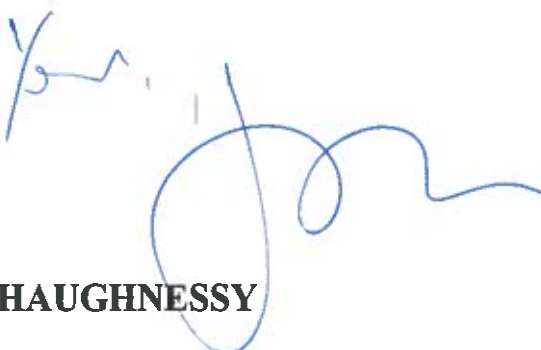
- Two NorthStar projects, which are estimated to supply 49% of global demand by 2022. One of these projects does not use a research reactor and is expected to start production in 2020.
- SHINE uses accelerator technology to bombard uranium salts with neutrons. It aims to begin production in 2020 and expects to meet 32% of global demand by 2022.

The capacity of current and future global molybdenum-99 reactors, alongside UK domestic production of technetium-99m and the development of these new technologies are all being considered across Government and will help inform any potential mitigating actions that we need to consider to ensure continuity of supply.

Workforce implications

With regards to your request for data on workforce, please see data in Annex 2, which shows NHS Hospital and Community Health Services doctors by specialty (including Nuclear medicine and clinical radiology) and by nationality group. This information is published by NHS Digital.

I would like to take this opportunity to further reassure you that across Government, we are in complete agreement on the importance of medical radioisotopes, and consider the continuity of supply of these products as well as other medicines to be a high priority matter following UK's withdrawal from the EU. I hope that this additional information assures you that we are already investing time to consider the complexity of this matter from several different angles and that this subject continues to be a priority for the Government in both our domestic preparations as well as in our negotiations on our future relationship with the EU.



JAMES O'SHAUGHNESSY

Annex 1: Medical Radioisotope supply stakeholder meeting note

Meeting held: 8th Dec 14.30-16.00

Attendees

HMG

- Rob Kettell (DH – Chair)
- Sarah McAleer (DH)
- Rebecca Diment (DH – MHRA Sponsor)
- Alex Bion (DH)
- Nasreen Parkar (Public Health England / ARSAC)
- David Wagstaff (BEIS)
- Sophie Page (BEIS)
- Jefferson Yen (BEIS)
- James Harrison (DExEU)
- Nathan Genese (DExEU)
- Alex Williams (NHS England)
- Aziz Yusuf (HMRC)

Stakeholders

- Dr Frances Yuille (Royal College of Radiologists)
- Ms Rachel Downing (RCR)
- Dr Caroline Rubin (RCR)
- Sue Johnson (Society and College of Radiographers) – dial-in
- Michael Rees (British Medical Association)
- Laurence Russell (BMA)
- John Dickson (Nuclear Medicine Special Interest Group -NMSIG)
- Beverley Ellis (British Nuclear Medicine Society)
- Jilly Crossdale (UK Radiopharmacy Group)
- Neil Hartman (UK Radiopharmacy Group)

Summary of discussion

1. Welcome and introduction

- DH explained that they are responsible for the security of supply of medicines and is therefore leading on managing any health impacts in terms of issues with the availability of medicines post Brexit. However, as medical isotopes are a cross-cutting issue, many Departments all have a role to play, hence the presence of several other government departments at the meeting as we are all working together on this issue.
- DH will remain the first point of contact for radioisotope supply and will continue to coordinate the cross government approach on this subject.
- This meeting provides the opportunity for stakeholders to learn more about the work HMG is undertaking on medical radioisotope supply and for stakeholders to share their views and concerns so we can feed this into our ongoing work.

2. Discussion on Euratom Exit issues

- BEIS talked through the Euratom Treaty and explained that the UK's ability to import medical radioisotopes will not be affected by our withdrawal from Euratom.
- As a form of radioactive material, medical radioisotopes are captured by the Euratom Treaty framework. However, these references are only in the context of research and in the list of goods subject to the Nuclear Common Market, and do not pose restrictions for exports from EU Member States.
- There is nothing in the Euratom Treaty that prevents their export from an EU Member State to countries outside of the EU nor are they covered by nuclear safeguards regimes.
- The term "safeguards" has often been raised as a potential obstacle to the import of medical radioisotopes. Medical radioisotopes do not fall into the category of material – so-called "special fissile material" – within the ambit of nuclear safeguards regimes, such as that envisaged by the Nuclear Safeguards Bill.
- Likewise the trade in medical radioisotopes is also not subject to the approval of the Euratom Supply Agency which governs the supply of special fissile materials within the Euratom Community.

- The UK already has robust, domestic regimes in place for the safety, security, transport, use and disposal of nuclear and radioactive materials – including medical radioisotopes – throughout their lifecycle. These regimes will remain in place as the UK leaves Euratom, ensuring we exit with certainty, clarity and control.
- In addition, relevant Euratom and EU safety and transport legislation Directives have already been, or are in the process of being, transposed into UK law before the UK's withdrawal. The EU Withdrawal Bill will convert all European law, including that made under the Euratom Treaty, as it stands at the moment of exit into UK law.
- Euratom has no role in setting security standards or regulating or inspecting of security arrangements in the UK or in any other EU Member State.
- *BMA asked/pointed out:*
 - That the ESA and European Observatory had a role in medical isotopes. BEIS replied that ESA had a coordinating/decision-making role, but BMA requested that we should look further into the ESA and consider future cooperation. However, this aspect is for future negotiation as UK could want to cooperate, but the EU also needs to agree
- *UK Radiopharmacy Group asked/pointed out:*
 - How will HMG cooperate with Euratom in case of future shortages? BEIS replied that during the shortage in 2012, national governments took the lead and it would likely remain so. Furthermore, there were supplies from third countries (e.g. South Africa) already. However, it was pointed out longer distances meant more wastage, and that the UK clinics contacted AIPES (EU-wide trade association for nuclear medicine) to help with shortfall in 2012. ACTION DH - to further investigate the role of AIPES and whether UK can still maintain membership
 - Is HMG ready for negotiations, and how will we ensure that they can be completed in time when they noted that Michel Barnier announced negotiations would not commence until February. BEIS replied that HMG was doing in-depth preparations and that HMG is pushing to start negotiations ASAP

3. Regulatory issues

- DH (MHRA sponsor) explained current regulatory framework (with the European Medicines Agency and national regulators including the MHRA) and preparations for future relationship (including ambitions and contingency planning).

- *BMA asked/pointed out:*

- According to their sources, costs of medicine licencing would increase significantly (1 example from £9,000 to £90,000) and that MHRA's workload would increase significantly whilst expertise was moving from London to Amsterdam following the EMA. DH and DExEU asked for the source of numbers and would look into it
- How would the UK ensure access to skilled workers, considering the current shortages. DH explained that this was dependent on future immigration system which is still currently being developed and discussed with Home Office

- *UK Radiopharmacy Group asked/pointed out:*

- Whether HMG would pursue a mutual recognition agreement with the EU for medicines and whether we could collaborate on R&D. DH and BEIS said both were topics for negotiations but ambition was for ensuring continuity whilst preparing for contingencies
- What was the current system/process for Norway and Switzerland's cooperation, and how could they move medicines across borders. DExEU replied that work is undergoing to assess border processes and different partnership models, and recalled ambition to continue cooperation as UK was leaving the EU but not Europe.
- Whether the MHRA would be sufficiently staffed, noting that there are many vacancies and stretched resources already (e.g. large backlogs in inspections). DH replied that work is underway to ensure MHRA is ready, and would meet with MHRA during the week of 11 December and would raise this issue and report back to stakeholder about this at future meetings.

- *BNMS asked/pointed out:*

- What work is on-going to have replacement licencing regimes/arrangements post-exit? DH explained that parallel import regimes were for the negotiations but in case of no alternative arrangement, contingency planning was underway with UK's domestic regime

- *ARSAC/PHE asked/pointed out:*

- Not all medical radioisotopes or radioactive medical goods were low-activity sources. Some could be high-activity and subject to Counter-terrorism checks (and perhaps nuclear safeguarding arrangements). BEIS specified that Safeguards only cover SFM which is narrowly defined, but agree to follow-up and understand which materials need considering. DH advised that they had sent list of medicines and medical isotopes to the UK Radiopharmacy Group to check and for comments. ACTION Dh to also share list with ARSAC and for

ARSAC/UK Radiopharmacy to feedback on any additional products that should be on list including sealed source products i.e. those for Bracco therapy

4. Border control and customs processes

HMRC explained the current border control and customs processes (with HMRC setting policy in coordination with OGDs) and the contingency work taking place (e.g. Customs Bill). HMRC noted that under any new system, there would be a change for cross-border trade with the EU but HMRC would work with traders to make sure it was as seamless as possible. HMRC also outlined their policy of fast-tracking (maximum 2 hours, but aiming for less in operational terms) of dangerous and hazardous goods, and would clarify whether medical isotopes are included

BMA asked/pointed out:

That Council Regulation 1493/93 seemed to govern the safe and secure transport of medical isotopes. BEIS clarified that this was a Euratom Regulation that served as an information gathering tool and did not set standards of transport or handling, nor was it a licencing regime. BMA acknowledged, but followed up by asking what tangible changes would take place in the import/export licencing regime.

Changes to current system may encourage medical isotope manufacturers to relocate from UK to EU-27, referring to discussions BMA had with GE Healthcare. DH advised they too are also in discussion with UK based GE Healthcare and are working with them to ensure that they will continue supplying the UK market.

UK Radiopharmacy Group asked/pointed out:

That timescales very tight, pharmacies starting at 4.30 in morning and that any delay (even if 2 hours) would lead to wastage of medical isotopes and cause patient delays. HMRC acknowledged, but said that the 2-hours was a maximum and most cleared much faster. HMRC agreed to consider medical radioisotopes at the border further

Functions of the Border Planning Group

DExEU briefly presented the structure and functions of the Border Planning Group.

Consideration of implications of EU exit and preparatory actions

DH talked through the work being undertaken to assess the impact of EU exit on the supply chain for all medicines and for medical radioisotopes used in the NHS, which will include the list of NHS radioisotopes (as discussed earlier).

DH expects the initial phase of work to be concluded in Spring 2018 to inform our approach to EU Exit planning.

A cross-Government steering group, which includes all the relevant organisations listed above (including BEIS), has been established to oversee and contribute to this work.

Medical radioisotopes will be one area of focus for the work, and we expect the project to engage many of the key stakeholders present today to inform this work and develop any mitigating measures that are required.

BMA asked/pointed out:

Whether alternative techniques or sources were being explored. DH advised that they are aware about the developments in the UK to start producing technetium-99m locally via cyclotron reactors, which may reduce the volume of imported Molybdenum-99 that we require from Europe going forward and are in discussion with the industry about the ongoing developments of this project

UK Radiopharmacy Group replied that new reactors were expensive and niche.

BMA advised HMG that further engagement with nuclear industry stakeholders about possibility of manufacturing medical isotopes in their reactors should be a priority

Conclusion

DH reiterated that all the government agencies present today are fully aware of the importance of medical radioisotopes to the NHS, and the time-critical nature of these products means that we are already treating them as a high priority in considering the implications of EU exit for the supply of pharmaceuticals.

Officials will continue to work closely across Government and with stakeholders to ensure that the NHS can continue to secure access to medical radioisotopes.

Participants agreed that this session was useful as an exchange of information.

UK Radiopharmacy Group pointed out that this session focused on the products, but access to skilled workers was another crucial component that further work was needed on this. DH agreed to add workforce to the agenda for future meetings.

BMA offered to continue engaging to help DH and OGDs on this subject.

DH to arrange a further meeting for Spring 2018.

Annex 2: NHS Hospital and Community Health Services (HCHS): HCCHS doctors by specialty and nationality group, in NHS Trusts and CCGs in England, as at 31 October 2017, headcount and percentage

NHS Trusts and CCGs, as at 31 October 2017

Source: NHS Digital NHS Hospital & Community Health Service (HCCHS) workforce statistics.

Specialty	Headcount						Proportion					
	All nationality groups	United Kingdom	European Union	European Economic Area	Rest of World	Unknown	All nationality groups	United Kingdom	European Union	European Economic Area	Rest of World	Unknown
All specialties	116,743	81,819	10,686	123	18,311	5,929	100.0%	70.1%	9.2%	0.1%	15.7%	5.1%
Acute Internal Medicine	1,500	996	132	1	314	57	100.0%	66.4%	8.8%	0.1%	20.9%	3.8%
Additional dental specialties	47	44	-	-	1	2	100.0%	93.6%	0.0%	0.0%	2.1%	4.3%
Allergy	30	13	9	-	8	-	100.0%	43.3%	30.0%	0.0%	26.7%	0.0%
Anaesthetics	12,412	8,984	1,013	12	1,782	624	100.0%	72.4%	8.2%	0.1%	14.4%	5.0%
Audio Vestibular Medicine	67	46	9	-	8	4	100.0%	68.7%	13.4%	0.0%	11.9%	6.0%
Cardiology	3,058	2,082	332	3	488	154	100.0%	68.1%	10.9%	0.1%	16.0%	5.0%
Cardio-thoracic surgery	894	470	202	2	186	35	100.0%	52.6%	22.6%	0.2%	20.8%	3.9%
Chemical pathology	175	125	10	-	28	12	100.0%	71.4%	5.7%	0.0%	16.0%	6.9%

Child and adolescent psychiatry	1,119	805	128	-	120	68	100.0%	71.9%	11.4%	0.0%	10.7%	6.1%
Clinical genetics	223	180	23	-	10	10	100.0%	80.7%	10.3%	0.0%	4.5%	4.5%
Clinical neurophysiology	142	83	29	1	21	8	100.0%	58.5%	20.4%	0.7%	14.8%	5.6%
Clinical oncology	1,372	1,026	108	-	171	67	100.0%	74.8%	7.9%	0.0%	12.5%	4.9%
Clinical pharmacology and therapeutics	56	42	6	-	8	-	100.0%	75.0%	10.7%	0.0%	14.3%	0.0%
Clinical radiology	4,474	3,214	428	3	582	252	100.0%	71.8%	9.6%	0.1%	13.0%	5.6%
Community Health Service Dental	921	776	60	-	46	40	100.0%	84.3%	6.5%	0.0%	5.0%	4.3%
Community Health Service Medical	498	381	35	-	53	29	100.0%	76.5%	7.0%	0.0%	10.6%	5.8%
Community Sexual and Reproductive Health	306	255	11	-	27	14	100.0%	83.3%	3.6%	0.0%	8.8%	4.6%
Dental and Maxillofacial Radiology	15	13	1	-	1	-	100.0%	86.7%	6.7%	0.0%	6.7%	0.0%
Dental Public Health	2	2	-	-	-	-	100.0%	100.0%	0.0%	0.0%	0.0%	0.0%
Dermatology	1,369	998	149	2	146	77	100.0%	72.9%	10.9%	0.1%	10.7%	5.6%
Diagnostic Neuropathology	7	3	1	-	2	1	100.0%	42.9%	14.3%	0.0%	28.6%	14.3%
Emergency Medicine	6,900	4,854	529	11	1,236	270	100.0%	70.3%	7.7%	0.2%	17.9%	3.9%
Endocrinology and diabetes mellitus	1,629	1,071	120	-	369	70	100.0%	65.7%	7.4%	0.0%	22.7%	4.3%
Endodontics	13	7	5	-	1	-	100.0%	53.8%	38.5%	0.0%	7.7%	0.0%

Forensic Histopathology	3	3	-	-	-	-	-	-	-	100.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Forensic psychiatry	600	464	41	-	73	22	77.3%	100.0%	6.8%	0.0%	0.0%	0.0%	12.2%	3.7%		
Gastroenterology	2,633	1,838	220	2	422	153	69.8%	100.0%	8.4%	0.1%	0.1%	0.1%	16.0%	5.8%		
General (internal) medicine	4,953	3,326	362	6	965	294	67.2%	100.0%	7.3%	0.1%	0.1%	0.1%	19.5%	5.9%		
General Practitioner Dental	52	49	2	-	1	-	94.2%	100.0%	3.8%	0.0%	0.0%	0.0%	1.9%	0.0%		
General Med Practitioner	1,444	1,212	43	2	61	131	83.9%	100.0%	3.0%	0.1%	0.1%	0.1%	4.2%	9.1%		
General pathology	97	73	5	-	12	7	75.3%	100.0%	5.2%	0.0%	0.0%	0.0%	12.4%	7.2%		
General Practice (GP) 6 month Training	1,113	890	63	1	105	54	80.0%	100.0%	5.7%	0.1%	0.1%	0.1%	9.4%	4.9%		
General psychiatry	6,276	4,195	642	5	1,047	387	66.8%	100.0%	10.2%	0.1%	0.1%	0.1%	16.7%	6.2%		
General surgery	7,203	4,903	782	8	1,123	392	68.1%	100.0%	10.9%	0.1%	0.1%	0.1%	15.6%	5.4%		
Genito-urinary medicine	777	601	55	-	83	41	77.3%	100.0%	7.1%	0.0%	0.0%	0.0%	10.7%	5.3%		
Geriatric medicine	4,078	2,938	264	6	641	229	72.0%	100.0%	6.5%	0.1%	0.1%	0.1%	15.7%	5.6%		
Haematology	1,663	1,161	173	2	246	81	69.8%	100.0%	10.4%	0.1%	0.1%	0.1%	14.8%	4.9%		
Histopathology	1,659	1,070	207	-	282	100	64.5%	100.0%	12.5%	0.0%	0.0%	0.0%	17.0%	6.0%		
Immunology	132	89	15	1	20	7	67.4%	100.0%	11.4%	0.8%	0.8%	0.8%	15.2%	5.3%		
Infectious diseases	398	299	40	-	35	25	75.1%	100.0%	10.1%	0.0%	0.0%	0.0%	8.8%	6.3%		
Intensive care medicine	1,707	1,140	221	1	270	75	66.8%	100.0%	12.9%	0.1%	0.1%	0.1%	15.8%	4.4%		
Medical microbiology	658	476	67	1	84	30	72.3%	100.0%	10.2%	0.2%	0.2%	0.2%	12.8%	4.6%		

Medical oncology	1,027	742	116	3	137	29	100.0%	72.2%	11.3%	0.3%	13.3%	2.8%
Medical ophthalmology	36	22	4	-	10	-	100.0%	61.1%	11.1%	0.0%	27.8%	0.0%
Neurology	1,457	966	202	4	228	58	100.0%	66.3%	13.9%	0.3%	15.6%	4.0%
Neurosurgery	826	470	154	1	168	33	100.0%	56.9%	18.6%	0.1%	20.3%	4.0%
Nuclear medicine	85	54	13	-	13	5	100.0%	63.5%	15.3%	0.0%	15.3%	5.9%
Obstetrics and Gynaecology	5,992	4,061	505	5	1,179	247	100.0%	67.8%	8.4%	0.1%	19.7%	4.1%
Occupational medicine	130	103	11	-	10	6	100.0%	79.2%	8.5%	0.0%	7.7%	4.6%
Old age psychiatry	1,192	845	90	1	202	54	100.0%	70.9%	7.6%	0.1%	16.9%	4.5%
Ophthalmology	2,883	1,748	399	6	562	172	100.0%	60.6%	13.8%	0.2%	19.5%	6.0%
Oral and Maxillofacial Pathology	9	9	-	-	-	-	100.0%	100.0%	0.0%	0.0%	0.0%	0.0%
Oral and maxillo-facial surgery	1,272	984	88	3	123	75	100.0%	77.4%	6.9%	0.2%	9.7%	5.9%
Oral Medicine	33	28	5	-	-	-	100.0%	84.8%	15.2%	0.0%	0.0%	0.0%
Oral Surgery	385	296	32	-	35	22	100.0%	76.9%	8.3%	0.0%	9.1%	5.7%
Orthodontics	527	450	38	-	18	22	100.0%	85.4%	7.2%	0.0%	3.4%	4.2%
Other	572	439	44	-	63	27	100.0%	76.7%	7.7%	0.0%	11.0%	4.7%
Otolaryngology	1,865	1,277	186	2	297	106	100.0%	68.5%	10.0%	0.1%	15.9%	5.7%
Paediatric and Perinatal Pathology	4	2	1	-	-	1	100.0%	50.0%	25.0%	0.0%	0.0%	25.0%
Paediatric cardiology	242	133	64	2	41	2	100.0%	55.0%	26.4%	0.8%	16.9%	0.8%

Paediatric dentistry	169	148	9	-	5	7	100.0%	87.6%	5.3%	0.0%	3.0%	4.1%
Paediatric surgery	413	276	64	1	66	6	100.0%	66.8%	15.5%	0.2%	16.0%	1.5%
Paediatrics	8,630	6,038	693	8	1,514	385	100.0%	70.0%	8.0%	0.1%	17.5%	4.5%
Palliative medicine	742	644	31	-	31	36	100.0%	86.8%	4.2%	0.0%	4.2%	4.9%
Periodontics	29	27	-	-	-	2	100.0%	93.1%	0.0%	0.0%	0.0%	6.9%
Plastic surgery	1,203	807	177	2	176	42	100.0%	67.1%	14.7%	0.2%	14.6%	3.5%
Prosthodontics	12	12	-	-	-	-	100.0%	100.0%	0.0%	0.0%	0.0%	0.0%
Psychiatry of learning disability	460	342	28	1	76	13	100.0%	74.3%	6.1%	0.2%	16.5%	2.8%
Psychotherapy	108	73	12	-	11	13	100.0%	67.6%	11.1%	0.0%	10.2%	12.0%
Public Health Medicine	169	141	13	-	11	4	100.0%	83.4%	7.7%	0.0%	6.5%	2.4%
Rehabilitation medicine	337	219	29	1	64	24	100.0%	65.0%	8.6%	0.3%	19.0%	7.1%
Renal medicine	1,285	853	104	2	242	86	100.0%	66.4%	8.1%	0.2%	18.8%	6.7%
Respiratory medicine	2,555	1,868	172	4	405	106	100.0%	73.1%	6.7%	0.2%	15.9%	4.1%
Restorative dentistry	396	319	32	-	13	33	100.0%	80.6%	8.1%	0.0%	3.3%	8.3%
Rheumatology	1,120	833	90	-	148	51	100.0%	74.4%	8.0%	0.0%	13.2%	4.6%
Special Care Dentistry	51	43	3	-	4	1	100.0%	84.3%	5.9%	0.0%	7.8%	2.0%
Sport and Exercise Medicine	39	35	1	-	3	-	100.0%	89.7%	2.6%	0.0%	7.7%	0.0%
Trauma and orthopaedic surgery	6,201	4,232	542	8	1,100	325	100.0%	68.2%	8.7%	0.1%	17.7%	5.2%

Tropical medicine	1	1	-	-	-	-	-	100.0%	100.0%	0.0%	0.0%	0.0%	0.0%
Urology	1,966	1,361	204	-	292	110	100.0%	69.2%	10.4%	0.0%	0.0%	14.9%	5.6%
Vascular Surgery	326	220	39	-	42	25	100.0%	67.5%	12.0%	0.0%	0.0%	12.9%	7.7%
Virology	23	20	2	-	1	-	100.0%	87.0%	8.7%	0.0%	0.0%	4.3%	0.0%

Notes:

' - ' denotes zero.

Headcount totals are unlikely to equal the sum of components due to some staff working in more than one role.

The nationality field available within the systems upon which these figures are based, contains self-reported information from individual employees.

Nationally thousands of NHS staff records do not contain useful data with people choosing not to specify their nationality or not asked to.

Therefore these figures do not necessarily equate to migrants from other countries, and such data is not captured elsewhere in the workforce systems.

Additional categories for countries in the UK are now showing in tables relating to nationality.

Numbers in each nationality group may increase over time as more staff provide nationality information and "Unknowns" decrease.

United Kingdom nationals include any staff with the following nationalities; British, English, Northern Irish, Scottish or Welsh.

Data Quality

Impact at detailed or local level is footnoted in relevant analyses.

