Medicines and Healthcare products Regulatory Agency

12 December 2016

NIBSC Highlights April – December 2016

Issue/ Purpose: To highlight recent key activities related to the work of the National Institute for Biological Standards and Control (NIBSC).
Summary: This paper provides a summary of key activities and achievements by NIBSC in the first 6 months of the 2016/217 reporting year.
Resource implications: **None**
EU Referendum implications: Some NIBSC activities will be affected by the decision of the EU referendum but these are not specifically reported on in this paper.
Timings: Report covers April – November 2016
Action required by Board: For information
Links:
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Which of the five themes in the Corporate Plan 2013/2018 does the paper support? Themes 1-5 **If relevant, which Business Plan strategic activity does it support?** All those relevant to NIBSC
CET Sponsor: Christian Schneider

Key achievements and progress on NIBSC 2016/17 Objectives

After the first 6 months of the reporting year, the majority of NIBSC objectives remain on track. At the end of each quarter the NIBSC Senior Management Team (SMT) review and discuss progress against all objectives and a quarterly report is provided. Key items reported so far are highlighted below.

NIBSC has three Programme Boards that monitor progress and plan the strategic needs in their respective areas of Standards, Control and Research, reflecting the three main overarching strands of NIBSC work.

Each year in the autumn, NIBSC presents to the WHO Expert Committee on Biological Standardisation (ECBS), proposals for the establishment of new or replacement WHO International Reference Materials that will be developed and manufactured by NIBSC. The Standards Programme Board (SPB) manages this process and reported that at this year's meeting held from the 17 to 20 October 2016, WHO reviewed a large number of new or completed projects from NIBSC. The preliminary feedback received from WHO ECBS indicated that all of the twenty four proposals for new projects were agreed and that the seven submissions of completed projects for establishment were adopted.
Over half of the new project proposals were for a "1st" International Standard or Panel – including the proposal to make a gene therapy standard. It was also noteworthy that three proposals, each covering a group or range of standards rather than a specific individual standard were also agreed (VEGF agonists, MAbs for HER/ERbB family and antibody panels for immunogenicity assessment of biotherapeutics). Presentations from NIBSC staff were well delivered and received.

The ECBS meeting this year also included a ceremony for NIBSC and the National Institute of Food and Drug Safety Evaluation (NIFDS) from the Republic of Korea in which a memorandum of understanding (MoU) was signed between the two organisations. The agreement, signed by Christian Schneider, Director of NIBSC, and Yeowon Sohn, Director General of the NIFDS, aims to promote biological standardisation, for example through international collaborative studies, and to pursue areas of mutual benefit, from access to, optimization of processing and transport of material, to building regulatory competence by exchange of scientific experts and joint workshops. The alliance also helps to enhance the global reach for both sides and highlights the role NIBSC plays in assuring the quality of biological medicines around the world.

The SPB also reported at the end of Quarter 2 the success of a new programme of internal supplementary training in standardisation which consists of many modules covering a wide range of standards topic areas, and ensures that understanding in standardisation requirements and processes to be followed are passed on to staff to continue competence in this critical area for NIBSC. The modules have proved extremely popular and have been well attended. The sessions have also all been recorded for future use.

Standards sales have been strong in both flu and non-flu areas for the first half of the year. The number of standards shipped in total for the second quarter had decreased slightly compared to the first quarter from 62,235 units to 40,169, but both quarters also had additional contract fills of over 10,000 units. Although this success in standards sales is excellent for NIBSC, it does however put continued pressure on the sales team to achieve their Key Performance Indicator (KPI) for turnaround times for supplying standards materials within 6 working days of the date of order, set several years ago at 93%. Last year, this target was only just achieved and so far this year, the level achieved is lower than target with this quarter at 86%. Levels of

sales fluctuate throughout the year due to various reasons, for example seasonal flu patterns, and this turnaround achievement may recover if sales levels decrease, but the team is now reviewing the full process involved to see where further streamlining may be possible, and not just increasing staffing if not necessary. This will include looking at the complete ordering and approval process which includes sign-off within the scientific divisions that may be having an impact on the turnaround time.

The Control Programme Board (CPB) has reported good progress in both the first and second quarters with the KPI for turnaround time of batch release having achieved the 99% target for releases within the specified number of days. Although within target, there have been a very small number of batches that may have been issued outside the required date due to some process changes and a review is taking place to assess this. Following the successful launch last year of the new Control Testing Laboratory Information Management System (CT-LIMS), progress is now being made on the objective this year to carry out a benefits realisation from the project and identify future developments. The additional resource from the Information Management Division (IMD) to support the project has now been recruited and it is anticipated that the IT resource issues will shortly no longer be a problem. The business case for Phase 2 has been approved by the Information Management Governance Board (IMGB) and work has now started to deliver the phase 2 changes using Agile methodology. It is hoped that the first sprint will be completed shortly and all changes completed by end March 2017.

The Research Programme Board (RPB) started this reporting year with the successful delivery of the NIBSC Regulatory Science Symposium which received excellent feedback and some positive comments to take forward for future consideration within NIBSC. The RPB also monitors the number of scientific publications which by the end of Quarter 2 had reached 53 which is slightly lower than the previous year but it is hoped should still reach a similar final number for the year in the region of 80-90. Each year in the autumn the RPB runs the PhD studentship annual programme which offers three positions to commence the following September. Applications from potential supervisors are requested by mid-September and following review of the applications, a decision on the three proposals to be awarded a studentship is made by the end of Q2 so that advertising can commence in Q3. A decision was made this year to open up the recruitment to allow international students to apply which, although slightly more costly to the Institute, will open this up to a wider field of possible students who have not in the past been able to apply.

A key activity for NIBSC is around supporting the timely supply of influenza vaccines which once again this year has been successful. In response to the WHO announcement for an H1N1 strain change for the Southern Hemisphere two in-house high growth recombinants were produced as candidate vaccine viruses; bulk antigen has been received from a manufacturer for filling; and sheep have been immunized for homologous serum production. In the area of pandemic Influenza virus preparedness, work is progressing on the production of in house antigen reagents and homologous sera for NIBRG-301 and NIBRG-306 with an expected completion date of early 2017.

In the polio area, an agreement is now in place to provide in-house-produced live attenuated S19 Polio strains to a pharmaceutical company for evaluation in neutralisation assays and discussions have commenced on development of S19 vaccine technology. Designs for type 1 and 3 new oral polio virus (OPV) strains for clinical development have also been initiated. Candidate standards for several strains to be used in a WHO Collaborative Study have now been prepared which will support work in the polio eradication endgame. NIBSC scientists have also provided a quality assessment for WHO of an OPV manufacturer being assessed as a supplier of

bOPV to UN agencies and completed accreditation of a WHO Polio Laboratory in South Africa – this is a key laboratory conducting surveillance for poliovirus in Africa, one of the only two WHO regions where wild poliovirus circulation has not been interrupted. Scientists in the polio group also worked very closely with the Communications division this quarter to support the World Polio Awareness Day with information tweeted and linking to the information around polio on the NIBSC website. http://www.nibsc.org/science_and_research/virology/polio.aspx

Some objectives from the NIBSC division of Technology Development and Infrastructure (TDI) are aimed at strengthening some key technology areas. In the first quarter of the year, work was focussed on phase 1 of setting up the Next Generation Sequencing facility, and now with the staffing in the area complete and the area fully equipped, the focus has been in increasing the though-put, assessing efficiency and delivering training courses to staff to make them aware now of the potential support from this area to their work. The objective to strengthen the capability and resource for testing counterfeit medicines through high end spectroscopy has gone well with a new scientist in this area, and the focus this quarter being around developing R&D programs aimed at supporting and enhancing this resource. A work program to develop new mass spectroscopy techniques has been initiated for better characterisation of therapeutic drugs (source of counterfeit) and establishment of quality control is taking place in the form of SOPs and relevant training.

The Quinquennial Review (QQR) of the Biotherapeutics Division took place in October. Nine members of the external review panel of scientific experts in the field, chaired by Professor Ian Kimber of Manchester University, and a member of the NIBSC Scientific Advisory Committee (SAC), received a report from the division on their work, heard talks on the key topic areas and spoke to members of the division through a poster presentation. The review lasted two days and was followed up with recommendations that were presented to the SAC meeting on 11th November. Feedback was extremely good in which the panel noted excellence in the science, presentations, posters, and in the leadership of the division. Work would now take place to address the useful recommendations made, which included some that were relevant to the wider Institute as well as to the division itself.

The overarching financial objective around maximising the external revenue potential to deliver the NIBSC mission and strategy optimally has several strands. NIBSC's financial position continues to be favourable to budget at the end of the second quarter and work is taking place to refresh the 5-year financial model following input from the Senior Management Team (SMT) and further discussion within the NIBSC Finance Sub Group. This year's developmental work programme includes the delivery of an agreed pharmacopeial revenue share standards programme, working with organisations such as the European Directorate for Quality of Medicines (EDQM), China's National Institute for Food and Drug Control (NIFDC) and the United States Pharmacopeia (USP) to develop revenue share agreements.

NIBSC's recent grant income has varied between ~£3-£5.5m per annum and it requires continued work to ensure that new grants are applied for and won to maintain this level of funding. In addition, overdependence on large grants can result in a sudden drop when they end, and also make the mapping of future funding from grants uncertain if there is not a steady programme in place. To address this risk, an objective this year is to build on the recently formed NIBSC Grants Office, which is putting effort into identifying potential new calls and in supporting the relevant scientists in their grant applications. This financial year to-date NIBSC has won £1,087,985.05 of grant funding and has applied for a further £361,085 that it is awaiting a decision on. There is also work taking place in developing proposals in response to relevant current calls. All new calls of potential interest are flagged to

NIBSC's scientists via a weekly grant call email update, and calls are now being discussed at monthly Business Development-Scientific Division meetings to enable NIBSC's Scientific HsoD to support their Divisions in applying for and winning more grant funding in line with NIBSC's Vision Statement.

In keeping with other areas of the agency, NIBSC is involved in the work to plan for Brexit. The biggest potential risks for NIBSC of an upset to the status quo include: loss of non UK EU staff members and the resulting loss of expertise; loss of global influence across the Board by the UK being perceived as more insular; loss of impact on medicines regulation in Europe; maintenance of an appropriate biological medicines batch release programme for the UK; loss of access to EU grant funding; and increased costs to European customers due to potential import taxes and tariffs, all with potential detrimental impacts on public health. Equally, there are potential benefits depending on the final scenario around working more closely with other centres to create a more risk-based, proportionate, rapid regime for biological medicines. NIBSC continues to work as part of the agency task force and locally to develop and analyse scenarios, communicate with our customers and prepare for whatever final outcome emerges with the goal of continuing our public health role in a financially sustainable way.
At NIBSC we have seen little evidence that Brexit is having a significant impact on winning grant funding. One case was reported shortly after the June vote where concern was expressed by European partners over having a UK consortium lead. Despite requests to feedback issues, no other cases of potential discrimination against UK partners have been reported.

NIBSC continues in looking to develop its business through its 2016 communications and engagement plan. The activities in this had been reviewed in the light of Brexit, both in the fact that Comms resource has been heavily diverted into these discussions, and also because areas of the plan such as customer insight research, developing external content, employer brand, internal communications and web-site review, are of even greater importance in a Brexit situation.
A component of this is the development of content to highlight the value of NIBSC's research, products, services and advice. All these aspects are being strongly supported through the Comms division. In light of the high level of content development needed, there is work starting now to recruit within the Comms Division a Scientific Communicator to support NIBSC's external communications work.

One objective this year and continued from last year is in holding high level meetings with key manufacturers requiring Official Control Authority Batch Release (OCABR) of their products. The organisation of these meetings was postponed in the immediate aftermath of the June Referendum when external communications were being restricted and controlled by DH. Subsequently, external communications to reassure customers and stakeholders about the agency and NIBSC's continued leadership role in protecting public health, to gather feedback on their views, concerns and likely future plans, as well as normal business-as-usual activities are recognised as an essential strand of our work. Following the original meetings with GSK and Astra Zeneca in 15/16, plans for meeting with Merck are proceeding and a meeting is likely to take place during Q3.

To ensure the ongoing sustainability of the facilities of NIBSC, as well as ensuring all legislative requirements are met, updates to the facilities this quarter included the completion of work on the containment level 4 (CL4) suite which has been converted to house polio post eradication. Validation of the area has been completed and the polio group have been in the process of transferring materials. The draft 10-year strategy for development and maintenance of the South Mimms site has been agreed in principle by SMT and some minor details following feedback comments are being

included by the Facilities Strategy Group before they are taken forward to the Corporate Executive Team.

A small number of activities are slightly delayed at the end of the second quarter. Work has been taking place to recruit to a new post to enhance the agency horizon scanning function which has been in place since NIBSC merged with the Agency. This recruitment has been slightly delayed and consequently review of the horizon scanning outputs and taking forward the action plan is also delayed until the resource is in place but things are now moving forward. Despite the delay completion of a report from the 2016 work is still on track with topics identified and works commencing.

Some communications activities have taken place to promote the agency as a centre of expertise for Advanced Therapies, such as running a workshop on lentiviral vector standards with stakeholders, NIBSC participation in the UCL lecture course and ongoing communication from the UKSCB (newsletters) but a whole communications package is still to be developed and will need to be pushed into next year. This activity will be taken forward once a new Head of Advanced Therapies is in post following the work of the previous head, Professor Mary Collins, who has now left the Institute. This objective as originally scoped was to promote the whole agency and therefore if it is going to go ahead as originally scoped next year will require buy-in and effort from other divisions of the Agency. Discussions will therefore need to be taken forward when the new Head of Advanced Therapies is in post in 2017.

Key priorities for the next quarter

NIBSC recognises the need to ensure it maintains a clear programme of its priorities and these are reported on each quarter. The key activities for the remainder of this reporting year are:

- Continued recruitment of key scientific positions
- Review of previous two investment rounds and planning for next round
- Recruitment of PhD studentships
- Follow-up on recommendations from the Quinquennial Reviews of Advanced Therapies in spring 2016 and Biotherapeutics in autumn 2016
- Completion of Recruitment of new Head of Advanced Therapies
- Preparation for the Quinquennial Review of TDI in spring 2016
- Recruitment of Heads of Biotherapeutics and TDI
- Work on impact and opportunities following EU Referendum