Review of the NHS (Wales) Workforce – Call for Evidence Questions

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Integration of health and social care

The identification of new models of service delivery which are at the forefront of the integration of health and social care along with an analysis of the barriers experienced by such models and associated ways of working. We would welcome you views in this regard and in particular we would welcome your views concerning:

How have other countries/health systems adapted to meet exponential increases in demand for health and social care provision?

One initiative is that the Royal College of Pathologists and Royal College of Physicians applied to and have received approval from the GMC for a Combined Infection Training (CIT) programme. The infection control training model is expected to lead to alignment of microbiology and virology with infectious diseases and may lead to a more clinically orientated profession.

- Initially, CIT will be a common two year, integrated laboratory and clinical programme prior to trainees progressing to separate CCTs in Medical Microbiology, Medical Virology, Infectious Diseases and Tropical Medicine. An NTN in one of these (or a dual programme) will be confirmed at the recruitment into CIT.
- The first tranche of trainees has started on the new system in August 2015. (See **Appendix A**, Infection training flow diagram)
- Pathology reorganisation, particularly in England, is having a significant effect on Medical Microbiology and Virology practice given that many acute hospitals no longer have an on site laboratory which needs managed (part of the rationale for the changes in Infection training).
- Private companies which now provide the laboratory service may have a different range of diagnostic investigations with greater emphasis on automated diagnostics procedures and genetic analyses in place of some traditional methodologies. This is impacting both on the routine work of consultant Microbiologists as well as the capacity to train doctors for the future.

What factors have led to the increases in demand for provision within these countries/systems?

Medical Microbiology is the diagnosis of infection caused by bacteria, fungi, parasites and viruses, integrating clinical assessment with clinically-directed laboratory investigation. In the UK, consultant medical microbiologists identify the best treatment options for infection and monitor emerging infections and antibiotic resistance. In their role as Infection Control Doctors, they also provide advice to Health Boards and Trusts, helping to reduce risks of infection within hospitals and in the community. Outside the UK, there is often less of a close association between laboratory and clinical medicine, which can lead to large numbers of (often automated) tests being performed without much clinical oversight. The current trend to move consultants out of laboratories may exacerbate this tendency within the UK.

The factors leading to increased demand also include:

- the ageing population needs increasing care and therefore creates a need for a greater variety of tests.
- the results of these tests are required immediately: technological developments are now enabling the development and roll-out of such tests which has a knock on effect on staffing requirements to perform and interpret these tests;
- climate change is resulting in increased incidence of various vector-transmitted diseases;

- immigration patterns bring exotic and tropical infections with which general clinicians are not familiar, increasing the demands on consultant microbiologists' expertise;
- increasing antibiotic resistant infections is a national priority and there is a direct consequence in needing more consultant microbiologists to lead Antibiotic Stewardship.

What criteria have been used to assess degree to which integration of services has contributed to effective management of demand?

Not known

To what extent can these models be replicated in Welsh system of health and social care?

Not known

What barriers have been identified in inhibiting successful implementation of such models?

Not known

How might such barriers be overcome within Welsh context?

Not known

Future workforce skill and skills mix

The workforce of the future; the staff and skill mix the NHS needs to ensure patients continue to receive high-quality care as close to their homes as possible. We would welcome you views in this regard and in particular we would welcome your views concerning:

To what extent has service provision changed within NHS Wales and across social care in Wales over past 10 years?

Microbiologists now work in Multidisciplinary teams (MDT) in various clinical areas. They have clinical liaison and face to face interactions with Oncologists and Haematologists. This MDT approach in following up cancer patients with infections following courses of treatment e.g. surgery, chemotherapy and radiotherapy contributes towards the optimal management of those patients. Investment in development of new antimicrobial agents (antibiotics, antivirals and antifungals) can also extend the various therapeutic options in management of these opportunistic infections.

There is an increasing tendency to try to discharge patients rapidly from hospital. This requires close liaison between physicians and surgeons and their colleagues in Medical Microbiology to ensure that infected patients receive optimum treatment (e.g. orally bioavailable antibiotics, OPAT services).

How has the composition of workforce changed within the same time period – numbers, type, location, etc?

In 2005:

- There were 20 medically qualified consultants in post in Wales in Medical Microbiology. In addition there were 2 consultants in Medical Microbiology/Virology in post. 5 consultants were aged 55 or over.
- There were 7 trainees in post in Medical Microbiology, including 3 VTN holders. There was 1 Medical Virology trainee and 1 trainee in Infectious Diseases.

In 2015:

- There are 32 medically qualified consultants in post in Wales in Medical Microbiology. (see Table 1)
- 11 of these are aged 55 or over.
- There are 10 trainees in post; 4 in Medical Microbiology, 2 in Medical Microbiology/Virology, 2 in Medical Microbiology/Virology and Infectious Diseases, and 2 in Medical Microbiology/Infectious Diseases.
- One of the dual Medical Microbiology/Virology trainees is an academic, doing a PhD.
- Four trainees are male and 6 are female. 2 of the females are training part time.
- The trainees are provisionally due to obtain their CCT in the following years: 2 in 2015; 3 in 2016; 1 in 2017; 2 in 2018; 2 in 2019.

What are the key strategic drivers that will influence trends in service provision over next 10 years?

- There is increasing clinical input of microbiologists in clinical care with larger numbers of proactive and reactive ward rounds and Multi-Disciplinary Team meetings which have an important but unquantifiable effect on quality including healthcare associated infection, antimicrobial stewardship and length of stay. We have greater demands for a decreased length of stay so Outpatient Parenteral Antibiotic Therapy (OPAT) and infection clinics are increasingly done and clinical microbiologists are best placed to deliver these.
- The delivery of clinical services in addition to laboratory services e.g. OPAT (Outpatient Parenteral Antibiotic Therapy) enables intravenous antibiotics which have traditionally been delivered in hospitals to be delivered to patients in their homes or nursing homes, thereby releasing hospital bed-days.
- There is an increasing complexity of care with more and longer-term (due to increased survival) care of diabetes, immunosuppressed and post-surgical (e.g. transport, prosthetic implant) patients. All of this clearly results in increased susceptibility to infections. In addition, antimicrobial resistance has been placed on the national Risk Register and the Government recognises that vital in the management of this is antimicrobial stewardship, which is predominantly provided by microbiologists leading Multi-Disciplinary Teams.
- There is increasing demand for consultant microbiologist expertise, consequent to a) the need for antimicrobial stewardship, b) the establishment of out-patient clinics and anti-microbial therapy services intended to improve hospital efficiency, and c) decreased time within an increasingly congested curriculum for all doctors to become proficient in the increasing complexities of infection management.
- Demand for consultant microbiologists is outstripping supply, with increasing numbers of consultant positions becoming available, principally consequent to early retirements. Trainee numbers have not been increased to take this into account and several positions are not attracting any applicants, particularly in locations where on-site laboratory services have been or are at risk of being centralised.
- Greater mobility across continents brings exotic and tropical infections with which general clinicians are not familiar, increasing the demands on consultant microbiologists' expertise.
- Microbiologists do not contribute directly to cancer diagnosis but they contribute to the ongoing care of patients with cancer. Patients who have chemotherapy and/or radiotherapy as part of their cancer treatment often become immuno-compromised and will be more prone to infections by opportunistic bacteria, viruses and fungi in addition to infections affecting other community and family members. As part of a comprehensive package of care for those patients, investment in innovative molecular diagnostic tests can contribute towards a more rapid and accurate diagnosis of these infections.

What structural/organisational changes may be required to address such changes?

Not known

What are the likely workforce requirements to meet such demands on service provision over next 10 years?

- There is a need for more medically trained Medical Microbiologists to meet demands of service provision over the next 10 years.
- In addition, there is a need for more clinical scientist Microbiologists to be trained to meet demands of service provision.

What are the likely deficits in workforce supply over next decade?

- There is increasing demand for microbiologists in certain EU states, attracting some UK specialists to move overseas.
- According to evidence provided by the Workforce and Training Secretary of the British Infection Association, the instability resulting from laboratory centralisation is resulting in experienced consultants being affected by such mergers taking early retirement. Unless there is a change in the policy of laboratory centralisation, it can be anticipated with confidence that the trend for consultants to retire early will continue, thereby exacerbating the developing shortage in the specialty.
- The impact of recent changes in provision of NHS pensions is forecast by many organisations to have a significant effect on the retirement age of many consultant Medical Microbiologists, with the likelihood of earlier retirement. In addition, those consultants in receipt of ACCEA merit awards are also likely to retire early before the risk of these pensionable additions to salary are challenged.
- With the increase in population, there is a greater need for maternity services, resulting in microbiology input into neonatal care which is intensive of infection services.

- Genomics and research will have a huge potential impact. Within 10 years, it is anticipated that the range of tests will be wider and more accessible to individuals, possibly on a Point of Care basis, but the innate complexity of the data and results will continue to need specialist time to support wider numbers of people requesting test, increasing the demand on infection specialists.
- Although microbiologists usually have a skeleton service at weekends, the introduction of 7 day working would require an increase in microbiology consultant numbers. Our service models incorporate Microbiologists, Virologists and Infectious Diseases consultants, thereby providing a wider pool of people to do the work.

How can such workforce supply deficits be addressed?

Not known

What policies are in place to address such deficits?

Not known

What new professional groupings and roles will be required? e.g physician assistants, advanced practitioners.

Considerable work has been undertaken to change skill mix and involve other professionals such as consultant clinical scientists, infection prevention and control nurses, antimicrobial pharmacists and other clinicians in infection prevention and management.

However, the critical role of medically qualified infection specialists at consultant level is recognised by Trusts and there is continuing greater demand than supply.

What is the evidence for the effectiveness of such groups and roles in meeting supply deficits?

Not known

Efficiency and prudent principles

Areas of potential efficiency, taking into account the principles of prudent healthcare, in order to address the long-term financial challenge between 2016-17 and 2025-26 set out by the Nuffield Trust. We would welcome you views in this regard and in particular we would welcome your views concerning:

How can the 'only do what only you can do' principle be translated into an estimate of workforce configuration in the future?

Not known

How can the 'only do what only you can do' principle be factored into workforce planning mechanisms?

Not known

What is the scope for professional substitution?

The Royal College of Pathologists supports the employment of clinical scientists to work alongside consultant microbiologists and virologists in hospitals and clinical laboratories. Such individuals add to quality of service as well as being cost-effective. Their employment enables the release of medically qualified infection specialists to deliver direct patient-care activities. There is therefore a need to train a greater number of clinical scientists in microbiology.

What are the financial implications of professional substitution?

Not known

What is the role of technology in compensating for time and distance?

- Ongoing increases in medical technology, e.g. in-treatment of cancers and utilisation of ITUs and HDUs, is making increased demands on diagnostic laboratory services generally, with consequent impact on scientific laboratory staffing, and additionally on infection specialists such as microbiologists and virologists.
- We believe that genomics testing will be established within 5 years, leading to an increase in new

diagnostic tests, which are expected to provide more accurate results, more promptly. As a result of this, it is anticipated that these tests will be more widely demanded. Due to the complexity, there will be a need for highly specialised consultants to perform and interpret the results. The likely rise in genomic diagnoses, even for routine microbiology specimens, is expected to cause a major workload surge in the next 5-10 years.
What are the financial implications of technological developments in this area? Not known

Pay and reward

The long-term strategic direction for pay and reward for those currently covered by the UK Agenda for Change (and Executive and Senior Posts) contract terms and conditions. This will include the affordability of future pay and reward, set in the context of the Nuffield Trust's report; and the approach to considering, determining and setting future pay and reward. We would welcome you views in this regard and in particular we would welcome your views concerning:

What are your expectations for the long term strategic direction for pay and rewards within the NHS and in relation to pay and rewards within the wider economy? Not known
What are your expectations with regard to the continuation of, or changes to, current pay and reward differentials? Not known
What are the existing arrangements for A4C staff, executives and senior posts and how have these operated in each of the past five years? Not known
To what extent does Wales have autonomy, authority and powers to be able to determine pay and reward mechanisms and to what extent does this vary as between A4C staff, executives and senior posts? Not known
To what extent can the long-term strategic direction for pay and reward for people currently covered by the UK Agenda for Change contract terms and conditions be considered separately from a similar consideration of pay and reward for staff covered by the Doctors and Dentists Review Body? Not known
To what extent can pay and rewards be considered in isolation from all the other terms and conditions of employment? Not known

Appendix A

Infection training flow diagram

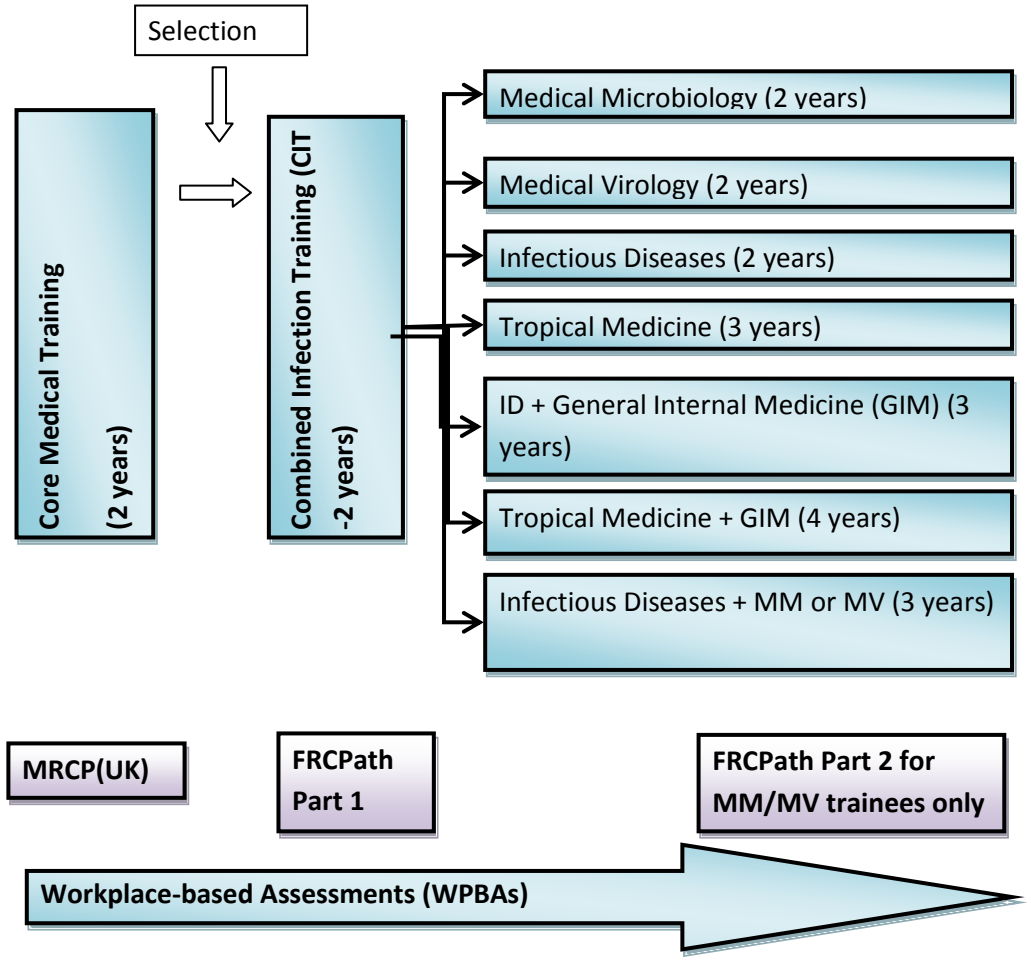

Table 1

Consultant Medical Microbiologists in Wales in 2015 (medically qualified)