

Scottish Microbiology & Virology Network (SMVN)

Annual Report 2019 - 2020

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1.	Executive Summary	3
2.	Introduction.....	4
3.	Report on progress against workplan objectives.....	5
4.	Plans for the year ahead.....	12
5.	Detailed Description of Progress in 2019 / 20.....	13
6.	Proposed Work Plan for 2020 / 21	17
	Appendix 1: Steering Group Membership (25 March 2020)	23
	Appendix 2: Finance	24

NHS Board abbreviations used

Abbreviation	NHS Board
AA	NHS Ayrshire & Arran
BR	NHS Borders
DG	NHS Dumfries & Galloway
FF	NHS Fife
FV	NHS Forth Valley
GJH	Golden Jubilee Hospital (National Waiting Times NHS Board)
GGC	NHS Greater Glasgow & Clyde
GR	NHS Grampian

Abbreviation	NHS Board
HG	NHS Highland
LN	NHS Lanarkshire
LO	NHS Lothian
OR	NHS Orkney
SH	NHS Shetland
TY	NHS Tayside
WI	NHS Western Isles

1. EXECUTIVE SUMMARY

Every Scottish Microbiology and Virology Network (SMVN) workplan, midterm report and annual report has started off with the rider that “Microbiology and Virology are very different to the other diagnostic services. They must be on constant standby to react to new and emerging pathogens and antimicrobial resistance mechanisms which pose significant Public Health risks”. The following objectives have been included in SMVN workplans over recent years:

- Contingency for preparedness for national emergencies and outbreak management such as SARS and MERS.
- Contribute to design of a Microbiology laboratory service for the future of Scotland including planning the procurement of Molecular Technology.

The end of the SMVN reporting year has seen the above objectives come to life via the SARS CoV-2 / COVID-19 pandemic in a manner and magnitude that could not have been foreseen.

Since February 2020, NHS Scotland’s priority has been to react to and manage the COVID-19 pandemic with the SMVN placed at the forefront. The SMVN, in close collaboration with NSS National Procurement and the National Laboratories Programme, has enabled the delivery of COVID-19 testing in all Health Board areas across Scotland. The SMVN Scientific Manager, Clinical Lead and Operational Group Chair serve on a number of national COVID-19 groups. The SMVN Steering Group has become the SMVN COVID-19 Technical Group. It is chaired by Dr Fiona MacKenzie and has met three times per week over the last few months. COVID-19 will continue to dominate the SMVN workplan over the coming year, 2020 – 2021.

Prior to the COVID-19 pandemic, the SMVN had completed another busy and challenging year.

The successful business case to procure molecular diagnostics for TB testing in all Health Boards resulted in the award of a national contract to the company Cepheid. This vanguard project highlighted a number of issues with the approval process for business cases which did not hinder its outcome. The testing equipment procured has had to be diverted away from TB testing and is currently being used for COVID-19 testing in NHS Scotland’s remote / rural and smaller Health Boards. It will be repatriated for TB testing in due course.

A major accomplishment was completion of the first benchmarking exercise with assistance from the Information Management Services (IMS) team. Data reports showed some notable trends, especially with respect to referral rates. Various recommendations came from this exercise, most notably on future improvements to this benchmarking exercise. This will now become an annual exercise for the SMVN.

The SMVN was also very involved in a variety of other data collection exercises this year. SMVN members participated in the Diagnostics Steering Group Workforce Planning which collected medical and scientific workforce data in all disciplines, the Demand Optimisation group and the Atlas of Variation.

This was also the year during which the SMVN began working to standardise core Standards for Microbiology Investigations (SMIs) across the country. The standardisation sub-group is looking at variation and conducting a gap analysis of SMIs and reporting codes across Scotland. The goal is to take these variations, decide as a group on the best method and implement nationally standardised codes/procedures. This will be a major project which is predicted to take around 18 months to complete.

Network and stakeholder engagement have advanced. Educational events continue to attract good numbers across NHS Boards and stakeholder organisations. A network newsletter has continued to regularly be sent out. The newsletter receives very positive feedback and is cascaded within Microbiology & Virology departments as well as to wider stakeholder organisations.

Also of significance was the contract renewal with bioMérieux for standardised antimicrobial susceptibility testing on the Vitek®. After much negotiation, it was agreed that the contract would be extended for two years with a 2% increase in consumable prices and a 10% increase in service charges over the two years.

For the year ahead, SMVN will be working with the National Laboratories Programme to conduct a service review of Microbiology and Virology services across Scotland. The goal is to maximise the skills, capabilities and capacity across Scotland, and to identify steps to mitigate the gaps. The end result will be a Business Case presented to the Chief Executives in 2021.

2. INTRODUCTION

The SMVN has existed for eight years.

According to the SMVN constitution, the object of the SMVN shall be:

To operate across local and regional NHS Board boundaries in order to facilitate equity of access to high quality, clinically effective and standardised care, within the realms of Clinical Microbiology and Virology, across NHS Scotland. In furtherance to this object, the SMVN shall:

1. Form a specialty focused network that adopts a consortium approach in order to provide a systematic approach to service redesign, integration and improvement via sharing good practice, influencing change, informing service planning and providing specialist advice and mutual support.
2. Support greater alignment to national strategic priorities as defined by the Diagnostic Steering Group.
3. Operate Scotland-wide and transcend geographical, organisational and professional boundaries with all NHS Boards being represented on the Steering Group.
4. Provide interactive peer support for microbiologists and virologists employed by NHS Scotland, and facilitate the timely exchange of information on clinical and scientific issues required for the provision of safe effective clinical care and actions to prevent infection and protect Public Health.
5. Be a source of expert advice to the SGHD, Health Protection Scotland, the Scottish Antimicrobial Prescribing Group and other national groups as required.
6. Provide professional support as required to the Medical Microbiology and Virology Specialty Advisers to the Chief Medical Officer and Chief Nursing Officer.

Microbiology and Virology are very different to the other diagnostic services. They are on constant standby to react to new and emerging pathogens and antimicrobial resistance mechanisms which pose significant Public Health risks. There is constant pressure to turn results around in shorter time periods to inform clinical management, including antibiotic therapy and infection control management. The 2020 COVID-19 pandemic was the perfect example of microbiology and virology acting quickly on a significant global health crisis.

More widely, over the course of the year, the SMVN has been fully engaged in national pan-network initiatives to support the work of the National Laboratory Oversight Board including the National Laboratories Information and Intelligence Platform (NLIIP), Scottish Laboratory Information Management System (LIMS) specification / procurement, regionalisation and demand optimisation projects.

3. REPORT ON PROGRESS AGAINST WORKPLAN OBJECTIVES

3.1 Effective Network Structure and Governance

Dr Martin Connor, NHS Dumfries & Galloway, continued as the SMVN Clinical Lead.

Dr Fiona MacKenzie, NHS Grampian, continued in the 0.5 FTE Network Scientific Manager role she has held since July 2012. Her service agreement has been renewed for another three-year term beginning April 2020.

The SMVN was managed and supported by National Network Management Service and specifically by Liz Blackman (Senior Programme Manager) and Veronica Mesquita (Programme Support Officer). Veronica replaced Grace Cervantes who was the Programme Support Officer for SMVN until January 2020.

In addition to the above, Steering Group membership consists of the lead Microbiology / Virology Clinician and Biomedical Scientist in each NHS Scotland Board as well as representatives from the following:

- Clinical Scientist Representative
- SMVN Representative on the National Standard Methods Steering Group
- SMVN Operational Group Chair
- Infection Control Doctor Subgroup Chair
- Antimicrobial Resistance Diagnostics Subgroup Chair
- Standardisation Subgroup Chair
- Scottish Clinical Virology Consultants Group Chair
- Microbiology Specialty Advisor
- Virology Specialty Advisor
- Infectious Diseases Specialty Advisor
- HPS Consultant Microbiologist
- HPS Infection, Prevention and Control representative
- Scottish Health Protection Network representative
- SGHD HAI Representative

The SMVN terms of reference were revised to reflect current membership.

There is a current service agreement in place is to be renewed in 2021.

During 2017, when the SMVN underwent review as part of the National Specialist Services Committee (NSSC) commissioning requirements, a high level strategic five-year workplan was developed. Due to delays with all NHS Boards agreeing to the TB case, many of the streams on the workplan are behind schedule. However, progress has been made on each stream.

A distributed model of leadership remains in place with a range of Steering Group and network members representing SMVN on a range of national groups and subgroups.

3.2 Service Development and Delivery

Workplan Objective 2018-01 Develop a Microbiology and Virology workforce to meet the challenges of the future as described in Realising Realistic Medicine and the Healthcare Science National Delivery Plan, through:

- a. Establishing and publishing workforce profile, identifying current & future gaps.
- b. Exploring role extension and developing common job descriptions for Advanced Practitioners.
- c. Organising educational meetings.

a. Establishing and publishing workforce profile, identifying current & future gaps

The Diagnostic Steering Group Workforce Planning subgroup collected medical and scientific workforce data in all disciplines. The SMVN participated in this data collection and were well represented on the subgroup. The data collected included headcount and whole time equivalent by AfC band (scientific staff) and age (medical and scientific), and medical vacancies. Specific reference was made in relation to shortages of Medical Microbiologists resulting specifically from introduction of the new training route (Combined Infection Training) in 2016.

The work of this group clearly evidenced the gaps between what is reported and the actual staffing complement in labs. Previously, the only published data on NHS Scotland's laboratory workforce was the ISD Cost Book, which pulls data directly from an HR system and therefore cannot differentiate between scientists and support staff. A report has been published and a series of recommendations made. The SMVN participated in the initial workshop to agree implementation of the recommendations, in the context of extant work. The SMVN will continue to support this work once the need for the focus on the current pandemic has been alleviated.

Workplan Objective 2019-02 SMVN will lead work on the National Laboratories Information and Intelligence Platform (NLIIP), including:

- a. Develop guidance on standardisation of core SMIs.**
- b. Identify and develop core reporting structures / codes requiring standardisation.**

The standardisation group, led by Sandra Higgins (Service Manager, NHS GG&C), began tackling the variations and gap analysis of SMIs and reporting codes. They had begun with a series of successful meetings reviewing operating procedures. The original plan had been to gather all of the relevant documents from labs across the country, identify the differences and then have a discussion with the group about these differences and whose model should be implemented. However, it was quickly realised that this would be a much larger piece of work than anticipated. The group had adapted their timeline and were now projected to take 18 months to complete this project. As of the end of the year, the group had completed work in some areas however the group was placed on hold as part of the COVID-19 response.

Workplan Objective 2019-03 Work with SHTG to progress evaluation of faecal PCR.

- a. Develop a full business case for generic molecular diagnostics.**

This work has been delayed. An initial scoping exercise was undertaken by SHTG to determine the evidence base for faecal PCR and, at that point, the conclusion was the evidence was not robust enough to warrant a business case. However, it is not implemented in Wales and so further work is required to ensure that we can respond to developments in molecular diagnostics and implement them across NHS Scotland in a planned manner. SHTG and SMVN will collaborate on this and it has been agreed the approach will be on a case by case basis, rather than one overarching case for molecular technologies, which could not hope to address their efficacy in each area.

3.3 Stakeholder Communication and Engagement


Workplan Objective 2019-04 Continue to raise the awareness of SMVN and its work through:

- a. Refreshed communications strategy
- b. Roadshows (c. 10 per year)
- c. Newsletters (minimum 2 per year)
- d. Informative and up to date website, including members area


a. Communication and Engagement Strategy

The SMVN continued to use its Communications and Engagement strategy (published in 2018) to guide its communication with stakeholders. These communications have included newsletters, updates from meetings and an active website. SMVN has also engaged with the community through NMDN roadshows and through the NMDN twitter account. The NMDN Twitter account has grown from 579 followers to 714 in the past year. Overall, NMDN tweets have an average 861 impressions (the number of times a tweet appears in somebody's timeline) and 23 engagements (people who have seen/clicked on/ retweeted or liked) per tweet. SMVN featured in its virtual advent calendar, which received positive feedback and gained new followers among the microbiology and virology communities.

The SMVN tweet with the highest number of impressions was about the September SMVN Operational Group (SMOG) meeting:


NMDN Scotland
 @NMDNScot

The [#SMVN](#) Operational Group meet today to continue to monitor and report progress to the SMVN. [#diagnosticservices](#) in [#Scotland](#) [#microbiology](#) [#SMVN](#) [#diagnostic](#) 'virology' [#diagnosticcommunity](#)



7:00 am · 6 Sep 2019 · [TweetDeck](#)

[View Tweet activity](#)

1 Retweet 4 Likes

Impressions
times people saw this Tweet on Twitter

Total engagements
times people interacted with this Tweet

1,079

13

b. Roadshows

The NNMS supports the networks by hosting roadshows across the country to raise awareness about the diagnostic networks and boost their engagement with frontline staff. Twelve roadshows were held in a number of laboratory sites as well as at a number of conferences. One of these roadshows was held at NHS Scotland's annual Healthcare Science event, where attendees had the opportunity to comment on SMVN's five-year vision and help develop it further. SMVN material and information was distributed at all of the roadshows. The SMVN received quite a number of Email registrations from people who were interested in receiving regular updates about the network.

c. Newsletter

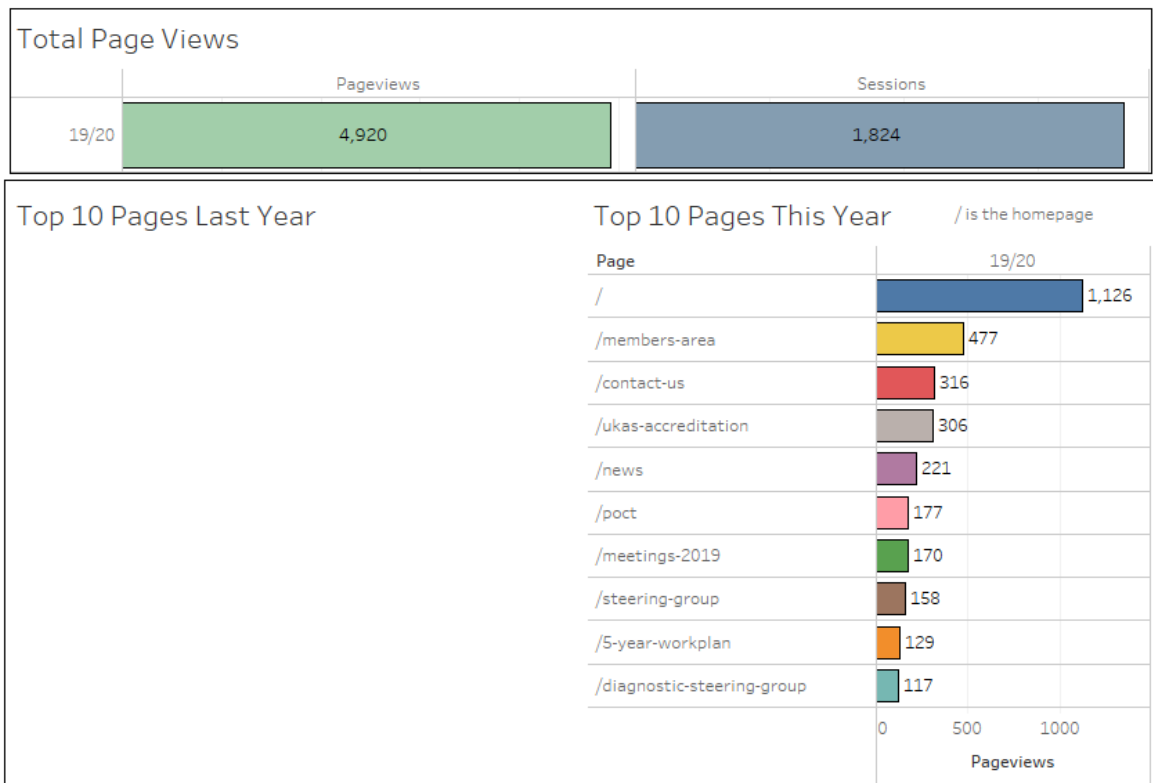
During the year, two newsletters were sent out to stakeholders, in line with the communication strategy. These were the summer and winter editions of the 2019 newsletters. The winter newsletter was a collaboration between all of the diagnostic networks to highlight the value added by networks in the previous year. SMVN will continue sending out newsletters to its stakeholders with information, updates and news from the network.

d. Informative and up to date website, including member's area

The SMVN website had 4,290 page views and 1,824 sessions from June 2019 to March 2020. (Google Analytics was set up on the website in June 2019 for a standard web analytics approach across the networks; which is why there is no information from the first quarter of 2019 for SMVN.)

As the graph below demonstrates, the most visited page after the home page is the password protected members' page. This section is a good resource for all members to find minutes, updates and papers from SMVN's sub-groups and other groups where SMVN members are representatives. The regular use of this demonstrates the value of SMVN to its community.

Full year report: from 1/4/19 > 31/3/20



For the COVID-19 pandemic, the password protected Members Area of the website was transformed to be a one stop reference point on the SARS CoV-2/COVID-19 pandemic for members. Information, guidance, updates, papers and minutes were gathered on a variety of COVID-19 topics including testing kit information, evaluations on potential testing kits, research from other countries that had been dealing with this pandemic for longer and Scotland specific updates. SMVN was the first diagnostic network to implement such a resource for its members. Initial website analytics have shown that this section of the website is being visited quite frequently and has become an important tool for SMVN members.

3.4 Education

Workplan Objective 2019-05:

a. Develop lean working practices taking into account new technologies.

b. Organise educational meetings

c. Publish education strategy

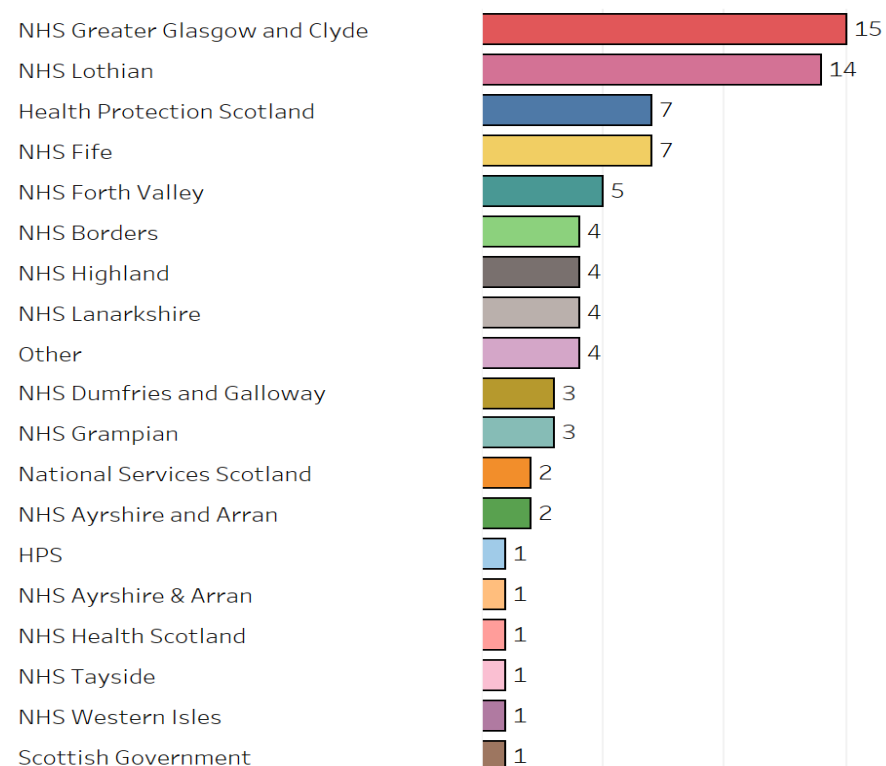
a. Develop lean working practices taking into account new technologies.

The SMVN continues to adapt working practices to take into account new technologies. At the Annual Event there were presentations that aimed to share best practices and new working procedures such as the “Wasp and WaspLab Automation” and “Evaluating 3 gas generation methods for the culture of *Campylobacter* in microaerophilic atmosphere” talks. The talks were well-received, with many of the event evaluation comments touching upon how the delegates will consider different isolation methods for *Campylobacter* going forward.

b. Annual Educational Event

The SMVN continues its programme of well received educational events. At the Scientific Meeting on 29th May 2019, there were 80 registered with attendees from twelve NHS Boards and a range of institutions, as follows:

Delegates by Organisation



The registration breakdown demonstrates that SMVN continues to engage with an increasing number of strategic stakeholders, whilst retaining good engagement with the majority of territorial Boards. The day focused on key developments in Microbiology in Scotland, The National Laboratories Oversight Programme and SMVN’s sub-groups including the Antimicrobial Resistance (AMR) and Infection Control Doctors groups. Feedback received was excellent with lectures rated an average of 4.27 out of 5 (where 5 was rated excellent).

3.5 Audit and Continuous Quality Improvement

Workplan Objective 2019-06 Work with the Information Management Service to develop a Benchmarking report which provides accurate and useful information on 2019/20 activity

SMOG completed its first benchmarking exercise this year with analytic help from IMS. This data collection was designed to address specific areas of the SMVN workplan. In this initial iteration of the SMVN benchmarking exercise, it had been agreed to incorporate a Microbiology/Virology questionnaire sent to laboratories, alongside these external data collections: the atlas of variation, DSG workforce data, and top 20 tests.

One area of particular interest in the data was the referral rates of tests across Scotland. The data showed that majority of test referrals were within Scotland. Tests referred to England tended to be low volume and quite specialised. It was also worth noting that NHS Greater Glasgow & Clyde and NHS Lothian recorded little or no referrals to England, which may indicate test availability in Scotland. Further work will be undertaken in this area to potentially repatriate tests from England and reduce costs.

Various recommendations came from this benchmarking exercise, including improvements to future benchmarking questionnaires, collecting data as to which tests could be consolidated onto fewer sites, focusing on the top 10 tests to establish differences between prices paid by labs for the same test, and turnaround times.

As this was only the first year of SMVN benchmarking, limited information came from these results. However, the process provided valuable learning as to how to proceed in the future. This will now be an annual exercise for the SMVN.

Workplan Objective 2019-07 Work with the National Demand Optimisation Group to:

- Enable a second round of data collection for the Atlas of Variation.
- Use this data to identify new QI workstreams.
- Continue to progress QI workstreams in CSU, MSU and leg ulcer test requesting.

Data collection: SMOG exceeded expectations by effectively completing the second round of data collection and contributing to the 2019 data collection. During this period the group have also identified a further 2 pertinent areas of unwarranted variation- HIV and HepC. The specific tests from the wide array associated with these areas that are to be included into the data collection, are yet to be finalised.

QI work streams: Three projects have been finalised addressing the following samples: high vaginal swabs, Leg Ulcer test requesting and Urines.

1. Reduction of High Vaginal Swabs (NHS A&A): have a protocol to follow and have been granted approval from Genitourinary Medicine (for sexual health) to proceed. The anticipated start date is April 2020.
2. Reduction of urine samples (NHS Fife): they have a protocol that can be used to manage urine.
3. Reduction of leg ulcer swabs (NHS Lothian): the current guidance was presented to the Primary Care Laboratory Interface Group meeting held in January and the plan is to progress the initiative shortly.

3.6 Value

Workplan Objective 2019-08 Work with National Procurement to procure TB molecular diagnostics equipment / consumables.

National Procurement and the SMVN were successful in finding a supplier of TB molecular diagnostics equipment and consumables. The contract was awarded to Cepheid. The implementation of this was

the most significant challenge faced by SMVN this year and this highlighted a number of issues with the approvals process for such Business Cases. Significant negotiation was required to ensure that the larger NHS Boards would adopt the new technology. If this had not been agreed there would have been a significant impact on the pricing structure for other NHS Boards, potentially negating the value of the procurement. However, after collaboration with colleagues in procurement and support from the Diagnostic Steering Group, the implementation across Scotland was agreed.

Many of the Cepheid machines have been re-appropriated to provide COVID-19 testing. Only through SMVN's work on TB has the technology been available to implement testing in rural locations. Whilst this is an unexpected benefit of the TB Business Case, it has demonstrated the value that SMVN adds. This was demonstrated by NHS Shetland's lab manager's comments in The Shetland Times, "We are extremely grateful to the SMVN for making this happen," Mr Wardrop said. "This machine was destined for somewhere else but was redirected to us, because of our isolated location, to enable us to do emergency testing."

Workplan Objective 2019-09 Work with bioMérieux to ensure best value is negotiated for NHS Scotland

Representatives from SMVN, the AMR sub-group, and National Procurement met with bioMérieux in February 2020 to re-negotiate the Vitek contract renewal for antimicrobial susceptibility testing. National Procurement verified bioMérieux's claim that NHS Scotland pays the lowest price for AST cards in the UK. There were also discussions about acceptable response times and requests for more sharing on usage data. After negotiations, it was agreed that the contract would be extended for two years with a 2% increase in consumable prices and a 10% increase in service charges over the two years.

bioMérieux was also rolling out Vitek 2, MS and Observa updates across the country. The goal was to have all Scottish sites upgraded by the end of summer 2020.

4. PLANS FOR THE YEAR AHEAD

The SMVN has been heavily involved in leading the Scottish response to the COVID-19 crisis. They have reacted quickly and have implemented testing on a large scale across the country in a short period of time.

The SMVN Scientific Manager, Clinical Lead and Operational Group Chair serve on a number of national COVID-19 groups. The SMVN Steering Group has become the SMVN COVID-19 Technical Group. It is chaired by Dr Fiona MacKenzie and has met three times per week over the last few months. COVID-19 will continue to dominate the SMVN workplan over the coming year, 2020/21.

SMVN members have showed exemplary leadership in the community. Due to the scale and severity of the crisis, all non-COVID tasks were put on hold beginning early March. SMVN will continue to lead and guide the country through this crisis. As capacity to engage with non-COVID-19 work increases, SMVN will review the initial plan for 2020/21 and prioritise accordingly.

The original workplan for the year ahead included the following:-

The SMVN will be working with the National Laboratories Programme (NLP) to conduct a service review of microbiology and virology services across Scotland. The NLP is planning to organise a short-life working group and host workshops to learn what the service wants, what should happen and what should be examined. Their goal is to maximise the skills, capabilities and capacity across Scotland, and identifying steps to mitigate the gaps. The end result will be a Business Case presented to the Chief Executive in 2021. SMVN will be heavily involved throughout this process. Commencement of the service review has been postponed due to the COVID-19 pandemic.

SMVN will continue to contribute to the Atlas of Variation and other Demand Optimisation projects, progress its quality improvement workstreams and collaborating with referrers to optimise testing.

The approved TB Molecular Diagnostics project will also be progressed in this next year. The implementation subgroup will be revived to help with this process.

The standardisation of SMIs, protocols and codes will also continue. The standardisation group will continue to examine and discuss one SMI at a time, with a planned schedule of 18 months for the whole process.

The SMVN planned its annual educational event to take place in Edinburgh in June 2020. This date had been postponed due to the COVID-19 pandemic but was due to be re-scheduled within the calendar year.

5. Detailed Description of Progress in 2019 / 20

Objective Number	Smart Objective	Planned start/ end dates	Detailed Plan Available / Owner	Description of progress towards meeting objective as at September 2019	Anticipated Outcome	RAGB status
1. Effective Network Structure and Governance [linked to Quality Dimensions 3,4,5,6]						
2019-01	SMVN will ensure an effective governance structure by developing a meeting calendar to support good planning in the year ahead, developing a service agreement for key staff beyond March 2020 and ensuring strategies are updated and refreshed.	April 2019 – March 2020	No Core Team	A number of meetings have been arranged for 2019/20 SMOG & Steering Group have identified a need for greater Virology input and this is being progressed	SMVN is enabled to manage delivery of its workplan effectively	B
2. Service Development and Delivery [linked to Quality Dimensions 1,2,3,4,5,6]						
2018-01	Develop a Microbiology and Virology workforce to meet the challenges of the future as described in Realising Realistic Medicine and the Healthcare Science National Delivery Plan, through: Establishing and publishing workforce profile, identifying current & future gaps. Exploring role extension and developing common job descriptions for Advanced Practitioners.	January 2018-June 2019	Yes SMVN Lead Clinician, SMVN Manager, SMVN PSO, SMVN Steering Group	SMVN had a prominent role in the DSG Workforce Planning group. Comprehensive data capture and analysis is complete and the report has been approved by DSG. SMVN will be involved in implementation planning. SMOG has reviewed job descriptions and is agreeing wording for role descriptions that would transcend traditional NHS Board boundaries. SMOG have also been in discussion with IBMS about advanced practice roles and have agreed the need to train BMS	Increased engagement with the SMVN and increased reach and range of professionals and ages of members. Greater awareness of the network among stakeholders. Staff will have a better understanding of Realistic Medicine and the Healthcare Science National Delivery Plan.	B

Objective Number	Smart Objective	Planned start/ end dates	Detailed Plan Available / Owner	Description of progress towards meeting objective as at September 2019	Anticipated Outcome	RAGB status
	Organising educational meetings			<p>staff to higher specialist level to address medical staffing shortfalls. The IBMS President Elect attended the last Steering Group meeting to discuss advanced practice roles in Microbiology / Virology.</p> <p>Three educational meetings have been held and were very well received.</p>		
2019-02	<p>SMVN will lead work on the National Laboratories Information and Intelligence Platform (NLIIP), including –</p> <p>Develop guidance on standardisation of core SMIs.</p> <p>Identify and develop core reporting structures / codes requiring standardisation.</p>	July 2019 – March 2020	No	<p>Kick off standardisation meeting 11th September – opportunity to work through national progress and identify a way forward. This work will be significant and will require input across SMVN. Series of SMI / SOP review meetings planned with support provided by NLP.</p>	Microbiology information systems become streamlined, enabling ease of comparison	B
2019-03	<p>Work with SHTG to progress evaluation of faecal PCR.</p> <p>Develop a full business case for generic molecular diagnostics.</p>	April 2019 – March 2020	No	<p>SHTG Evidence Synthesis complete, full review underway and guidance will emerge however this is subject to SHTG governance processes and the timeline is therefore delayed.</p> <p>A generic business case for molecular diagnostics has been agreed as impractical and a syndromic approach will now be adopted.</p>	Modernised practices are developed and nurtured, paving the way for implementation and service improvement	A

Objective Number	Smart Objective	Planned start/ end dates	Detailed Plan Available / Owner	Description of progress towards meeting objective as at September 2019	Anticipated Outcome	RAGB status
3. Stakeholder Communication and Engagement <small>[linked to Quality Dimensions 1,3,4,5,6]</small>						
2019-04	<p>Continue to raise the awareness of SMVN and its work through:-</p> <p>Refreshed communications strategy</p> <p>Roadshows (c. 10 per year)</p> <p>Newsletters (minimum 2 per year)</p> <p>Informative and up to date website, including members area</p>	April 2019 – March 2020	<p>No</p> <p>Core Team</p>	<p>Roadshows have visited a range of NHS Boards, including Grampian, Fife, Dumfries and Galloway, Forth Valley & Western Isles and events such as network education days and the Healthcare Science Event.</p> <p>1 newsletter has been issued.</p> <p>Website updated regularly.</p>	Stakeholders are updated on the work of SMVN and have opportunity to provide input. SMVN's work is enriched from the input of a wider range of stakeholders.	B
4. Education <small>[linked to Quality Dimensions 1,2,3,4,5,6]</small>						
2019-05	<p>Develop lean working practices taking into account new technologies.</p> <p>Organise educational meetings</p> <p>Publish education strategy</p>	April 2019 – March 2020	<p>No</p> <p>NSM/LC</p>	<p>Annual education event took place on 23rd May. Feedback was excellent.</p> <p>Linking with NLP around changes to structure which will have an implication on educational needs of staff.</p>	A strong and cohesive Microbiology and Virology workforce which is resilient, effective and sustainable that is capable of meeting challenges described in Realistic Medicine and the Healthcare Science National Delivery Plan.	A

5. Audit and Continuous Quality Improvement <small>[linked to Quality Dimensions 1,2,3,4,5,6]</small>						
2019-06	Work with the Information Management Service to develop a Benchmarking report which provides accurate and useful information on 2018/19 activity	April 2019 – March 2020	No Core Team/IMS/SMOG	Data collection has progressed well and a benchmarking report will be produced shortly. SMOG will take responsibility to ensure the data is utilised to drive network improvement activity	NHS Scotland will have a clearer picture of Microbiology / Virology activity and an agreed way forward to develop the data set further and use the information to target variation and improve quality.	B
2019-07	Work with the National Demand Optimisation Group to:- Enable a second round of data collection for the Atlas of Variation. Use this data to identify new QI workstreams. Continue to progress QI workstreams in CSU, MSU and leg ulcer test requesting.	April 2019 – March 2020	No Core Team/IMS/DOG Team	Dataset agreed and data capture for the second year of the Atlas is underway, exploring the addition of Hep C and HIV testing. Leads identified for urines, leg ulcers & HVS projects. Clear activity plan to be developed in collaboration with DOG meeting on 10 th September.	The development of a robust data bank which informs change in practise to streamline processes and enable the network to continue to identify key areas to target and develop. Improved outcomes in areas already identified through cohesive practice resulting in reduced unwarranted variation.	B
6. Value <small>[linked to Quality Dimensions 1,2,3,4,5,6]</small>						
2019-08	Work with National Procurement to procure TB molecular diagnostics equipment / consumables.	April 2019 – March 2020	No NSM	All Boards had signed up and the contract awarded to Cepheid	Best value achieved for NHS Scotland in unified procurement	B
2019-09	Work with bioMérieux to ensure best value is negotiated for NHS Scotland	April 2019 – March 2020	No NSM	Meeting with bioMérieux NP and SMVN arranged for 26 November.	Best value and uninterrupted service achieved for NHS Scotland in unified procurement	B

6. Proposed Work Plan for 2020 / 21

Objective Number	Smart Objective	Planned start/end dates	Detailed Plan Available / Owner	Description of progress towards meeting objective as at March 2020	Anticipated Outcome	RAGB status
1. Effective Network Structure and Governance <small>[linked to Quality Dimensions 3,4,5,6]</small>						
2020-01	SMVN will ensure an effective governance structure by developing a meeting calendar to support good planning in the year ahead, developing a service agreement for network beyond April 2021 and ensuring strategies are updated and refreshed.	April 2020 – March 2021	No Core Team	A calendar of meetings is in place for the calendar year	SMVN is enabled to manage delivery of its workplan effectively	G
2020-02	Develop a refreshed five year vision for SMVN, from April 2021	Jan 2021 – March 2021	No Core Team			G
2020-03	Continue to refresh the 20/21 annual workplan to ensure it responds to strategic direction	Feb – Apr 2020	No Core team	Meeting been arranged to review plan with NLP	SMVN deliver a workplan	G
2020-04	SMVN will engage with the new, emerging strategic governance structure for diagnostic services in Scotland.	01/04/2020-31/03/2021	Y SPM	SMVN were represented at the development session for the new structure	SMVN is able to contribute to and be guided by the strategic vision for diagnostic services in Scotland	G

2. Service Development and Delivery [linked to Quality Dimensions 1,2,3,4,5,6]

2020-05	Lead activity relevant to the planning and management of the COVID-19 outbreak.	March 2019 – required	No SMVN Manager	SMVN has implemented testing on a large scale. Steering Group members are providing leadership locally. SMVN website updated daily as the go-to place for information	The management of the crisis will be informed by experts in microbiology. All centres will have access to up to date information.	G
2020-06	Develop a Microbiology and Virology workforce to meet the challenges of the future as described in Realising Realistic Medicine and the Healthcare Science National Delivery Plan, through: Contribute to the realisation of the recommendations of the workforce planning report.	January 2018- June 2020	Yes SMVN Lead Clinician, SMVN Manager, SMVN PSO, SMVN Steering Group	SMVN will continue to support national workforce planning, including refreshed data capture. A workforce questionnaire had been developed and data capture was to begin 1 st April.	Improved workforce intelligence. Support for the development of a long-term sustainable workforce profile.	G
2020-07	SMVN will lead work on the development of standardised SMIs, supported by the national laboratories programme. Identify and develop core reporting structures / codes requiring standardisation.	September 2019 – December 2020	Yes Sandra Higgins	Calendar of workshops in place for the year. Dr Higgins joining SMOG to ensure good cross-over with network reps.	Streamlined practices to enable the implementation of a distributed services model, including a common LIMS.	G
2020-08	Work with SHTG/HPS to progress evaluation of faecal PCR.	April 2020 – September 2020	No	SHTG Evidence Synthesis complete, full review underway and guidance will emerge. HPS also leading some complementary work so there is a need to define SMVN's role.	If implemented, modernised practices and reduced hospital admissions.	G

2020-09	Support the delivery of NHS Scotland's response to Coronavirus through supporting communication and engagement with the microbiology and virology community.	April 2020 – August 2020	N SMVN Manager	SMVN coordinating weekly calls across labs and keeping in regular touch with stakeholders to ascertain current lab situation.	SMVN community actively engaged in strategic planning of response. Strategic decision making enabled through accurate information on lab position.	
2020-10	Lead a service review of microbiology and virology, supported by NLP	April 2020 – December 2020	Yes NLP	NLP commencing background work, review will commence fully as capacity increases	Business case for new service model informed by SMVN conclusions.	G
3. Stakeholder Communication and Engagement <small>[linked to Quality Dimensions 1,3,4,5,6]</small>						
2020-11	Continue to raise the awareness of SMVN and its work through:- Refreshed communications strategy Roadshows (approx 10 per year) Newsletters (minimum 2 per year) Informative and up to date website, including members area	April 2020 – March 2021	No Core Team	Graphic designer working on refresh for website	Stakeholders are updated on the work of SMVN and have opportunity to provide input. SMVN's work is enriched from the input of a wider range of stakeholders.	G

4. Education [linked to Quality Dimensions 1,2,3,4,5,6]						
2020-12	Organise educational meetings Refresh education strategy in line with NLP needs and new NDP	April 2019 – March 2020	No Core team	Event planned for 11 th June	A strong and cohesive Microbiology and Virology workforce which is resilient, effective and sustainable that is capable of meeting challenges described in Realistic Medicine and the Healthcare Science National Delivery Plan.	G
5. Audit and Continuous Quality Improvement [linked to Quality Dimensions 1,2,3,4,5,6]						
2020-13	Work with the Information Management Service to develop a range of reports to provide accurate and useful information on 2019/20 activity and drive service improvement	April 2020 – March 2021	No Core Team/IMS/SMOG	All information required will be captured in one collection, to include demand optimisation, benchmarking, workforce and information required by subgroups. SMOG organising data workshop to progress this. Regular item on SMOG agenda to ensure QI plans progressed.	NHS Scotland will have a clearer picture of microbiology and virology activity and an agreed way forward to develop the data set further and use the information to target variation and improve quality.	G
2020-14	Provide SMVN support to the development of the national LIMS	April 2020 – March 2021	No Stephen McGlashan	SMVN are represented on the project board for this work	Specification for a national LIMS developed incorporating the needs of the microbiology and virology communities	G

6. Value [linked to Quality Dimensions 1,2,3,4,5,6]						
2020-15	Work with National Procurement to finalise the procurement of TB molecular diagnostics equipment / consumables. Support national implementation. Evaluate this work and develop recommendations about other molecular technologies.	April 2020 – March 2021	No NSM	NP are progressing pricing agreement with the supplier. SMVN continue to lead and guide this work. It is thought some NHS Boards may opt out; this would impact on the delivery of value for NHS Scotland and has been escalated to DSG	Best value achieved for NHS Scotland in unified procurement	G
2020-16	Explore the new 5 year AMR strategy including publication of AMR & AST testing guidance (where this falls outwith European guidance)	April 2020 – March 2021	No NSM/AMR Group		Unified approach to testing across NHS Scotland	G
2020-17	Publication of ESBL Guidelines	April 2020 – June 2020	No NSM		Unified approach to testing across NHS Scotland	G

When defining network objectives please consider the Institute of Medicine's six dimensions of quality, which are central to NHS Scotland's approach to systems-based healthcare quality improvement:

1. **Person-centred:** providing care that is responsive to individual personal preferences, needs and values and assuring that patient values guide all clinical decisions;
2. **Safe:** avoiding injuries to patients from healthcare that is intended to help them;
3. **Effective:** providing services based on scientific knowledge;
4. **Efficient:** avoiding waste, including waste of equipment, supplies, ideas, and energy;
5. **Equitable:** providing care that does not vary in quality because of personal characteristics such as gender, ethnicity, geographic location or socio-economic status; and
6. **Timely:** reducing waits and sometimes harmful delays for both those who receive care and those who give care.

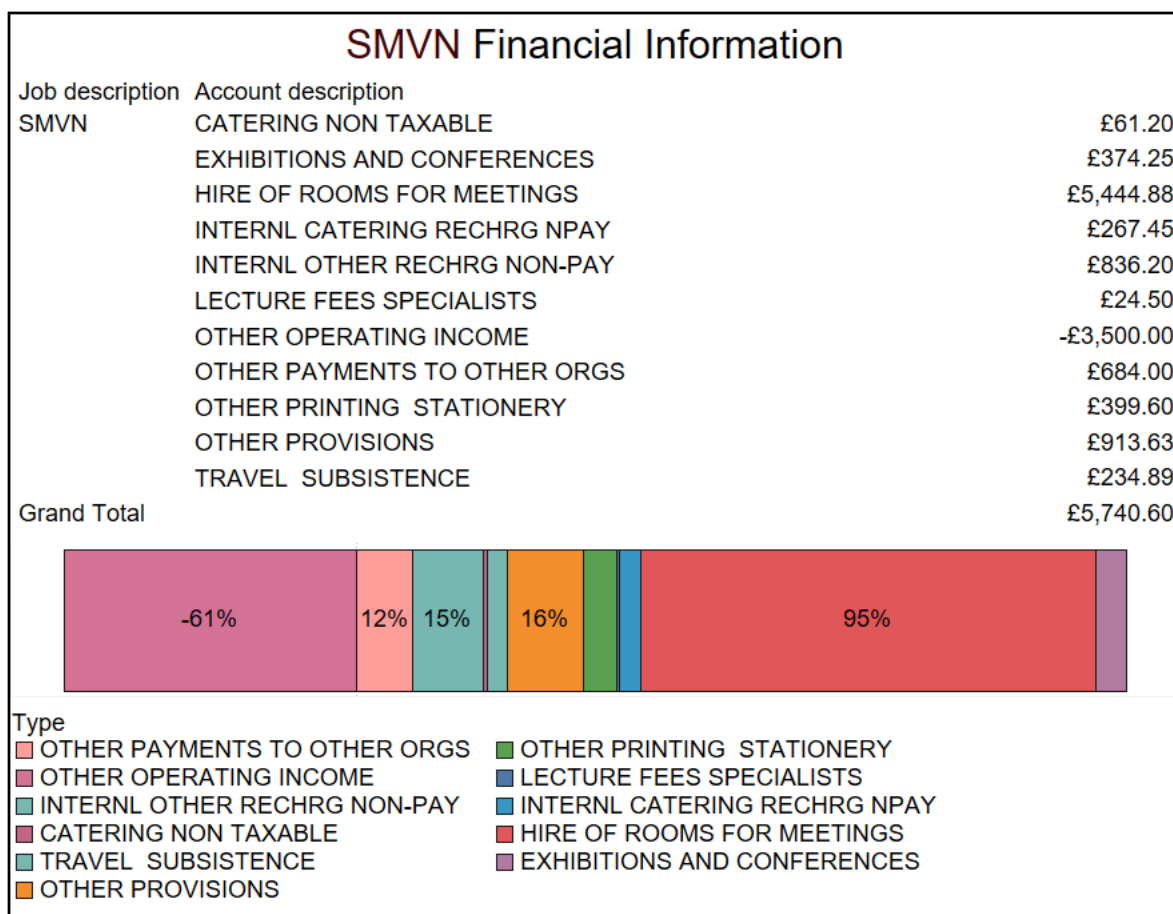
Key

RAGB status	Description
RED (R)	The network is unlikely to achieve the objective by the agreed end date.
AMBER (A)	There is a risk that the network will not achieve the objective by the agreed end date but progress has been made.
GREEN (G)	The network is on track to achieve the objective by the agreed end date.
BLUE (B)	The network has been successful in achieving the network objective to plan.

Appendix 1: Steering Group Membership (25 March 2020)

SMVN Leadership	Dr Martin Connor	Dr Fiona MacKenzie
NHS Ayrshire & Arran	Dr Abhijit Bal	Lisa Hunter
NHS Borders	Dr Edward James	Susan Johnston Caroline Thompson
NHS Dumfries & Galloway	Dr Linsey Batchelor	Adele Foster
NHS Fife	Dr Craig Ferguson	Stephen McGlashan
NHS Forth Valley	Dr Ben Cooke	Liz Kilgour
NHS Grampian	Dr Noha el Sakka	Lesley Beveridge
NHS Greater Glasgow & Clyde	Dr Brian Jones Dr Mairi Macleod Dr Christine Peters	Dr Rory Gunson Stephen Hughes John Mallon
NHS Highland	Dr Vanda Plecko	Dr David Ashburn
NHS Lanarkshire	Dr Sarah Whitehead	Ian McCormick
NHS Lothian	Dr Ian Laurenson	Linda Mulhern Julie White
NHS Orkney	Dr Becky Wilson	Eamonn Keyes
NHS Shetland		Ian Pritchard Robert Wardrop
NHS Tayside	Dr Ila Aggarwal Dr Ben Parcell Dr John Shone	Libby Aguero
NHS Western Isles		Joel Briggs
SMVN AST / SAPG	Dr Mairi Macleod	
Specialty Advisor	Dr Noha El Sakka	
Health Protection Scotland	Dr Michael Lockhart	Laura Imrie
SHPN	Dr Dave Yirrell	
Clinical Scientist Rep	Dr Claire Alexander	
Infection Control Doctors' rep	Dr Aleks Marek	
Golden Jubilee	Julie Mallon	
SMI Representative	Dr Martin Connor	
NNMS	Liz Blackman	Veronica Mesquita

Appendix 2: Finance



The SMVN notes an overspend during 2019-2020. This was due to the invoice for the March 2019 Steering Group being paid from the 2019-2020 budget, as opposed to the 2018-2019 budget. The cost of that event was £684.00 and resulted in an overspend of £740.60 which was underwritten by the NNMS. If this had not come out of this year's budget, SMVN would have been over budget by only £56.60 for 2019-2020.

As illustrated by the graph, the majority of SMVN's budget is spent on hiring external venues and catering. SMVN has continued to invite and secure corporate sponsorship for the annual education event as a means to maximise its reach to stakeholders.