



# Scottish Microbiology & Virology Network (SMVN) Annual Report 2018 - 2019

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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

One piece of work dominated the SMVN's year but it was also the network's biggest achievement to date; development of the fully costed business case *"Introduction of Molecular Diagnostics for the Rapid Identification of TB: An Options Appraisal"*. The case was presented through a myriad of committees and was ultimately endorsed by the Diagnostic Steering Group, National Laboratories Oversight Board, NHS Board Directors of Finance and NHS Board Chief Executives. The endorsed recommendation demonstrated indicative hospital costs avoided and saved of £2,586,557 and £700,068 respectively across 11 example NHS Scotland NHS Boards and a requirement for investment of £605,351 in laboratory budgets (across the same 11 NHS Boards). The SMVN continues to work with National Procurement to procure and rollout molecular diagnostics for TB across all 15 NHS Scotland NHS Boards which offer a Microbiology service and this will be a primary focus within the next reporting year.

The SMVN Scientific Manager developed the TB case with direction from members of the TB short life working group and data supplied by NHS Boards. This made two of the principal recommendations of the recent network review all the more relevant; that the SMVN should implement a distributed leadership model and that the expertise of the Network Scientific Manager is used well. Many of the other SMVN objectives had to be led by network members, primarily members of the SMVN Operational Group (SMOG). NNMS members of the SMVN core team also took greater responsibility to lead in a number of logistical areas. In December 2018 a final report on implementation progress on review recommendations was submitted to and endorsed by NSSC and the SMVN was approved to return to the routine review cycle.

SMOG members have, in particular, led on a number of national strategic workstreams including data based projects such as benchmarking, demand optimisation, the Atlas of Variation, National Laboratories Information and Intelligence Programme (NLIIP) projects (data, standardisation and LIMS) and the National Pathology Exchange (NPEx). They have also led on workforce projects and on standardising laboratory testing and reporting across NHS Scotland.

The SMVN Antimicrobial Susceptibility Testing (AST) group continues to be one of the most active groups and is expanding its remit to include antimicrobial resistance (AMR) diagnostics. The AST group is addressing standardisation of manual AST methods and reporting having already achieved standardisation of automated methods. It also has very strong links with Health Protections Scotland and supports the HPS Electronic Communication of Surveillance in Scotland (ECOSS) system.

Network and stakeholder engagement have advanced. Educational events continue to attract good numbers across NHS Boards and stakeholder organisations. A network newsletter has been developed which also receives very positive feedback and is cascaded within Microbiology & Virology departments as well as to wider stakeholder organisations.

Over the forthcoming reporting period, the SMVN is committed to continued progress of new and ongoing workplan objectives as well as being fully supportive of and engaged in delivery of pan network national work plans. In particular the year will see national procurement of TB molecular diagnostics, progress on provision of evidence to justify introduction of rapid molecular diagnostics for identification of enteric pathogens, NLIIP projects and further standardisation of bacteriology methods and reporting across NHS Scotland. With respect to keeping within the allocated budget, some of the SMVN's activities will be supported by commercial sponsorship in the coming year.

Mindful that the patient is central to the work of the SMVN, the network commits to focus on delivering the right test to the right patient in the right location at the right time.

#### 2. INTRODUCTION

The SMVN has existed for seven 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.

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 long-term plan to introduce molecular diagnostics took a significant step forward during the year focusing specifically on TB diagnostics.

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, was appointed as the SMVN Clinical Lead and started a three tenure in April 2018.

Dr Fiona MacKenzie, NHS Grampian, continued in the 0.5 FTE Network Scientific Manager role she has held since July 2012.

The SMVN was managed and supported by National Network Management Service and specifically by Liz Blackman (Senior Programme Manager) and Emily Ross (Programme Support Officer).

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

- Scottish Antimicrobial Prescribing Group representative
- Clinical Scientist Representative
- SMVN Representative on the National Standard Methods Steering Group
- Infection Control Doctor Network representative
- 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 last reviewed / updated in March 2018 and will be reviewed again within 12 months or sooner if major revisions are required.

There is a current service agreement in place, 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 and this is largely on target.

NSSC extended the commissioning of the network for one year in December 2017 to allow SMVN to implement the range of recommendations that were made in the review report. These included improvements in communications, more effective use of the network manager's time and the available support resource and a shift to a distributed model of leadership. The network has responded positively to ensure the expertise of the Network Scientific Manager is used well and has welcomed a range of support staff to lead on a range of areas including meetings management. There will be further development of the support provided for data analysis through the Information Management Service (IMS). The Core Team meets regularly to ensure tasks are progressed by the most appropriate person and momentum maintained. A distributed leadership model is now in place with a range of Steering Group and network members representing SMVN on a range of national groups and subgroups. This has been of key importance at a time of significant strategic change and is something the core team will continue to promote. A report on implementation progress was submitted to NSSC and ongoing commissioning of the network to allow it to progress its meaningful workplan was approved. The SMVN has reverted to the routine review cycle.

#### 3.2 Service Development and Delivery

Workplan Objective 2018-02Contribute to design of a Microbiology laboratory service for the future of<br/>Scotland. This involves planning the procurement of Molecular Technology, specifically:

- 1. Initiating evaluation of faecal PCR (If approved)
- 2. Present options appraisal for mycobacterial molecular diagnostics.
- 3. If mycobacterial molecular diagnostics approved, develop an outline business case for generic molecular diagnostics.

#### a. Faecal PCR

The SMVN has fully engaged with the Healthcare Improvement Scotland (HIS) Scottish Health Technologies Group (SHTG) to restart an updated literature review on the topic of **Rapid molecular diagnostics: gastrointestinal multiplex PCR**. This had originally been requested from the SHTG in 2017 but the work was not delivered. Upon reengagement with the SHTG in 2018 / 2019 the work has been reinitiated. The aim is to update the literature review originally carried out by NICE that culminated in the NICE publication of an **assessment of the published literature on the clinical and cost effectiveness of integrated multiplex PCR tests for identifying gastroenteritis pathogens** and which concluded that, at the time, there was insufficient evidence to recommend routine adoption of these technologies within the NHS.

#### b. Options appraisal for mycobacterial molecular diagnostics.

This has been the single biggest piece of work taken on by the SMVN, not only in the year 2018 – 2019, but in the entire lifetime of the SMVN. It has, in particular, taken up a significant amount of the SMVN Scientific Manager's allocated time.

The SMVN formed a Mycobacterial Services Short Life Working Group (SLWG) to agree the direction of the options appraisal. The business case evolved through a complex and lengthy governance process. It was discussed, presented and approved at a large number of meetings during its life to date but the following are the key meetings.

**December 2017**: The SMVN presented an outline case entitled "*Mycobacteria (TB): a case for molecular diagnostic testing*" to the Diagnostic Steering Group (DSG). The DSG gave approval to move onto a full business case, directing the inclusion of further rationalisation of smear / culture on a regional basis. This was essential to progress to the next stage.

**September 2018**: The SMVN presented a paper to the DSG entitled "*Review of diagnostic testing for Mycobacteria in NHS Scotland*" focusing solely on smear and culture. It provided details on numbers of tests performed and quality standards. The recommendations at that stage were to attain full compliance with accepted quality standards and minimum numbers of tests to maintain staff competency as well as regionalisation of smear / culture in 1 lab in the North, 1 lab in the East and 2 labs in the West. The recommendations were approved.

**October 2018:** The SMVN presented a fully costed business case to the DSG Advisory Group (DSG AG) entitled "Introduction of Molecular Diagnostics for the Rapid Identification of TB: An Options Appraisal". At this point the case recommended that testing should not be carried out in the island NHS Boards but should be carried out in mainland NHS Boards using either in-house real time PCR tests or commercial black box technology.

The DSG AG gave directions on how to proceed highlighting that the case should be revised to recommend provision of an equitable service regardless of patient location including the island NHS Boards and to recommend a "once for Scotland" approach with a single testing platform for all Scottish NHS Boards. They also requested that costs savings be abstracted from costs avoided and that a procurement section should be built into the business case.

The final case was presented at the following meetings where it gained approval:

December 2018 DSG

that the new

January 2019	Laboratory Oversight Board (LOB) Blueprint Sub-Group
February 2019	NHS Scotland NHS Board Directors of Finance (DoFs)
March 2019	NHS Scotland NHS Board Chief Executives who requested technology be rolled out as soon as possible.

The net result is that the SMVN has secured a commitment for c. £600k per year to support roll-out. It has been a significant achievement for the SMVN to get to this stage and the case has served as test case for diagnostic networks within the current governance / funding structure.

This piece of work has now moved onto the implementation phase and the SMVN is working with National Procurement on procurement and rollout of suitable molecular platforms.

# Workplan Objective 2018-01Develop standard processes for Microbiology and Virology staff across Scotland, including:-

- 1. Audit of reporting codes used in Microbiology and Virology.
- 2. Delivering guidance on ESBL testing and reporting.
- 3. Exploring governance of water testing across Scotland.
- 4. Developing guidance on standardisation of Standard Microbiology Investigations (SMI) blood culture and urine testing. Initiate gap / variation analysis of further SMIs.

The SMVN has published (via the AST sub group) guidance on testing and reporting for Carbapenemase producing organisms (CPO) and is working on the same for ESBL producing organisms.

Having previously introduced standardised automated antimicrobial susceptibility testing for the majority of bacterial pathogens tested in the laboratory, the SMVN AST sub group addressed variation in manual disc diffusion testing for the remaining pathogens. It has recommended standardised testing for *Haemophilus influenzae* and *Moraxella* species and is now working on *Streptococcus* species.

The SMVN AST sub group has worked with bioMerieux to ensure that Vitek software upgrades reflect current 2019 EUCAST breakpoints meaning Scotland continues to be the most consistently up-to-date European country using EUCAST methodology and interpretive criteria.

The SMVN AST sub group also has very strong links with Health Protections Scotland and supports the HPS Electronic Communication of Surveillance in Scotland (ECOSS) system.

The water testing questionnaire is in progress, enhancing links with the Infection Control Doctor (ICD) network, Health Protection Scotland (HPS) and Health Facilities Scotland (HFS).

The SMVN Operational Group (SMOG) has concluded its variation and gap analyses of UK Standards for Microbiology Investigations (SMIs) in relation to urine and blood culture testing and in relation to Scottish guidance for *C. difficile* testing.

#### 3.3 Stakeholder Communication and Engagement

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: Organising educational meetings and issuing newsletters.

#### a. Communication and Engagement Strategy

The SMVN's communications have been completely revamped to include regular newsletters, updates from meetings and a refreshed website. SMVN has also been promoted through NMDN roadshows and through posters at major national events including the NHS Scotland conference and the Realistic Medicine conference. Its Communication and Engagement Strategy has been developed.

#### b. E-mail lists / website

The SMVN has always used a number of E-mail circulation lists including the following:

- (a) General circulation list to communicate prospective updates on a variety of topics to all who have signed up to receive them (n=204)
- (b) SMVN Steering Group (n=40)
- (c) SMVN Operational Group (n=19)
- (d) SMVN AST Group (n=47)
- (e) SMVN TB SLWG (n=24)

The SMVN website had 7,259 visits in 2018. In March 2019, it was the second most visited of the diagnostic network websites behind SPAN and ahead of SCBMDN and SCIN. The most visited page is the password protected members' page. The newest pages on the website include a bespoke vacancies section highlighting which medical and non-medical vacancies are advertised on the national SHOW website. Two separate forum pages had been set up for SMVN: one for general members and one specifically for SMOG members to use.

#### c. Newsletter

During the year a new-look SMVN newsletter was distributed quarterly and cascaded within Medical Microbiology Departments to the following staff grades in the NHS Board<sup>1</sup> areas detailed:

	Registrar	Clinical Scientist Consultant	Clinical Scientist Non- consultant	BMS	Trainee BMS	HCSW / MLA	Admin & Clerical	Other	Total
AA	0	0	0	27	0	22	0	0	49
BR	0	0	0	8	0	3	0	7	18
DG	0	0	0	12	2	8	1	4	27
FF	0	0	0	26	0	18	2	1	47
FV	0	0	0	21	0	8	1	0	30
GJH	0	0	0	4	1	0	0	0	5
GR	2	0	1	44	3	19	6	0	75
GGC: South	4	0		53	7	31	4		99
GGC: WSVC & Ref Labs	2	1	13	45	12	25	10	1	109
HG		1	2	22		18	1	2	46
LO	7	2	1	64	3	34	5		116
OR	0	0	0	7	1	2	1		11
ТҮ	2	2	1	37	0	13	0	0	55
TOTAL	17	6	18	370	30	201	31	15	688

<sup>&</sup>lt;sup>1</sup> No data supplied by NHS WI, NHS LN, NHS SH or NHS GGC North

#### 3.4 Education

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: Organising educational meetings and issuing newsletters.

#### a. Annual Educational Event

The SMVN continues its programme of well received educational events. At the Scientific Meeting on 21<sup>st</sup> June 2018, there were 75 registered with attendees from twelve NHS Boards and a range of institutions, as follows:

Ayrshire & Arran	1
Orkney	1
Other	1
Spire Murray field Hospital	1
Borders	2
Edinburgh City Council	2
Grampian	2
Highland	2
HPS	2
Scottish Government	2

Shared Services Labs Programme	2
Lanarkshire	3
NSS	3
Tayside	4
Dumfries & Galloway	5
Fife	6
Forth Valley	6
Greater Glasgow & Clyde	15
Lothian	15

The registration breakdown demonstrates that SMVN continues to engage with an increasing number of strategic stakeholders. The day focused on key developments in Microbiology in Scotland, The Public Health Microbiology Strategy and Shared Services / Regionalisation. Feedback received was excellent with lectures rated an average of 4.27 out of 5 (where 5 was rated excellent).

#### b. Focused Meetings

In May 2018, a Vitek User Group meeting was held by the SMVN AST Group in conjunction with bioMerieux, supplier of the automated AST equipment used in all Microbiology laboratories in NHS Scotland. The number of registrations was limited to 35. 34 people registered and were from the following NHS Board areas:

Ayrshire and Arran	1
Grampian	1
Tayside	1
Borders	2
Dumfries and Galloway	2
Golden Jubilee National Hospital	2

Fife	3
Forth Valley	3
Lanarkshire	3
National Services Scotland	4
Lothian	5
Greater Glasgow and Clyde	7

Presentations were given by both bioMerieux staff and SMVN members, focusing on various aspects of antibiotic susceptibility testing.

#### 3.5 Audit and Continuous Quality Improvement

Workplan Objective 2018-05 Develop a national Scottish Microbiology and Virology dataset, specifically:-

- 1. Developing an all-Scotland benchmarking report in partnership with the IMS.
- 2. Exploring and facilitating possible improvement of inter-laboratory test ordering and reporting in collaboration with Laboratory Data Improvement Group.

**Benchmarking**: The SMVN Operational Group (SMOG) has developed a data set which will be collected and analysed by the IMS. A benchmarking report will be developed utilising similar methodology to SPAN.

**Demand Optimisation**: Three projects have been finalised addressing the following samples; high vaginal swabs (HVS), Leg Ulcers and Urines.

**Atlas of Variation**: a dataset was agreed by the SMVN Steering Group to reduce and streamline the amount of data required from each laboratory. All NHS Boards have submitted the required information. The SMVN was the first network to achieve a complete dataset. The dashboards prepared by IMS using the data look very promising and have received very positive feedback.

**National Laboratories Information and Intelligence Programme (NLIIP)**: the SMVN has good representation on the various groups including the data, standardisation and LIMS groups. SMVN representatives are also engaged with the National Pathology Exchange (NPEx) to help drive intra-NHS Board data transfer.

#### 3.6 Value

The "Mycobacteria (TB): a case for molecular diagnostic testing" presented a number of fully costed options. The SMVN demonstrated that implementation of the recommended option would result in net cost avoidance of £2,586,557 across 11 example NHS Boards and net costs saved in personal protective equipment of £700,068 across the same 11 example NHS Boards. This is more than adequate to offset introduction and rollout of molecular diagnostics in these 11 NHS Boards (£605,351). The SMVN continues to work with National Procurement to monitor / negotiate supplier performance and pricing.

The SMVN has also recommended regionalisation of TB smear and culture and will work with the relevant national and regional groups to help implement this as their agendas allow.

#### 4. PLANS FOR THE YEAR AHEAD

The SMVN looks forward to the appointment of a new Programme Support Officer and to working with the appointee as part of the SMVN Core Team.

The SMVN planned its annual educational event to take place in Edinburgh in May 2019 as well as a Vitek User Group meeting co-organised by the SMVN AST Group and bioMérieux in June 2019.

One of the primary focuses for the SMVN is implementation of the approved TB molecular diagnostics business case. In particular, this will involve working closely with National Procurement to conduct a procurement exercise for acquisition of appropriate molecular diagnostic platforms for TB testing and subsequent rollout.

The SMVN AST group will develop its newly expanded remit to include AMR diagnostics. It will also work with National Procurement to plan for the end of the current Vitek consumable contract for AST.

The SMVN is full supportive of and engaged in delivery of pan network national work plans including those of the National Laboratory Information Intelligence Platform (NLIIP), the National Laboratory Oversight Board (NLOB), the National Demand Optimisation Group and the Information Management Service.

# 5. Detailed Description of Progress in 2018 / 19

Objective Number	SMART Objective	Linked Dimensi ons of Quality	Planned start / end dates	Detailed Plan Available / Owner	Description of progress towards meeting objective as of 01/10/2018	Anticipated Outcome / Evidence of Improvement	RAGB
2018-01	DevelopaMicrobiologyandVirologyworkforcetomeetthechallengesofthefutureasdescribedin RealisingRealistingRealisticMedicineRealisticMedicineandtheHealthcareScienceNationalDeliveryPlan, through:Establishing and publishing workforceprofile,identifyingcurrent& futuregaps.Exploringroleextensionanddevelopingfor AdvancedPractitioners.Organisingeducationalmeetings.	1, 3, 6	January 2018 - June 2019	Yes, available from PSO Lead Clinician, Scientific Manager PSO Steering Group	<ul> <li>SMVN have a prominent role in the DSG Workforce Planning group. The network has collected and analysed data on the consultant workforce.</li> <li>It is now developing a multi-disciplinary, multi-professional questionnaire for all labs through the group. This work has been delayed slightly due to challenges with data collection.</li> <li>All data has now been collected. Analysis will be complete and presented to the main workforce group in June 2019. The group have begun to form recommendations.</li> <li>Two educational meetings have been held and were very well received.</li> </ul>	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.	G
2018-02	Design a Microbiology laboratory service for the future of Scotland. This involves planning the procurement of Molecular Technology, specifically: Initiating evaluation of faecal PCR (If approved) Presenting outline and full business cases for TB molecular diagnostics. Developing an outline business case for generic molecular diagnostics.	1,2,3,4,5 6,	January 2018 - March 2019	Yes, available from PSO Lead Clinician, Scientific Manager Steering Group	NICE guidance stated there was a lack of evidence to rollout faecal PCR across the NHS. The SMVN requested that HIS SHTG carry out an updated literature review on the topic and this is outstanding. In the meantime, the SMVN considered that TB molecular diagnostics was of higher priority and should be addressed first. A review of TB services is complete and an options appraisal of mycobacterial services (including technology) has also taken place. This led to the development of a business case which was approved by DSG, LOB, DoFs and CEs.	A shared understanding of the benefits of molecular diagnostics as a modern diagnostic tool. Approval of the TB Business Case.	в

Objective Number	SMART Objective	Linked Dimensi ons of Quality	Planned start / end dates	Detailed Plan Available / Owner	Description of progress towards meeting objective as of 01/10/2018	Anticipated Outcome / Evidence of Improvement	RAGB
2018-03	<ul> <li>Develop standard processes for Microbiology and Virology staff across Scotland, including:-</li> <li>Audit of reporting codes used in Microbiology and Virology.</li> <li>Delivering guidance on ESBL testing and reporting.</li> <li>Exploring governance of water testing across Scotland.</li> <li>Developing guidance on standardisation of Standard Microbiology Investigations (SMI) blood culture and urine testing. Initiate gap / variation analysis of further SMIs.</li> </ul>	2,3,4,5,6	January 2018 – March 2019	Yes, available from PSO Lead Clinician, Scientific Manager	Carbapenemase producing organisms (CPO) guidance and standardised reporting codes have been published by the SMVN. The Antimicrobial Susceptibility Testing (AST) subgroup has implemented standardisation automated testing and recommended some manual disc diffusion testing for specific organisms. It had also been suggested extending the AST group's remit to look at wider antimicrobial resistance (AMR) diagnostics. The water testing questionnaire is in progress, enhancing links with the Infection Control Doctor (ICD) network, Health Protection Scotland (HPS) and Health Facilities Scotland (HFS).	A shared understanding across all NHS Boards of the importance of standardising processes in Microbiology and Virology. Development of Standard Microbiology Investigations (SMIs) for Scotland. Close collaboration with Laboratories Programme on the ongoing standardisation work.	В
2018-04	Optimise potential for a distributed services model as aligned with the guiding principles for service as defined by the Shared Services Laboratory programme. This is likely to include:- Developing and agreeing optimum service levels required for different levels of healthcare.	3,4,5	January 2018 – March 2019	Yes, available from PSO Lead Clinician, Scientific Manager Steering Group	<ul> <li>SMVN had raised risks around the absence of microbiology and virology representation throughout the programme and have since had members included as the professional reps on all of the programmes groups.</li> <li>SMVN regularly invite the programme to attend or provide an update to the Steering Group.</li> <li>SMVN has offered to provide the shared services programme team with a detailed tour of a microbiology lab to aid their understanding.</li> <li>SMVN is also well engaged with the emerging regional structures for labs, with representatives on each region.</li> <li>The TB Business Case was the first DSG Business Case to go through the Blueprint Alignment Tool.</li> </ul>	SMVN have contributed to the Shared Services proposed distributed services model and been active members of LOB subgroups	в

Objective Number	SMART Objective	Linked Dimensi ons of Quality	Planned start / end dates	Detailed Plan Available / Owner	Description of progress towards meeting objective as of 01/10/2018	Anticipated Outcome / Evidence of Improvement	RAGB
2018-05	Develop a national Scottish Microbiology and Virology dataset, specifically:-Developing an all-Scotland benchmarking report in partnership with the IMS.Exploring and facilitating possible improvement of inter-laboratory test ordering and reporting in collaboration with Laboratory Data Improvement Group.	2,3,4	January 2018 – March 2019	Yes, available from PSO Lead Clinician Scientific Manager PSO Steering Group IMS	<ul> <li>SMVN has agreed fields for an initial benchmarking report, utilising similar methodology to SPAN.</li> <li>SMVN is the only network to have complete data on the Atlas of Variation.</li> <li>SMVN members are part of discussion to agree the priority feels for the development of the National Laboratories Information and Intelligence Platform.</li> <li>SMVN members are also actively supporting the work of the National Pathology Exchange (NPEx) to progress inter-NHS Board test ordering and reporting.</li> </ul>	SMVN have a national Scottish microbiology and virology dataset that can be used for national benchmarking purposes.	В

# 6. Proposed Work Plan for 2019 / 20

Objective Number	Smart Objective	Planned start/ end dates	Detailed Plan Available / Owner	Description of progress towards meeting objective as at March 2019	Anticipated Outcome	RAGB
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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	SMVN is enabled to manage delivery of its workplan effectively	G	

2. Service	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. Organising educational meetings	Jan 2018 – June 2019	Yes Lead Clinician Scientific Manager PSO Steering Group	SMVN have a prominent role in the DSG Workforce Planning group. The network has collected and analysed data on the consultant workforce and is now developing a multi- disciplinary, multi-professional questionnaire for all labs through the group. This work has been delayed slightly due to challenges with data collection. All data has now been collected. Analysis will be complete and presented to the main workforce group in June 2019. The group have begun to form recommendations. Three educational meetings have been held and were very well received.	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.	G			

#### Scottish Microbiology & Virology Network (SMVN): Annual Report 2018 /19

2019-02	SMVN will be involved in the work of National Laboratories Information and Intelligence Platform (NLIIP), including: Develop guidance on standardisation of core SMIs. Identify and develop core reporting codes requiring standardisation.	July 2019 – March 2020	No	Plan being developed by NLIIP team for SMVN comment	Microbiology information systems become streamlined, enabling ease of comparison	G
2019-03	Work with SHTG to progress evaluation of faecal PCR. Develop a full business case for generic molecular diagnostics, depending on outcome of SHTG report.	April 2019 – March 2020	No	Faecal PCR has been raised again via DSG for further discussion	Modernised practices are developed and nurtured, paving the way for implementation and service improvement	

3. Stakeholder Communication and Engagement [linked to Quality Dimensions 1,3,4,5,6]						
2019-04	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 2019 – March 2020	No Core Team	Roadshows are being planned by NNMS	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]

2019-05	Develop lean working practices taking into account new technologies. Organise educational meetings. Publish education strategy.	April 2019 – March 2020	No NSM/LC	Annual education event arranged for 23rd May	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
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5. Audit and Continuous Quality Improvement [linked to Quality Dimensions 1,2,3,4,5,6]							
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	A dataset has been developed and will be issued to centres shortly	NHS Scotland will have a clearer picture of biochemistry activity and an agreed way forward to develop the data set further and use the information to target variation and improve quality.		
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 Leads identified for CSU, MSU & leg ulcers	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.	G	

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6. Value [linked to Quality Dimensions 1,2,3,4,5,6]						
2019-08	Work with National Procurement to procure TB molecular diagnostics equipment / consumables.	April 2019 – March 2020	No NSM		Best value achieved for NHS Scotland in unified procurement.	G
219-09	Work with biomérieux to ensure best value is negotiated for NHS Scotland	April 2019 – March 2020	No NSM		Best value and uninterrupted service achieved for NHS Scotland in unified procurement	

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 socioeconomic 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 (31 March 2019)

SMVN Leadership	Dr Martin Connor	Dr Fiona MacKenzie
NHS Ayrshire & Arran	Dr Abhijit Bal	Lisa Hunter
NHS Borders	Dr Ed James	Peter Machell
NHS Dumfries & Galloway	Dr Lyndsay 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	John Mallon Steven Hughes
NHS Highland	Dr Vanda Plecko	Dr David Ashburn
NHS Lanarkshire	Dr Sarah Whitehead	lan McCormick
NHS Lothian	Dr lan Laurenson	Linda Mulhern
NHS Orkney	Dr Becky Edwards	Eamonn Keyes
NHS Shetland		Robert Wardrobe
NHS Tayside	Dr Will Olver	Marilyn Clark
NHS Western Isles		Joel Briggs
SMVN AST / SAPG	Dr Mairi Macleod	
SG HAI Policy Unit	Dr Alasdair Leanord	
Specialty Advisors	Bacteriology (TBC)	Dr Noha El Sakka (V)
Health Protection Scotland	Dr Michael Lockhart	Laura Imrie
SHPN	Dr Dave Yirrell	
Clinical Scientist Rep	Claire Alexander	
Infection Control Doctors' rep	Dr Aleks Marek	
SMI Representative	Dr Martin Connor	
NNMS	Liz Blackman	Emily Ross

### Appendix 2: Finance



## SMVN Financial Information

The SMVN notes a significant overspend during 2018 – 2019 due to exceptional costs incurred to host the annual education event. In order to mitigate the situation for the remainder of the year attempts were made to book free venues for meetings but demand for free venues meant this was not always possible. The overspend was underwritten by the NNMS and appropriate internal action taken to avoid this happening again.