



STANDARDS UNIT, DEST

NATIONAL STANDARD METHODS SURVEY REPORT

BSOP 9 - *"INVESTIGATION OF THROAT SWABS"*
BSOP ID 2 - *"IDENTIFICATION OF CORYNEBACTERIUM SPECIES"*
QSOP 53 - *"RECOMMENDATIONS FOR THE SCREENING OF SPECIMENS FOR CORYNEBACTERIUM SPECIES"*

Authors: Janet Norcup / Ruhi Siddiqui

Standards Unit

Index

	page
1.0 Aim of survey	3
2.0 Summary	3
3.0 Recommendations	3
4.0 Introduction	3
5.0 Results	4
6.0 Discussion	11
Appendix 1	12
Appendix 2	13
Appendix 3	14
Appendix 4	15
Appendix 5	14
Action table	17

BSOP 9, BSOP ID 2 & QSOP 53 (*C. diphtheriae* – Questionnaire)

1.0 Aim of survey

The three National Standard Methods (NSMs) associated with investigation or identification of *Corynebacterium* species were reissued in July 2008. Information concerning the reissue was placed on the 'Latest News' page on the NSM website and sent via email bulletin to all password holders. The aim of this survey is to identify the extent to which users use the documents and how the modifications to the methods have been received.

2.0 Summary

The questionnaire was distributed by email to the NSM website password holders and was made available, in hard copy, to delegates attending "Microbe 2008" conference.

Seventy one questionnaires were received back for analysis (59 by email and 12 by post). Twelve of the replies were from eleven countries outside the UK.

Eleven responses were received explaining that they do not carry out these tests.

3.0 Recommendations

See action table

4.0 Introduction

Corynebacterium is a genus consisting of Gram-positive, aerobic or facultative aerobic, rod that often have clubbed ends. The bacteria can occur singly or in pairs. The majority of species within this genus do not cause disease and some are actually part of normal human skin microflora. However there are some such as *Corynebacterium diphtheriae* that are important pathogens. Strains of the pathogenic *Corynebacterium* species harbour the diphtheria *tox* gene that leads to the production of a toxin. These strains cause diphtheria or diphtheria-like illnesses. All suspected toxigenic strains of *Corynebacterium diphtheriae*, *C. ulcerans* and *C. pseudotuberculosis* species should be referred to the HPA Streptococcus and Diphtheria reference unit (SDRU) for confirmation.

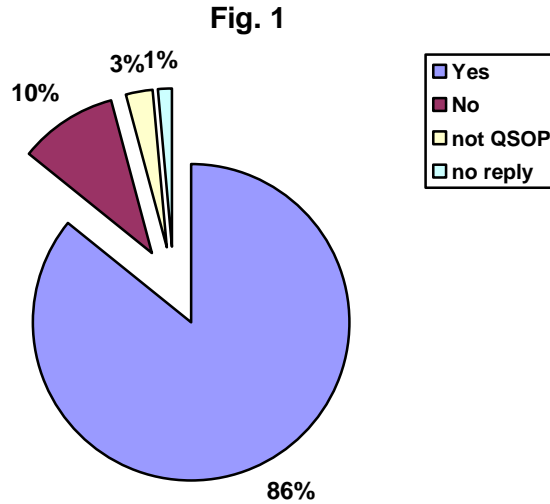
In 2007 the NSM documents BSOP 9 – Investigation of Throat Swabs and QSOP 53 – Recommendations for the screening of specimens for *Corynebacterium* species were due for their tri – yearly review. In addition due to significant changes BSOP ID 2 – Identification of *Corynebacterium* species was also brought under review. As all three *Corynebacterium* related documents were to be re-issued simultaneously it provided the ideal opportunity to ensure that all recent information had been incorporated and that they were all consistent.

All three documents mention the testing for *Corynebacterium* species and the aim of this questionnaire is to find the extent to which these documents are used and how changes e.g. the inclusion of testing for *Fusobacterium necrophorum* in BSOP 9, have been received and possibly implemented.

5.0 Results

Seventy one questionnaires were returned.

Question 1 – Have you seen the National Standard Methods BSOP 9, BSOP ID 2 and QSOP 53 ?

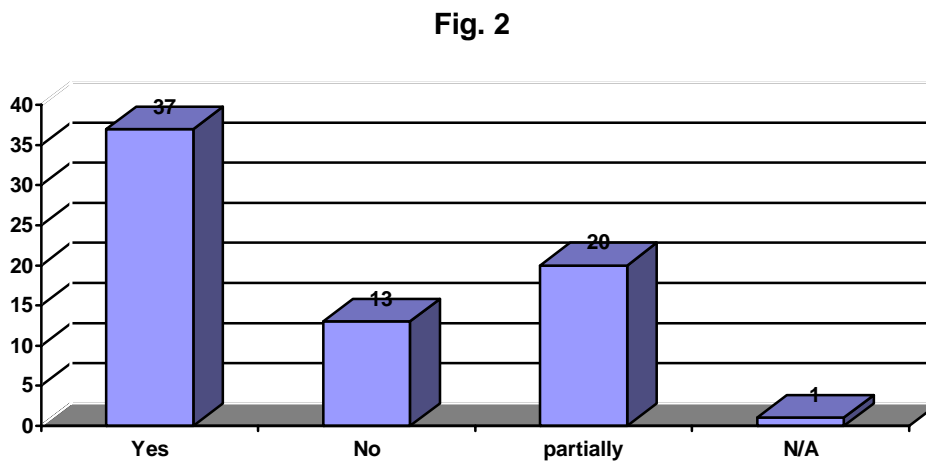


A total of 7 (10%) participants responded “no” to this question and consisted of five who were password holders and two who are in a laboratory that has a password holder. Two participants stated that they had seen BSOP 9 and BSOP ID 2, but either hadn’t seen or were unaware of the guidance note QSOP 53.

NB: Both of these participants were unaware of the guidance note QSOP 53, although information regarding the issue of all three documents had been included in the same bulletin, and both people were password holders who had been sent the bulletin

Action: To look at the possibility of making the bulletin more eye-catching

Question 2 – Do you use the National Standard Method BSOP 9 for screening throat swabs?



Over 50% of participants responded that they use BSOP 9 and an additional 28% that it is used in parts. This data indicates the relevance / need for the method.

Question 3 – If “no” what modification /methods do you use and in relation to which NSM?

Eight of the 13 “no” answers failed to respond to this question. Of these, five were from overseas, the other three were from a veterinary organisation, a food company and NHS laboratory.

For this survey no further action is necessary to follow up these 8 responses as they are outside the jurisdiction of the Standards Unit.

The five responses of 13 that were received (three from non-UK countries) are as follows:

In 9 years we have not had a clinical case of diphtheriae - we don't chase it

We work only with Mycobacteria, particularly with *M. tuberculosis*, another lab is dealing with Corynebacteria

Guideline for laboratory diagnosis of Diphtheria, 1994, ICP/EPI 038 ©

We do not use throat swabs for screening for MRSA

Columbia blood agar (aerobic & anaerobic) & 'chocolate' blood agar

Action: *The laboratory giving the first response should be followed up to ascertain how they investigate throat swabs*

The 20 participants that responded that their laboratories partially use BSOP 9 also listed their modifications. Some of these were additional steps eg:

“We screen all isolates from tellurite plate using Tinsdales medium”

And others related to the testing for *Fusobacterium* which was a new addition to the document eg:

“Fusobacterium would only be cultured & investigated for on specific request”

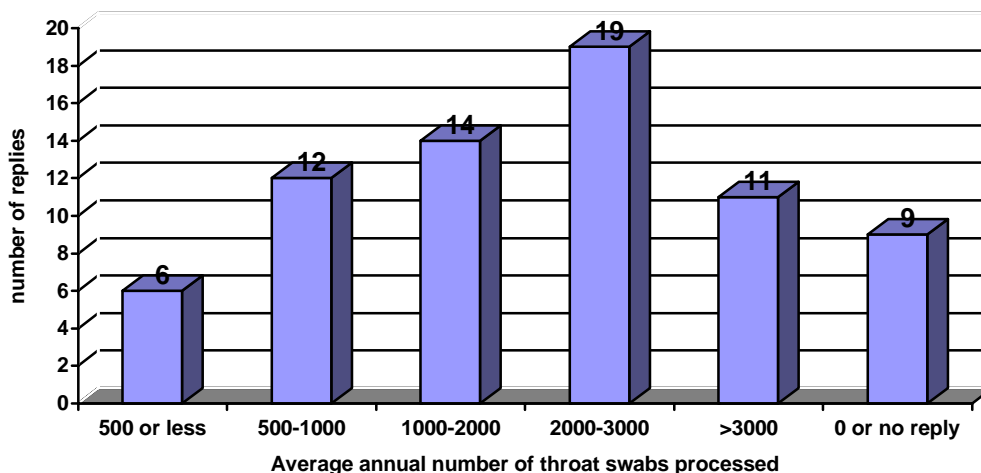
See Appendix 1 for the full list of responses.

Action: *Report the information to the SMWG*

Question 4 – On average how many throat swabs are processed by your laboratory?

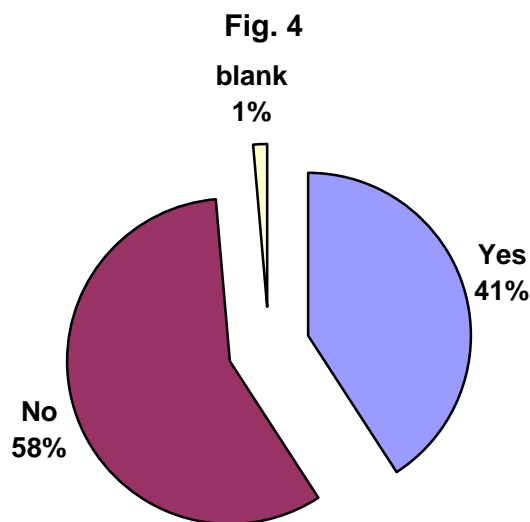
The questionnaire gave the choice of giving the number of throat swabs processed as daily, weekly or monthly figures, and this led to great variation in the replies. Some people put a figure in for each section while others added a figure to only one. To try to group the replies, the figures have been extrapolated to give approximate annual figures. The majority of laboratories processed between 2000 – 3000 throat swabs a year

Fig. 3



Action: Forward information to RSIL

Question 5 – Do you routinely screen throat swab specimens for potentially toxigenic corynebacteria (*C. diphtheriae* / *C. ulcerans* / *C. pseudotuberculosis*)?



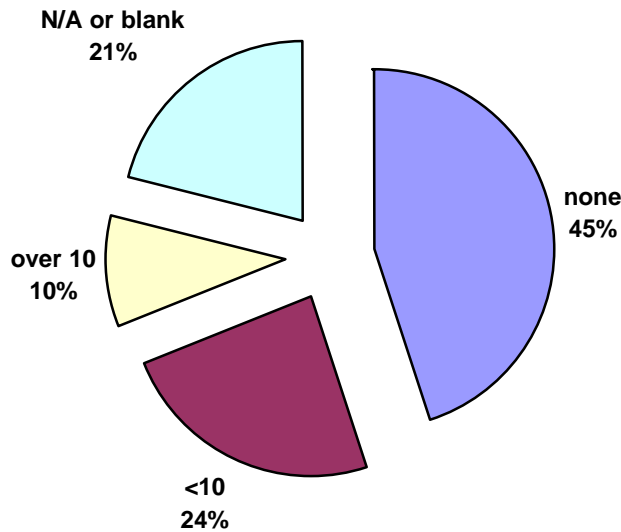
The majority of laboratories do not routinely screen throat swabs for the above. Two of the “no” replies also added the following comments: “only selected samples, depending on patient history” and “on clinical suspicion”.

Action: None

Question 6 – How many suspect isolates of *C. diphtheriae* / *C. ulcerans* / *C. pseudotuberculosis* have you detected in the last 2 years?

Nearly half of those replying (45%) have detected no isolates in the last two years.

Fig. 5 - Number of suspect isolated detected



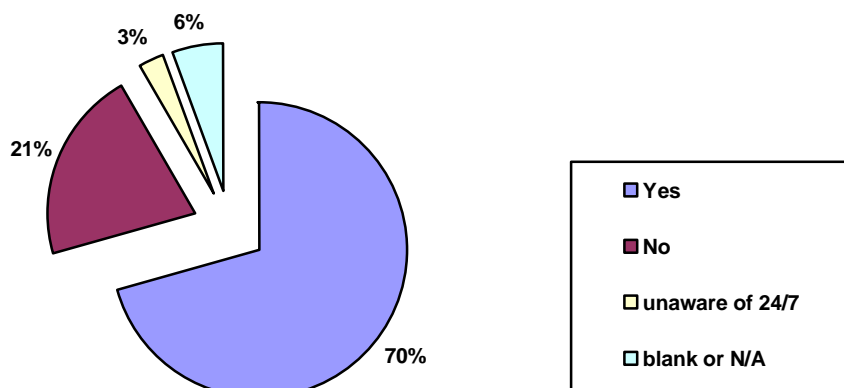
Action: Forward information to RSIL

Question 7 – Are you aware of the 24 hour, seven days a week service, for confirmation of potentially toxigenic corynebacteria, offered by the HPA Respiratory and Systemic Infections Department?

The chart (Fig. 6) illustrates the responses received. Two participants replied that although they were aware of the service they hadn't realised that it was 24 hour and seven days a week. Only one of the twelve non-UK replies was aware of the service, the remaining eleven replied "no", N/A or blank.

Six participants who were employed in NHS laboratories and one from a veterinary organisation were unaware of this service. The majority of laboratories are aware of the 24 hour service.

Fig. 6



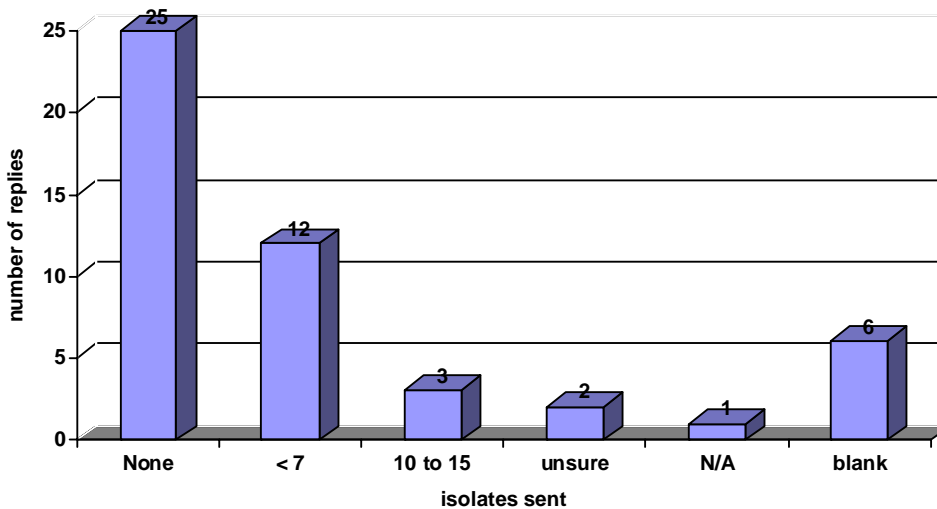
Action: Forward information to RSIL

Question 8 – If “yes” how many isolates have you sent in the last 2 years?

Fig. 7 shows the results from the 50 “yes” responses that were received for question 7. Fifty percent of these replies indicated that their laboratories did not send any isolates for identification.

There was one comment recorded: “couple maybe but isolates from wounds not throat swabs. If *C. diphtheriae* suspected the sample is sent as we do not stock Hoyles agar as not cost effective”

Fig. 7

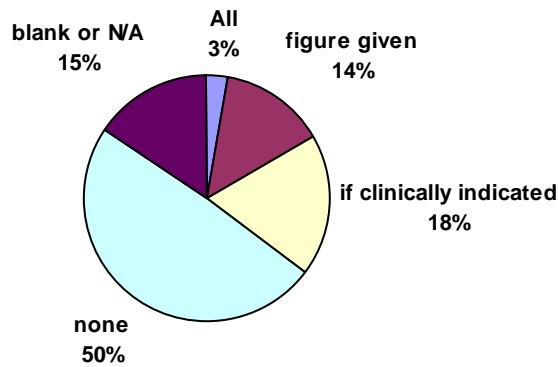


Action: Forward information to RSIL

Question 9 – How many throat swabs do you screen for *Fusobacterium*?

Only two laboratories reported screening all throat swabs for *Fusobacterium*, 35 out of the 71 replies said they didn't screen for this organism and a further eleven people left the answer blank or reported “not applicable” or “not known”. Thirteen reported only screening if clinically indicated and the remaining replies gave a figure.

Fig. 8



Action: *Take the information to the next SMWG for further discussion*

Question 10 – Do you use the National Standard Methods website?

All but two of the seventy one people said “yes” (97%) they used the NSM website.

Action: *None*

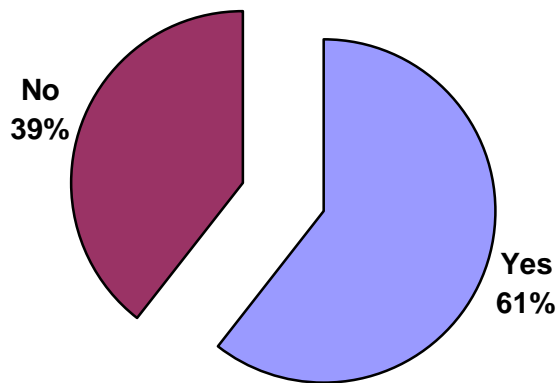
Question 11 – Are you a password holder?

Only twelve out of the seventy said “no” they weren’t a password holder, but on checking the password holder database it was found that three of these are registered to access the website but have possibly forgotten this. The others all work in laboratories where there are password holders who had passed the questionnaire on to them.

Action: *Invite all to become password holders*

Question 12 – Have you ever participated in our consultation process?

Fig. 9



Action: Advertise or explain the consultation process more obviously on new website

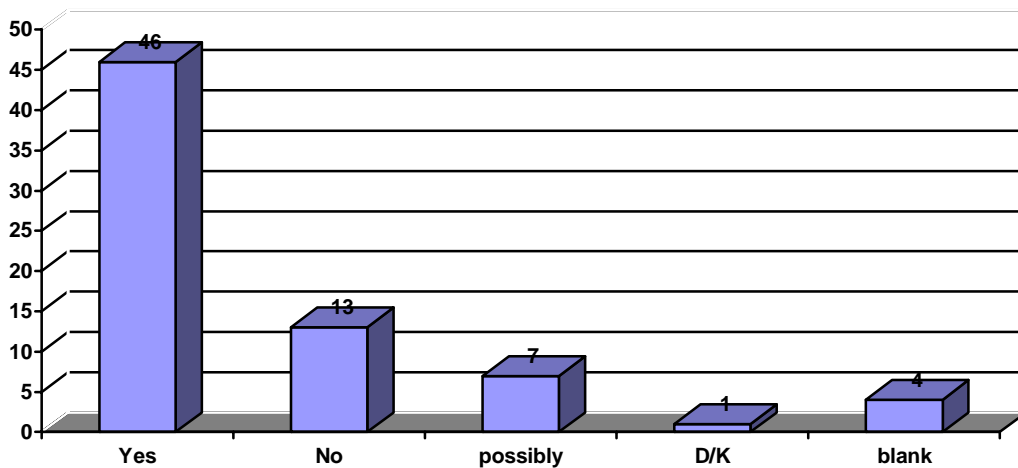
Question 13 – How could we encourage you to participate?

Overall the responses received indicate that factors preventing taking part in the consultation include time / staff constraints. In some cases the documents are discussed in a group with one person being responsible for sending the comments.

Action: See previous action point for question 12

Question 14 – Would you participate in a message board if there was one available on the website?

Fig. 10



The seven replies for “possibly” consisted of maybe, occasionally, possibly and if relevant. This response justifies the development of a discussion forum for the new website.

Action: *Incorporate in the new website specification*

Question 15 – What features would you want to see on a website like ours?

Below is an example of some of the responses received:

More information on who to contact on specific bacteria.

Email alert of anything topical we should be looking for eg *Fusobacterium* in throat swab

Current topics & ad hoc questions

Action: *Investigate the viability of the suggestions and how if viable they may be incorporated into our specifications*

Question 16 – Are there any additional services we could offer?

Below are a couple of examples of those responses received:

Ability to know & use the standard methods for training, research & providing the diagnosis services in our country

Good service already - get emails notifying of documents for consultation & new issues, good website to download new documents. Helps a lot in my role as quality manager – Thanks

6.0 Discussion

Some useful information has resulted from the survey much of which can be actioned and the rest will be forwarded to the Respiratory Systemic Infection Laboratory (RSIL).

It was useful to know that over 80% of respondents had seen the three documents in question and over 50% use BSOP 9. It was clear from the survey that laboratories do not include the option for testing for *Fusobacterium* species. This information will be reported to the SMWG when the document is next reviewed.

It was also clear that the Standards Unit needs to do more to inform users of the consultation process which will be undertaken when the new website is launched. Improvements suggested by users will be incorporated where possible.

Action Table

Question	Action	Status
1	<i>To look at the possibility of making the bulletin more eye-catching</i>	done
3	<i>The laboratory giving the first response should be followed up to ascertain how they investigate throat swabs</i> <i>Report the information to the SMWG</i>	Lab in Singapore, therefore outside of SU control Put in Q-pulse
4, 6, 7 & 8	<i>Forward information to RSIL</i>	done
9	<i>Take the information to the next SMWG for further discussion</i>	Put in Q-pulse
11	<i>Invite all to become password holders</i>	done
12 & 13	<i>Advertise or explain the consultation process more obviously on new website</i>	will be done when website is launched
14	<i>Incorporate in the new website specification</i>	done
15	<i>Investigate the viability of the suggestions and how if viable they may be incorporated into our specifications</i>	Incorporate where possible