

# Putting public health medicine and training “on the radar”: a qualitative evaluation of a medical student public health scholarship

## **Authors**

Marianne Dowsett

Caroline Bulsara

Donna B Mak

## **Acknowledgements**

Australasian Faculty of Public Health Medicine (AFPHM) Fellows, advanced trainees and staff who have been involved in administering, supporting, promoting and/or judging the John Snow Scholarship

AFPHM Prizes and Awards Working Group

Royal Australasian College of Physicians Foundation staff

John Snow Scholarship recipients who participated in this study

MD’s salary was funded by the Department of Industry, Innovation, Science, Research and Tertiary Education via the University of Notre Dame’s Research Incentive Scheme

## **Conflicts of interest**

MD is a public health advanced trainee training with the AFPHM. DBM is an AFPHM Fellow and the Lead Fellow for the John Snow Scholarship.

## **Abstract** (248 words)

### *Background*

The Australasian Faculty of Public Health Medicine (AFPHM, also termed 'the Faculty'), a Faculty of the Royal Australasian College of Physicians (RACP), established the John Snow Scholarship (JSS) in 2009 with the aim of improving the profile of public health medicine among medical students and to encourage the 'brightest and best' to become public health physicians.

### *Aim*

This qualitative study aimed to evaluate the perceived impact of the JSS on recipients, and thereby determine if the aims and objectives of the scholarship are being met.

### *Methods*

This study utilised a Qualitative Descriptive approach with maximum variation sampling to recruit 11 JSS recipients. Semi-structured interviews were conducted, and results analysed thematically.

### *Results*

Overarchingly, the JSS scholarship experience was viewed positively. For most it was an important avenue to discover public health medicine, a speciality which participants reported they had limited exposure to in medical school. Furthermore, participants valued the opportunity to attend and present at a conference, and the opportunity to network with AFPHM fellows and advanced trainees alongside like-minded colleagues. Some participants described how the JSS impacted on their work by providing a more holistic socio-determinants viewpoint, while for some it put public health training "on the radar". Suggestions for the future included increasing promotion of the JSS and public health medicine through a variety of means including social media and by previous JSS recipients, and improving avenues for JSS recipients to establish on-going links with AFPHM Fellows and advanced trainees.

### *Conclusion*

While the aims and objectives of the JSS are largely being met, this research has identified opportunities that may enhance the current approach.

## Executive Summary

The Australasian Faculty of Public Health Medicine (AFPHEM) established the John Snow Scholarship (JSS) in 2009. The JSS aims to improve the profile of public health medicine among medical students and encourage the 'brightest and best' to become public health physicians (1). The objectives are to increase the proportion of medical students who 1) are able to identify public health medicine as a medical specialty, 2) are able to identify the AFPHEM as the learned college for specialist training of public health physicians, and 3) consider public health medicine as a career option (1). The JSS was qualitatively evaluated in 2018 to determine if it is meeting its objectives.

Previous JSS recipients were contacted via publicly available means (such as LinkedIn) and invited to participate in semi-structured interviews. Data saturation was reached after 10 verbal interviews and one written response. Transcripts were analysed thematically. The median age of the 11 participants (5 male, 6 female), two of whom were national winners, was 23.5 years (range 21 to 30 years), and the median time interval between JSS receipt and study participation was 4 years (range 2-9 years). All jurisdictions except Northern Territory and Queensland, and all years bar one (2012) of the scholarship being awarded, were represented among interviewees.

Due to the smaller numbers of potential participants, specific information about occupation is not presented to protect confidentiality. However, information from publicly available means (such as LinkedIn and journal publications) indicates that JSS recipients have entered a range of specialities or specialty training programs, including general practice, emergency medicine, internal medicine (physician), surgery, infectious diseases, chemical pathology, dermatology, psychiatry and biostatistics. A number of social media profiles made reference to further study as part of a Master of Public Health or similar degree (e.g. international public health, clinical epidemiology) in Australian and overseas, including at Oxford and Cambridge, universities.

Most participants indicated that they had limited knowledge of the speciality of public health medicine and training through the AFPHEM prior to involvement in the JSS, with knowledge increasing through the application process, attendance at the conference, and networking with AFPHEM Fellows and advanced trainees. Limited knowledge prior was mainly attributed to limited exposure to public health medicine and public health physicians at medical school. For some, participation in the JSS put public health and public health training "on the radar", while for others, a "very, very, valuable outcome" was the realisation that their career preferences lay elsewhere.

Whilst the three objectives of the JSS are broadly being met, the results indicate some opportunities for improvement. First, to increase promotion of the JSS; all participants engaged in formal or informal publicising of the JSS, and thought it was acceptable for this to be linked to the conditions of the scholarship. Increased knowledge of the JSS would likely increase applications for the JSS and engagement with the AFPHEM, and may also increase knowledge and awareness of public health and the AFPHEM among medical students who do not apply. Second, is the need for avenues to link JSS recipients with AFPHEM Fellows and advanced trainees after the JSS. Given the inevitable time lag of at least three years between receiving the JSS and application to public health training, this could facilitate JSS recipients' consideration of public health medicine as a career option which is the Scholarship's third objective.

## Introduction

Public health is an integral component of medical practice. This is reflected in both the Australian Medical Council's (AMC) Graduate Outcome Statements, as part of the Standards for Assessment and Accreditation of Primary Medical Programs, and the Australian Curriculum Framework for Junior Doctors published by the Confederation of Postgraduate Medical Education Councils (CPMEC). Both standards are reflected in the AMC's Intern Outcome Statement (2-4). These curriculum documents include numerous elements of public health, including health protection, health promotion, advocacy and cultural competency.

Public health medicine is a specialty in its own right, and in Australia these practitioners are trained and registered under the Australasian Faculty of Public Health Medicine (AFPHM), a Faculty of the Royal Australasian College of Physicians (RACP). Public health physicians work in a variety of roles, including at local Public Health Units, at state level Ministries of Health, the national Department of Health, and universities. There are relatively few public health physicians in Australia, with numbers estimated at 380 in 2016 (5).

There are anecdotal reports that some medical students and junior doctors in Australia are not aware that public health medicine is a speciality. There are also anecdotal reports that public health medicine may not be incorporated well into medical school curriculum, or that the preference of students is to focus more on clinical medicine during their medical school years. These factors limit an understanding of public health medicine, the role of public health physicians, and the future public health workforce. Additionally, opportunities to experience public health medicine as a rotation while in medical school or as a junior doctor are currently limited, and often arranged by the student or junior doctor themselves. (6) This further restricts the exposure of medical students and junior doctors to public health and public health physicians, and limits 'hands-on' experience of the specialty before entering training. This is important because firsthand exposure and experience has been linked to subsequent decisions in medical specialty choice (7). While unable to appropriate causality, an evaluation of a public health medicine placement in Western Australia found that 17% were working in public health associated jobs (6).

### *The John Snow Scholarship*

The John Snow Scholarship (JSS) was established by the AFPHM in 2009 to increase its engagement with medical students. The aims are 1) to improve the profile of public health medicine among medical students and medical graduates by providing opportunities for professional networking between medical students and AFPHM fellows and advanced trainees, and 2) that the brightest and best medical graduates enter and complete AFPHM training, and practice as public health physicians (1). The objectives are to increase the proportion of medical students who 1) are able to identify public health medicine as a medical specialty, 2) are able to identify the AFPHM as the learned college for specialist training of public health physicians, and 3) consider public health medicine as a career option (1).

The JSS is designed to "recognise the work of medical students at Australian and New Zealand universities with an interest in public health medicine training, by providing opportunities for intellectual and social discourse between medical students and AFPHM Fellows and advanced trainees" (8). The scholarship application requires the applicant to submit an assessable assignment that was part of the applicant's medical curriculum, along with a reflection detailing how the applicant's assessment assisted the applicant in developing an understanding of selected AFPHM

competencies and public health in general. Up to one JSS recipient is then selected from each Australian state and New Zealand. A JSS recipient's prize consists of travel assistance and registration to attend the RACP Congress to present their work to Congress delegates and compete for the national JSS prize, thus providing the opportunity to network with other medical students and AFPHM fellows and advanced trainees.

The JSS has been awarded to approximately 70 medical students. While anecdotal feedback from recipients has been largely positive (online testimonials), no formal evaluation of this scholarship had been undertaken since its inception in 2009 to determine if it is fulfilling its aims and objectives (9). This is important to justify the AFPHM's continued funding of the Scholarship.

### **Research aim**

This qualitative study aimed to evaluate the self-perceived impact of the John Snow Scholarship on recipients, and thereby determine if the aims and objectives of the scholarship are being met. The findings have implications for both the scholarship program and more broadly for the vocation of public health medicine.

### **Methods**

#### *Design*

This study employed a Qualitative Descriptive (QD) methodology. QD approach enables the researcher to "stay closer to their data and to the surface of words and events". (10) Interpretation of data is much less prominent but rather, as Sandelowski maintains, is "a comprehensive summary of event in every day terms of those events". (10, 11) QD is a suitable method in healthcare research as it helps to focus research questions directly on the experiences of the participants rather than through a more formalised qualitative theoretical lens such as that employed in a study using a Grounded Theory or Phenomenological approach (12).

#### *Sampling*

Eligible participants were JSS recipients from 2009 to 2016, as identified on the RACP website. (8) Publicly-accessible websites and social media, primarily LinkedIn or other public profiles, were searched and the identity of the JSS recipients confirmed by name, photograph and qualifications where available. LinkedIn was the preferred contact medium as it also allowed the potential participant to review the interviewing researcher's (MD) background and qualifications.

Participants were purposively sampled using maximum variation sampling strategy, and those without a publicly available contact mechanism or who were well-known to the researcher (MD) were excluded from selection. Purposive sampling is a non-probability sampling technique which selects the sample based on what is known about the target population in concordance with the aim of the research and recruits those who possess the maximum amount of information and knowledge about the topic (13). Maximum variation sampling takes into account the smaller sample size that is characteristic of qualitative research and seeks to recruit a broad variation of participants with in depth knowledge or familiarity around the specific experience, event or phenomenon. We aimed to achieve maximum variation sampling by contacting a similar number of recipients from each year the JSS had been awarded, balanced for gender, geographic location, and JSS recipient/national winner status. All participants with a valid LinkedIn profile or email address (25 of the 52 published on the RACP website) were invited to participate.

Of those that responded and agreed to participate, informed written consent was gained. All were offered the opportunity to be interviewed by a non-medical researcher (CB); none considered this to be necessary. No reimbursement for participation was offered.

It was estimated that a sample size of 10 to 12 participants would be required, and data saturation was agreed to have been reached after 11 responses (5 male, 6 female). The median age of participants at time of JSS receipt was 23.5 years (range 21 to 30 years), the median time interval between JSS receipt and interviews was 4 years (range 2-9 years) and two participants were national winners. All jurisdictions except Northern Territory and Queensland were represented, and all years bar one (2012) of the scholarship being awarded.

A number of previous JSS recipients (participants and information from recipients not interviewed via LinkedIn) indicated participation in additional public health study (for example a Master of Public Health or similar), and some were considering or already involved with public health medicine training. Due to the limited numbers of potential participants, further specific information about occupation is not presented to protect confidentiality.

#### *Data collection*

Data collection occurred during April and May 2018. Interviews were semi-structured thereby allowing exploration of participant perceptions and opinions, while providing flexibility to expand on answers as required (14). All interviews were conducted via telephone or skype call lasting between 10 to 30 minutes and were completed by one investigator (MD). Interview questions were developed by the investigators, incorporating several minor suggestions from the AFPHM's Prizes and Awards Working Group. The interview schedule broadly focused on participant demographic profile, knowledge of public health medicine and the training program, and the experience of being a JSS recipient (Appendix 1). Further topics explored were the impact of the experience on their perception of public health medicine, work and choice of speciality, and if they recommended/publicised the JSS (Appendix 1). All interviews, except one where the participant provided written response, were digitally recorded, and then professionally transcribed verbatim.

#### *Data analysis*

Thematic analysis was undertaken using QSR NVivo Version 12.0. Themes were drafted based on the interview questions. All themes and subthemes were decided on by two researchers (MD and CB). One researcher analysed all transcripts (MD) while the other (CB) reviewed five to check for concordance of coding structure. Meetings were held to discuss and review themes and to reach consensus about the final coding framework along with hierarchical structure of themes.

#### *Ethics*

Approval for the study was provided by the University of Notre Dame Australia (Fremantle) Human Research Ethics Committee (reference number O18034F).

### **Results**

#### *Where are they now?*

Information from publicly available means (such as LinkedIn and journal publications) indicated that JSS recipients had entered a number of different specialities or specialty training programs including general practice, emergency medicine, internal medicine (physician), surgery, infectious diseases, chemical pathology, dermatology, psychiatry and biostatistics. A number of social media profiles made reference to further study as part of a Master of Public Health or similar degree (e.g.

international public health, clinical epidemiology) in Australian and overseas, including at Oxford and Cambridge, universities. A few participants were still medical students, or completing internship or residency.

*Awareness and discovery of public health medicine: knowledge of public health medicine*

Most participants prior to the JSS were not aware that public health medicine is a speciality in its own right. This was often attributed to limited exposure during medical school, in regards to both awareness of public health medicine as a medical speciality or career opportunity, and a lack of opportunities to experience public health medicine. Participants commented that they did not know what was involved in “a day in the life of” a public health advanced trainee/physician, something that was learnt by “osmosis” during rotations in other specialities. Particularly for those with limited knowledge of the speciality of public health medicine, the impact of the JSS was quite pronounced on their knowledge, changing their perception “fundamentally” and for some putting public health medicine “on the radar”.

“So it's like, oh I was on cardiology for three weeks or I was on respiratory for three weeks or you even have your general practice rotations for nine weeks, but you never actually have , at least at my uni, you never had a public health rotation where you went in with public health physicians. So you never really met or exposed to that as a profession or a job. You might get a lecture and it might say this is a public health physician, but you never saw them in the workplace so to speak.”

“I'd met lots of GPs and I'd met other specialists [in medical school], I hadn't ever met a public health physician before.”

Those that were aware of the speciality had a personal interest, mentor or exposure on placement.

*Awareness and discovery of public health medicine: Knowledge of AFPHM*

Most participants were not aware of the AFPHM and its role until participating in the JSS, with one participant describing it as “all new to me”.

“It definitely made me more aware of the Faculty and their role and that there was a training program...it gave me an awareness of the program.”

“I sort of learnt that it was more like a pathway in the same way that the physicians training was a pathway as opposed to like you just do a Masters of Public Health at uni or something like that, but it was an actual college and that kind of thing as well. That was all new to me.”

Those that were aware of the AFPHM had researched public health medicine because of a specific interest in this area or had exposure through mentors or placements.

“I don't think I had much of an idea until I did the ... placement, because I quizzed the public health physician about it and then - just more of an idea.”

JSS recipients shared knowledge and experiences with their friends about public health medicine and the AFPHM.

“There's also flow-on effects with that, I guess, that shouldn't be discounted, such as - my friends are aware that I was going to a conference inter-state and they all knew why, and that obviously would have prompted discussions about what the Faculty is and so there's the social network effects of me doing it as well, that probably meant that others were aware of it subsequently.”

Those that were not aware of the AFPHM prior suggested reasons for this, such as lack of Faculty promotion/advertising, especially when compared with other colleges with high public profiles. Positioning of the Faculty within the RACP and the lack of the word 'College' in its name were discussed by some participants as contributing to confusion about the entry requirements for, and nature of, public health medicine training.

“Yeah I really did think [I'd have] to do [basic physician training] which was like oh my goodness no way. Or do another fellowship like GP or something.”

“You know, we all know about surgeons and physicians, and then obstetrics ... but the idea of a Faculty doesn't make sense ... our training system in Australia, it is all run by the colleges to a greater or lesser extent. So, yeah, I think you would question what is a Faculty and what does it do. Why does it need to exist?”

**Box 1. Awareness and discovery of public health medicine: knowledge of public health medicine, AFPHM and the JSS**

<p><b>Key theme (finding)</b> <i>Awareness and discovery of public health medicine: knowledge of public health medicine, AFPHM and the JSS</i></p>	<p><b>Exemplar quote</b></p>
<ul style="list-style-type: none"> <li>• JSS raised awareness of public health medicine as a speciality</li> </ul>	<p><i>“It was the RACP congress that we went to and having the opportunity to meet all the public health physicians...that sort of exposure certainly put public health as a speciality on the radar for me.”</i></p>
<ul style="list-style-type: none"> <li>• JSS raised awareness of AFPHM's existence and role</li> </ul>	<p><i>“It definitely made me more aware of the Faculty and their role and that there was a training program...it gave me an awareness of the program.”</i></p>
<ul style="list-style-type: none"> <li>• Low awareness and profile of the JSS</li> </ul>	<p><i>“When I mentioned John Snow people were like do you mean John Flynn?”</i></p>

*Experience of the John Snow Scholarship: Motivation and encouragement to apply*

A major motivation noted by participants was the opportunity to present at a conference, allowing them to gain experience in this.

“So that was pretty attractive to me, to be able to go to a conference inter-state, but also an international conference, and have the chance to present, if I was successful.”

Another commonly noted motivation was that it was a “good opportunity” or a “really great way” to learn about the specialty of public health medicine.

“It was clear that by doing the scholarship application and preparing something, you would find out about what the Faculty does and what the training program involves, because you had



to try and meet some of the competencies, or write about some of the core competencies of the training program.”

Encouragement from participant’s universities to apply was limited for most, while others had some personal connections that encouraged them, such as friends or mentors.

“I don’t think I was specifically encouraged, and I don’t think I got any specific feedback from the [medical school].”

“I think before I applied, like I did meet up with a public health consultant [for career advice] and she recommended for me to apply for the scholarship. It was further motivation for me to do it.”

*Experience of the John Snow Scholarship: preparation for and attendance at Congress*

Participants generally valued preparing their JSS application and presentation, described by one as “the most beneficial part”. Specifically, the benefits were largely around the reflection piece which ‘allow[ed] [them] to think more about [their] own work” and making their work “more meaningful [in regards to impact of it on healthcare]”.

Most participants enjoyed the conference for a number of reasons, such as the opportunity to present, the chance to meet “other people that were interested in public health”, and the occasion to engage with advanced trainees and fellows. Participants reflected that it was “nice to know that everybody is very friendly” and that “the [great collegial] nature of the Faculty made that first experience [of presenting] a lot better than it otherwise might have been”.

“It was just fascinating to see all the different areas public health covered and also I think we had a dinner one night where we actually sat down with other public health physicians and it was just really interesting to hear about their careers as well.”

“I think it was good to be able to observe different aspects of the conference itself. Delivering the presentation was a good professional skill and professional skill development opportunity. Also developing confidence at speaking at larger presentations.”

“Lots of people spoke to us and were interested. I think just seeing that people were supportive and interested in us and our interests, was really positive.”

However, some felt that prior to attending they did not have a good understanding of what was required in the presentation, making the presentation itself a difficult experience. This was more common among those who presented in the earlier years of the JSS.

“I think I learnt a bit about presentation skills and thinking about who your audience is going to be. I reflected at the time that if I was to do it again, I’d probably have changed it to make it suit the national audience a bit better.”

The overall perception of the JSS was generally described as positive with participants describing it as ‘eye opening’, ‘refreshing’ and ‘fantastic experience’.

“Incredibly positive. I really enjoyed meeting the other winners from around Australia. It was great. There was quite a few of us who were also doing public health degrees in medicine at the same time, so we could share some great experiences about doing that. It was just really interesting learning about the projects that they’d done. It was great being able to go to the conference. Yeah, it was just - it was brilliant, absolutely brilliant.”

“I think just though, the real emphasis on meeting peers. Not just the people working in public health but the other young medical students or interns who had been doing projects. That, I found that incredibly beneficial, and I'm not sure if that is advertised as much, but that... I found incredibly rewarding.

Participants who did not engage with AFPHM Fellows beforehand to rehearse their presentation and/or did not attend the whole conference found the experience far less beneficial.

“I'm fairly neutral about the experience. Didn't really involve much for me. I had to write a presentation and then attended a conference for half a day to present it but didn't really have any preparation beforehand or any follow-up afterwards. Just really involved the one day of presentation.”

**Box 2. Experience of the John Snow Scholarship: Motivation and encouragement to apply and Preparation for and attendance at Congress**

Key theme (finding)	Exemplar quote
<p><i>Experience of the John Snow Scholarship: Motivation and encouragement to apply and Preparation for and attendance at Congress</i></p>	
<ul style="list-style-type: none"> <li>Perceived as a good opportunity to learn about public health medicine</li> </ul>	<p><i>“...you would find out about what the Faculty does and what the training program involves, because you had to try and meet some of the competencies, or write about some of the core competencies of the training program.”</i></p>
<ul style="list-style-type: none"> <li>Finding mentors and encouragement to apply was limited</li> </ul>	<p><i>“I don't think I was specifically encouraged, and I don't think I got any specific feedback from the [medical school].”</i></p>
<ul style="list-style-type: none"> <li>Overall the experience of the JSS was seen as positive</li> </ul>	<p><i>“Incredibly positive. I really enjoyed meeting the other winners from around Australia. It was great. There was quite a few of us who were also doing public health degrees in medicine at the same time, so we could share some great experiences about doing that.”</i></p>
<ul style="list-style-type: none"> <li>Attendance at the conference and associated events were regarded as most valuable</li> </ul>	<p><i>“It was just fascinating to see all the different areas public health covered and also I think we had a dinner one night where we actually sat down with other public health physicians and it was just really interesting to hear about their careers as well.”</i></p>

*Impact on participants' careers: medical practice and training choice*

A number of participants commented that the JSS experience allowed them to “appreciate more the preventive-type health component within [their] specialty” and resulted in more perspective when

working in a clinical role. This helped in viewing the patient more holistically and afforded them the ability to maintain a broader perspective for each patient.

“I think it's sort of made me more interested in the evidence-base and research that's behind things, but also not just thinking about the individual in front of you, but it makes you think about what are the factors that may have led them to develop this illness or this disease and how could I change those factors or to think more broadly about the context that it's in.”

“So it was helpful for me just to go there and get a bigger picture view, sometimes when you're working in a hospital setting you can get very quickly caught down to a narrow scope ... I think just the way that I frame those patient interactions [with patients who use intravenous drugs] is probably a bit different because I maybe have a little bit more of a social determinants approach to even those patients.”

“I actually spend extra time talking to people these days when I see them during my placements.”

However, some of the other participants commented that it had very little or no impact on the way they practice medicine. One commented,

“So, I guess unfortunately the answer is probably no. It hasn't really influenced too much at least on a day-to-day clinical sense.”

For some participants the experience put “public health training on the radar” and prompted them to explore public health and other career options outside of hospitals.

“The John Snow Scholarship made it an option for me to consider whereas without it I wouldn't have considered [public health medicine] in the first place.”

“So I found that really positive for me because it made me think if you don't want to do that hospital base stuff, then there's actually all these other careers available. So it's actually still something I would actually consider pursuing.”

For others it helped to consolidate that public health was not for them, and this was also a “very, very, valuable outcome”.

**Box 3. Impact on participant' careers: medical practice and training choice**

<p><b>Key theme (finding)</b> <i>Impact on participants' careers: medical practice and training choice</i></p>	<p><b>Exemplar quote</b></p>
<ul style="list-style-type: none"> <li>• Provided a more holistic and broader perspective</li> </ul>	<p><i>“So it was helpful for me just to go there and get a bigger picture view, sometimes when you're working in a hospital setting you can get very quickly caught down to a narrow scope ... I think just the way that I frame those patient interactions [with patients who use intravenous drugs] is probably a bit different because I maybe have a little bit more of a social determinants approach to even those patients.”</i></p>

<ul style="list-style-type: none"> <li>• Prompted exploration of career options outside hospitals</li> </ul>	<p><i>"So I found that really positive for me because it made me think if you don't want to do that hospital base stuff, then there's actually all these other careers available."</i></p>
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*Suggested Improvements: JSS promotion*

While not asked specifically what could be improved in regards to the scholarship and awareness of public health medicine, a number of participants volunteered their views on this. Most participants felt that a major area for improvement of the JSS was promotion of the scholarship, with comments such as that the JSS is "undersold" and "probably not promoted well enough" perhaps partly due to "lack of online presence". Most participants commented that they had heard about the JSS via a university bulletin board alert, an email from their University or via the promotional video screening before a lecture. Those with a personal interest in public health had already come across it, such as while researching the specialty. Largely, participants felt that it was not well advertised in that "most students aren't really aware of it", along with some confusion with another scholarship ("When I mentioned John Snow people were like do you mean John Flynn?")

Nonetheless, all participants reported publicising the JSS themselves, some informally via "recommending" others to apply for it, while others promoted it "reasonably aggressively" by writing emails or presenting to younger year groups. Many commented that they did this because they had found the experience so beneficial.

"I just had such a great time. Then it was good because people from the years below got in touch with me and found out ... what the application process involved and [that] I had a good time doing it. Yeah, yeah, so I tried to promote it as much as I could because I found it very beneficial."

Participants considered that including JSS promotion in the scholarship obligations would be acceptable.

"So I think [it would be] just to capitalise on what avenues at med school to get it publicised. It may well just be that you need the previous state recipient to turn up to med school one day and talk about it. Like its part of the scholarship experience that they just arrange at the med school to talk about the scholarship for five minutes."

*Suggested Improvements: linking JSS recipients with AFPHM Fellows and advanced trainees*

Another suggestion was that enhanced support from local Fellows and/or advanced trainee, either with the application process or once they were the state finalist would help in promoting the scholarship. However, many commented that they had rehearsed their JSS presentation at a state based AFPHM meeting and had valued feedback regarding this.

"Perhaps after the initial stage of saying that you're interested, or expressing your interest in applying for the scholarship, there could be some kind of support for mentoring in the process of doing the application. My recollection is sort of being left largely to myself. Although I do recall now, that after I'd done the state based presentation, I got some feedback."

Many thought it would be very beneficial to be linked in to public health networks after presenting, either with public health fellows or advanced trainees, or the other JSS recipients they had attended with. It was generally felt that by linking in with advanced trainees in particular that support for the application process to enter public health training could be gained. It was also suggested that

opportunities to further experience public health medicine, perhaps in a more practical way such as a placement, would be helpful.

“It would be nice if maybe we had some contact around state representative maybe. Just after the scholarship, because I don't remember seeing any public health education [directory] and [any of the junior doctors]. There's not really anyone to contact to talk to about speciality training”.

“The idea of the John Snow Scholarship is to promote careers in public health medicine, then it would make a lot of sense to link in students more directly with practitioners... you could have a bit of a road map that you could slot into - I think that was something that was very lacking for me. I just couldn't see how it fit together, and it seemed like it was - well largely, a bureaucratic organisation where you had to jump through a number hoops to meet some competencies, but there wasn't the kind of nurtured training environment... I think the way to get over that, is having some close links to people who might be suitable mentors, and they might be public health registrars... given often they're often more recently trained and perhaps closer in age to most of the students coming through.”

Very few people mentioned the practicalities of the application being an issue, with only one person mentioning that the requirement for the Dean's signature on the application form is “an extra layer that could potentially turn people off”. While not specifically asked, no one mentioned financial costs associated with Congress attendance as an issue.

**Box 4. Suggested Improvements: JSS promotion and Linking JSS recipients with AFPHM Fellows and advanced trainees**

<b>Key theme (finding)</b> <i>Suggested Improvements: JSS promotion and Linking JSS recipients with AFPHM Fellows and advanced trainees</i>	<b>Exemplar quote</b>
<ul style="list-style-type: none"> <li>• JSS is “undersold” and needs more promotion</li> </ul>	<p><i>“I tried to promote it as much as I could because I found it very beneficial.”</i></p>
<ul style="list-style-type: none"> <li>• JSS recipients desired continuing links with AFPHM Fellows and advanced trainees</li> </ul>	<p><i>“The idea of the John Snow Scholarship is to promote careers in public health medicine, then it would make a lot of sense to link in students more directly with practitioners... having some close links to people who might be suitable mentors.”</i></p>

**Discussion**

This research aimed to qualitatively evaluate the impact of the AFPHM JSS on recipients to determine if it is meeting the objectives. Based on participant responses, the JSS is generally meeting the first two objectives, via increasing identification of public health medicine as a speciality and AFPHM as the learned college for training. However, the majority of JSS recipients only became aware of this information through the JSS experience. Furthermore, many still had misconceptions about the entry requirements for, and nature of, public health medicine, with confusion about

whether it is a medical speciality in its own right or part of physician or general practice training. If JSS recipients are unclear about this, it is highly likely that a number of other medical students are also, given the limited exposure to public health medicine during medical school and as a junior doctor, and limited promotion of the JSS described by participants.

The JSS's third objective is to increase the proportion of medical students who consider public health medicine as a career option. While for a number of participants the increased awareness of public health medicine through participating in the JSS did lead to consideration of public health as a career option, there was limited connection between the JSS and applying for the program. Particularly with the time lag between the JSS and eligibility to apply for training [completing medical school, three postgraduate years along with competing a Master of Public Health or similar] not having links during the period is a potential barrier to moving from contemplation of public health medicine as a career to actually applying for AFPHM training. This appears to be compounded by the very limited opportunities to experience what a career in public health may involve at this very career formative time, when practical experience and mentors are particularly important (6).

Suggestions to improve the JSS, so that it will meet the objectives more robustly, focus on improving promotion of the Faculty and the JSS, increasing medical student and junior doctor exposure to, and personal interaction with, public health medicine and physicians, and establishing links and mentoring systems between JSS alumni and AFPHM fellows and advanced trainees.

Promotion of the Faculty itself could occur more intensively, increasing the profile of the college itself and its role. Promotion could include attendance at medical school events, particularly orientation week, so that it is established from early on that public health medicine is a potential career option. This could then be enhanced by public health components of medical degrees having more input from practicing public health physicians, particularly in regards to face to face teaching with students.

Promotion of the JSS could require recipients to agree, as a condition of accepting the scholarship, that they will publicise it. This is likely to be acceptable as all participants reported having taken the initiative to do this via word of mouth, social media and social networks. Promotion could also occur in conjunction with events attended by the Faculty, such as orientation week, so that students are aware of it from early on.

AFPHM and the RACP Foundation should also be aware that the JSS is sometimes confused with the 'John Flynn Scholarship' and a character named John Snow from a popular television show 'Game of Thrones'. This indicates that the JSS needs to consider branding, to be recognised as a public health scholarship, in addition to promotion.

JSS recipients who did not attend the whole conference benefitted less. Thus, another addition to the conditions of accepting the scholarship, could be that JSS recipients should be required to attend the full Congress program, rather than just their presentation.

To improve on the third objective of the JSS (increasing those considering public health as a career option), suggestions from recipients focus on linking them in with fellows and/or advanced trainees to provide mentoring opportunities. As public health specialists are few, and there are limited opportunities to learn about the program from advanced trainees or fellows, ensuring that the website is clear and user friendly is important. Providing a mechanism whereby interested medical students or junior doctors can get in touch to gain more information or be provided with details of someone they can speak to about training would be helpful.

While the study's primary aim was to evaluate the JSS, a public health scholarship, the findings also revealed poor awareness of public health medicine as a speciality and APFHM as the training organisation among medical students who are interested in public health. The general discourse was that opportunities to experience public health medicine during medical school were limited, including both practical opportunities and exposure to the Faculty and training program, with most participants indicating this was unsatisfactory. All three objectives could be facilitated significantly if public health placements, either as medical students or junior doctors, were more widely available. Before selecting a speciality, the opportunity to experience 'day to day' work is important, and the limited opportunities to experience this is likely a barrier to entry. With the increasing number of medical students requiring practical placements, less traditional opportunities for both medical school and junior doctor placements need to be explored, and this is an avenue public health could take advantage of. Beyond exposing more doctors to public health medicine, the publicity from such placements and knowledge of their existence could, in and of themselves, increase awareness of the importance of public health to a wider sector of medical professionals. Widespread understanding in the medical profession and broader community of public health and the profession is important in regards to the care of patients and the future of the Faculty.

The impacts of participating in the JSS included increased knowledge about the role of public health physician and a more holistic socioeconomic perspective during clinical work with patients, something to be strived for with all clinicians. Therefore this study indicates that there is still room for improvement in teaching public health within the medical curriculum.

**Box 5: Recommendations for JSS and APFHM**

<b>Recommendations for the JSS</b>
1. That rebranding and promotion of the JSS is improved, particularly in regards to online and social media presence. Promotion of the JSS could also be required of participants as a condition of scholarship acceptance.
2. That there is a formal process in place to enable JSS recipients to be linked in with local Fellows and advanced trainees after completing the JSS to provide mentorship and support as and if required.
<b>Recommendations for the APFHM</b>
1. That exposure of medical students and junior doctors to public health medicine should be advocated for, both via public health physicians teaching students and junior doctors, and opportunities for practical experience via placements with public health physicians.

*Limitations*

Participants were limited to those whose contact details were publicly accessible via social media or the internet and who responded to a message. It is possible that those that chose to participate did so because they felt particularly positive about the experience. However, the researchers believe that given the diversity of participant opinions that this effect may have been ameliorated to some degree.

Recall bias, given that for some the JSS experience occurred almost a decade ago, could have impacted on responses. Also due to the time lag, the impact of the JSS experience could have been confounded by events occurring after receiving the JSS.

Social acceptability bias is also a consideration given the interviewer (MD) is a public health advanced trainee, although many still expressed 'non-conformist' views. Given that a number wanted to speak about public health training, which may have been a motivator to be interviewed, this group may have been more impacted by the JSS. However, many participants were already on specialty training pathways.

Finally, questions did not specifically focus on improvements or negative aspects of the JSS, and thus responses regarding these are only from participants who volunteered their views on these. This may have biased these findings, particularly in regards to negative aspects of the JSS, which may not have been mentioned without prompting. However, the fact that so many participants voluntarily suggested strategies for improving JSS promotion indicates that they would have mentioned negative aspects even without being asked specifically.

### **Conclusion**

In conclusion this study has indicated that the JSS is broadly meeting its objectives of increasing awareness of public health medicine as a speciality, the AFPHM as the learned college for public health medicine training and students' consideration of public health medicine as a career option. However there is room for improvement in promoting the JSS and the Faculty, and in linking JSS recipients in with local Fellows and advanced trainees. While not related to the three objectives of the JSS, an additional important finding was that some recipients perceived that it helped them develop a broader perspective of health which improved the quality of their medical practice.



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## **Appendix 1. Data collection tool – interview guideline**

Good morning / afternoon / evening,

My name is (MD) and I am a public health medicine advanced trainee working at the University of Notre Dame in Fremantle. I am calling you in regard to a study around former recipients of the John Snow scholarships (JSS).

*To start I'd like to ask a few general questions about you and applying for the scholarship please...*

- In which year (calendar year and year of medical school) were you awarded the scholarship? How old were you then?
- I can see from LinkedIn you are working as xyz...is this still correct?
- If you think back to when you applied for the scholarship... Firstly, how did you learn about the scholarship? Which media did you see the scholarship advertised through (presentation, email, newsletter, medical bulletin board, social media, other etc.)? Was applying encouraged by your medical school?
- What was your motivation for applying?

*Now I would like to ask you some questions around public health medicine in particular and as a speciality....*

- Firstly, if you think back to the time before you learned about the JSS, were you aware that public health medicine was a speciality? And that the AFPHM was the organisation that trains public health physicians? If you were aware, can you talk a little about how you knew or got to find out?
- If you weren't aware prior to the JSS, what do you think were the reasons for not knowing?

*Now let's move on to your actual experience of being a JSS recipient.... I'd like to talk to you a little about the actual experience of being a JSS recipient...*

- Overall, could you describe in a few words what the experience of being a JSS recipient was like? (prompt and probe depending on the response) Just in relation to this, what did you gain from the application process (prompt regarding reflection piece and presentation if required) and attending congress and presenting to a public health audience?

*Thinking more broadly ....*

- Would you say that the JSS scholarship experience has influenced or changed your perception of public health medicine generally? Yes, in what ways? No, why is that?
- Taking this further, has the JSS scholarship experience influenced or changed your work as a doctor in any way(s)? Yes, in what ways? No, why is that?
- Finally, would you say that the JSS scholarship experience has influenced or changed your choice of medical specialty training? Yes, in what ways? No, why is that?
- Did you publicise the scholarship in anyway after receiving it? Encourage others to apply?
- Some people have mentioned being linked in to a mentor or similar might have been useful after the JSS. What are your thoughts on this?

Finally, is there anything else that we haven't spoken about or touched on that you would like to raise in terms of PH medicine or the JSS scholarship?