**We**

**Title:** From Medical Students to Junior Doctors - Mentor supported transition through the “Resident Ready Network”

**Lay Title:** The Resident Ready Network (RRN)

Version 1

Date: 14th February 2019

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# List of abbreviations and definitions

|  |  |
| --- | --- |
| Mentee | Fourth year medical students |
| Mentor | Junior doctors |
| MFQ-9 | Mentoring Functions Questionnaire 9 |
| PAH | Princess Alexandra Hospital |
| PPS-10 | Perceived Stress Scale-10 |
| PSS-Fr | Perceived Social Support from friends |
| QEII | Queen Elizabeth Jubilee II Hospital |
| RRN | Resident Ready Network |
| UQ | University of Queensland |
| UQFOM | University of Queensland Faculty of Medicine |
| FTE | Full Time Equivalent |
| PA | Personal Advisor |

# 1 Introduction

## 1.1 Summary:

The transition from the supported environment of tertiary medical school into the workforce poses a potentially stressful period for a doctor. Compounding this, many graduates describe themselves as feeling under supported within this new role. The University of Queensland Faculty of Medicine strongly supports the initiation of effective student transition supports. Such supports will include a near-peer mentoring program to support students as they face this transition period from life as a student, to life as a junior doctor; the Resident Ready Network (RRN). UQFOM has an imperative in the coming years to develop and engrain multiple layers of new support for students, an initiative stemming from the formation of the Student Support Subcommittee and the subsequent “Medical Student Support Strategy 2018-2020.” If effective, the RRN will form a vital part of the student support landscape and to ensure optimal outcomes, there will be a corresponding research component. This study is an open label mixed-methods randomised controlled trial (RCT), which will explore the feasibility, acceptability, and utility of the near-peer mentoring program.

Phase one: Possible mentees will be recruited through the University of Queensland and possible mentors through the Princess Alexandra Hospital, a UQ affiliated hospital within the Metro South Health District. After informed consent has been received, UQ students will be randomised to either the RRN (active mentoring) or a control group (no mentoring). The RRN (active mentoring) will be hosted through a UQ-endorsed digital mentoring platform, ‘Chronus’. UQ students and junior doctors will be invited to sign in to Chronus and complete a demographic matching questionnaire.

Phase two: Mentor matching will be facilitated through Chronus and designed to be a “best-match” approach.

Phase three: Mentors and Mentees will be introduced at the ‘RRN Launch,’ a RRN hosted event. After the initial meet-and-greet, participants will be able to tailor their mentoring experience to suit their preferences and they will be asked to maintain the RRN engagement for a 12-month timeframe.

Phase four: The final stage of the RRN program is the ‘completion’ – the point at which the formal, program-supported, relationship between the mentor and mentee is concluded.

Participants will be invited to provide feedback through a satisfaction survey and participation in qualitative focus group interviews. To explore any impact on stress and social support, UQ students in the control group and the RRN group will be invited to complete electronic surveys at time 0 and 12 months using several validated questionnaires including the perceived stress scale, and an adapted perceived social support survey. The RRN is thought be feasible and acceptable, and may offer transitioning students additional support in a high time of stress.

## 1.2 Rationale

Medical students and junior doctors have been shown to suffer from high levels of stress, burnout, depression and attempted suicide compared to the general population [1, 2].

Between 2001 and 2012, 369 health professionals committed suicide in Australia [3]. The serious consequences of mental health difficulties and high stress within this profession are of utmost importance, and the impact is far-reaching for society.

Stress is related to an appraisal between environmental demands and available resources, and high stress occurs when the environmental demands exceed the individual's coping abilities and resources. General consequences of stress may include decreased self-esteem, perceptions of low self-efficacy and a lack of control [4]. In the medical profession, high stress and burnout have not only a serious impact on the budding health professional, but also can adversely impact patient care by influencing clinical decision-making, memory, information-recall and attention [1, 5].

Undoubtedly one of the more stressful time periods for this group of health professionals is the transition from medical school to the workforce as this represents an intense adjustment period, which poses many challenges [6]. Multiple challenges come with this new professional role, including managing long days, frequent interruptions and time pressures, learning to identify priorities, dealing with criticism and negotiating conflict, administrative and clinical tasks, understanding team roles (including their own status within hospital hierarchies), fostering work relationships, improving communication skills, and increased responsibility and expectations [1]. This is particularly challenging for junior doctors learning to cope with the impacts of longer-term shift work. Furthermore, junior doctors can, at the same time be potentially faced with new and stressful personal challenges such as managing a new salary, managing new debt, finding personal accommodation and negotiating and developing new adult relationships.

It is acknowledged that there can be a high level of implicit peer-peer mentoring and near-peer mentoring in many medical programs, particularly where students study and live with colleges or in supported accommodation. Team-building and bonding activities, formal and informal, throughout medical school can also help support medical students. However, when students commence employment in a different geographical location, alternating shift patterns, long hours and varying speciality demands can break down these support networks and leave vulnerable new doctors feeling exposed and largely unsupported.

Social support has been identified to buffer the effects of stress, and in times of high stress, people often turn to colleagues, peers, friends and/or family ([7] [8]). Social support can have a positive effect on both mental and physical health, and it can help provide solutions to problems, reduce the perceived importance of the problems, and contribute to coping ([7, 9, 10]). In this transition time, when junior doctors are faced with new stressors, instead of receiving additional social support, many junior doctors report feeling their supervisors were not providing adequate social/emotional support [11].

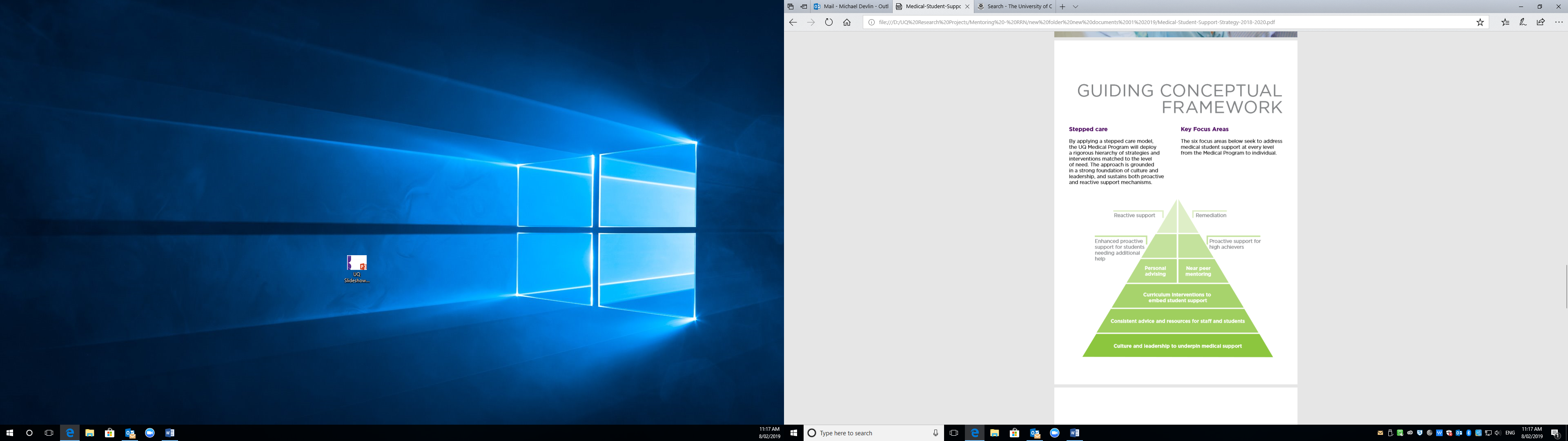
In recent years there has been an increasing awareness of, and focus on doctor and medical student mental health. This has prompted numerous organisations to develop action plans to support mental health in, and outside of the workplace [12]. Mentoring has been proposed as one way to provide professional and personal support, and thus mentor programs are being implemented across many professions, including in the field of medicine. Mentoring may take many shapes and forms and can be intrinsically hard to define. Mentoring can be individual or group-based; with peers, ‘near-peers’ or with people in more senior positions. Mentoring generally aims to support the all-round development of the mentee, and it is facilitated through the fostering of an interpersonal connection with a mentor. Whilst being hard to define, mentoring has been suggested to include five components: teaching, sponsoring, encouraging, counseling, and befriending [13]. Mentors can provide explicit academic knowledge and also implicit knowledge on workplace culture, professionalism (personal/professional nexus) and career advice. Mentors can act as a role model, both professional and personal, and they can act as a consultant, and counsellor. Literature suggests mentors can provide general encouragement, psychosocial and emotional support [14], and through this support, mentees have access to a different stress outlet, i.e., the mentor, and they may reevaluate their stress appraisal (Miller, 2002). Numerous benefits related to mentoring in the field of medicine have been reported, including improved stress management, confidence, sense of security, increased social networks and support structures, a sense of community, a better work-life balance, increased motivation [15], improved reflective capacity and emotional competence, and career development [16-21].

Alongside of the multiple benefits experienced by mentees, mentors also report enjoying mentor programs [22, 23]. Mentors reported a bidirectional flow of information and support, and they reported programs were a positive experience and mutually satisfying, despite their busy workloads [22, 23]. Mentoring has been suggested to play a vital role in career success and satisfaction, for both mentor and mentees [24]. Mentors have an opportunity to hone their own leadership and communication skills, provide a nurturing role, expand their knowledge, receive intrinsic rewards, and form significant relationships [25].

Formal mentoring programs for doctors and medical students were first introduced in the late 1990s [26], although the design and implementation of these is diverse and varied. A systematic review of mentor programs in the field of medicine identified a total of 162 publications, of which 16 papers (nine for medical students, seven for doctors) met predetermined methodological criteria [27]. This systematic review identified limitations in many of these programs, which included a lack of concrete structure, as well as limited short- and long-term evaluation mechanisms. Mentor programs tended to focus on increasing professional competence in research, building professional networks and further specialisation[27]; thus the focus was on the career pathway and not on increasing support and coping with stress. The programs that had been included in the review were generally evaluated descriptively. Although high levels of satisfaction were reported with the mentor experience, these programs were never evaluated in terms of impact or efficacy [27]. Mentor programs show great promise across the board, and within medicine, and future research should more rigorously evaluate the impact of mentoring, including how it may influence perceived social support and stress, and hence this is the focus of this pilot project proposal.

Specifically within a medical educational field, literature currently suggests mentoring medical students helps both personal and professional development, and it should be considered a core component of medical school curricula [28]. Regardless of this, many medical programs are yet to offer formal mentoring to students [29]. Junior doctors with mentors are also more likely to pass their exams [30]. Although methodological limitations have been identified within much of the published literature, the research does undoubtedly support mentor programs in the field of medicine and medical education. More rigorous research should be conducted to explore the impact of such programs in the domains of social support and stress, in light of the high suicide rate and mental health burden experienced by these professionals.

To explore the potential utility and feasibility of a mentor program at the University of Queensland, semi-structured focus group interviews were conducted with medical students in 2018 to explore the stressors involved during the end of their training years. These students identified that a mentoring program would indeed be useful. The outcomes from these focus groups added to a general awareness of the need to optimise supports for students in all phases of their training. One such initiative to optimise the student experience, while increasing multi-modal supports, has culminated in a “Medical Student Support Strategy 2018 – 2020”, derived by a newly formed Student Support Committee (Attachment 1: Medical Student Support Strategy). This committee remains discrete from university assessment and progression structures and maintains a focus on student support and wellbeing. This student support strategy clearly delineates the need for mentoring structures to exist for both early and late phase students and the Personal Advisor (PA) Scheme (Phase 1) was launched in 2018 with much success (see Figure 1.0: Medical Student Support Strategy 2018-2020 – Conceptual Framework). The PA Scheme is designed to enhance student safety, connectivity with the school and enhance the support students feel on their journey towards a professional life as a doctor. A near-peer program (the RRN) is the next urgent priority for the UQFOM and this project will seek to confirm such a program is beneficial in terms of acceptability and utility for students.



**Figure 1.0: Medical Student Support Strategy 2018-2020 – Conceptual Framework**

Instigated by the students and facilitated by UQ, the RRN was conceptualised. To address student needs, build on the knowledge base, and further our understanding of mentoring in providing social support and reducing stress for junior doctors, this study is designed to be a methodologically rigorous randomised controlled trial (RCT), which compares a mentor program to a control group of fourth (final) year medical students. The mentoring would commence in the final few months of university life and continue through the transition to provide ongoing support for the first 6-month of hospital-based work.

Typical orientation to the Australian hospital workplace involves mandatory training in a range of clinical/occupational/digital competencies, as well as the provision of referral avenues for support within the hospital. After this orientation phase (typically 1-2 days) doctors embark on their professional career and are expected to function safely and independently within a set of professional, social and clinical standards. The research team aim to provide an ongoing support system for these new doctors as they navigate the difficulties of this transformational time.

Research Question: Can support for 4th year UQ medical students during the transition from student to junior doctor be increased via the implementation of a near-peer mentoring program called the ‘Resident Ready Network’ (RRN)?

## 1.3 Aims:

The interlinked aims of this pilot study are to:

i) design and implement a mentor program (RRN) for fourth year UQ medical students that links them with junior doctors through the PAH,

ii.) explore the feasibility of the RRN,

iii.) explore the acceptability of the RRN to mentors and mentees

iv.) explore the utility and impact of the RRN on the mentees, specifically with respect to perceived stress and social support

v.) explore the utility and impact of the RRN on the mentors

## 1.4 Hypothesis

It is hypothesised that the RRN:

i.) will be feasible to implement,

ii.) will be well received, as indicated through answers on the satisfaction survey and the qualitative interviews after the RRN,

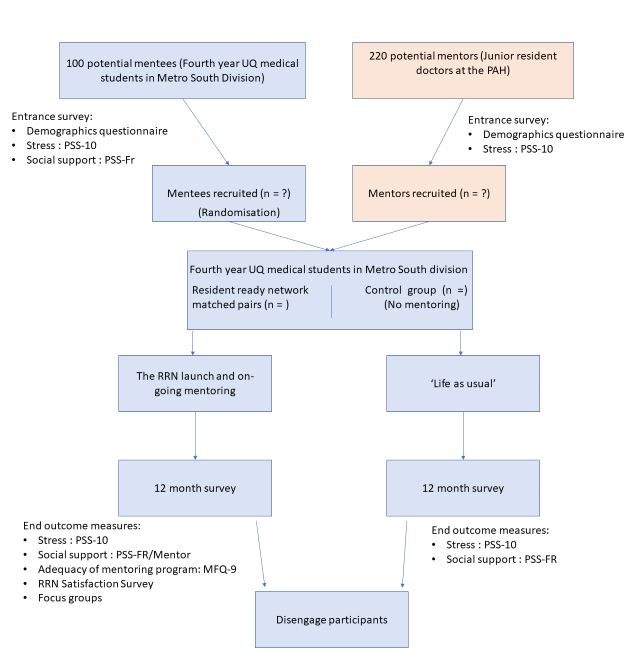
iii.) may influence perceived stress and perceived social support throughout this transition period.

# 2 Methods

## 2.1 Study design

This is an open label mixed-methods pilot randomised controlled trial (RCT) exploring the implementation of a mentor program, the ‘RRN’, compared to a control group (see Figure 2: Participant flow chart). The mentoring program will be implemented and monitored over a 12-month period*.* The primary outcome is exploratory in nature looking to assess the feasibility and acceptability of the RRN, in line with a service evaluation and quality assurance style approach.

Quantitative and qualitative data will be collected to explore any impact that the RRN may have on the perceived stress and perceived social support experienced by medical students transitioning into the workforce. Quantitative (survey) data will be collected at baseline, and then 12-months later. After the 12-month mentor intervention, participants will be invited to provide feedback on their experiences through a satisfaction survey and qualitative focus group interviews. (Figure 2.0 Participant Flow Chart)



**Figure 2.0: Participant flow chart**

Sample sizes will depend on effective recruitment into mentor and mentee groups.

## 2.2 Participants and Setting

There will be two participant groups for this research project.

Mentees: Fourth-year University of Queensland (UQ) medical students undertaking clinical placements in a selection of public and private hospitals in Brisbane (approximately 100 students). These students will be in their final year of medicine at UQ and will be transitioning out of the university environment and into the workforce at the end of 2019. We plan to link students with mentors in their final 6-months of university life (and for the mentoring to continue into their first 6-months of hospital-based work).

These approximately 100 UQ students will be recruited through direct communication with UQ Academic Staff. Dr Michael Devlin (PI) functions as UQ Academic Lead and as such will recruit remotely through university channels (contact UQ students through UQ email addresses). We do acknowledge that these UQ students will undertake clinical duties in hospitals that may include the PAH, QEII, Redlands, Mater and Greenslopes, and that students may rotate between these centres over the course of the year. Regardless of their individual placement, these medical students will be recruited through UQ and linked in with junior doctors at the PAH. The RRN is not designed to be specific to hospital placement, but to be a supportive and helpful network, with outcomes that should be generalizable and transferable across clinical settings. These students will be divided into two groups as per Figure 2; the RRN group and the control group. It is important to note that Dr Devlin has limited prior contact with UQ medical students and thus is unlikely to be seen as a coercive influence to participate in the study.

Mentors: The third participant group includes junior resident doctors (i.e., resident medical officers in their first, second and third postgraduate years) at the PAH who will be invited to participate in the RRN and the accompanying research. The total pool of junior resident doctors at the PAH is estimated to be approximately 220 junior doctors. Thus, the point of recruitment of mentors is through PAH staff emails via the Director of Medical Training/Medical Education Unit, Dr Georga Cooke, PAH. We already have informal support from this unit.

Inclusion criteria:

1. current final year UQ medical students AND junior doctors (1-3 years’ service in total) who are currently employed and working at the PAH during 2019.
2. aged 18 years and over
3. willingness to provide written informed consent to participate.

Exclusion criteria:

1. people who are unable to commit to the RNN for the 12-month duration (inclusive of holiday periods)
2. people who are currently committed to and participating in another mentoring program,
3. medical students or junior doctors who score highly on the Perceived Stress Scale-10 (see below)

## 2.3 Recruitment

The two target participant groups will be recruited in parallel, however through different processes. The recruitment phase represents phase one.

### 2.3.1 Medical Students

All senior medical students (in their fourth and final year of medical school) from the Metro South Division of UQ were identified as potential participants. To gauge interest in the program and increase awareness of the RRN, a brief introduction to the RRN was done during the university preparation week in January, at the Translational Research Institute, PAH. In accordance with ethical approval, all fourth-year medical students will receive a follow-up email, which will describe the RRN (Attachment 2: RRN Email Introduction Mentee). Students will then be able to reply with an expression of interest to participate in the RRN. Official recruitment is planned for the end of May/June, whereby students will receive a formal invitation with an information sheet and consent form (Attachment 3: PICF – UQ Medical Student). After consenting to participate, they will be invited to create a login and sign into ‘Chronus’, the digital mentor platform through which the mentor program is organised.

### 2.3.2 Junior Doctors

All junior doctors (resident medical officers in their first, second and third postgraduate years) at the PAH (one of the Metro South teaching hospitals) were identified as potential participants. The first point of contact will be investigators scheduling a short introductory meeting, to describe the available mentor opportunities. This will coincide with regular medical training seminars held at the PAH. To avoid potential participants feeling coerced into being involved, it will be clearly explained at this information session that this is an opt-in program, discrete from Queensland Health academic or career progression structures. No supervising clinicians will be aware of junior medical staff involvement in the RRN, unless participants chose to disclose this information. Participants will be free to be involved (and similarly to cease involvement) at any time-point and any involvement shouldn’t influence/impact their clinical responsibilities in the hospital. Interested individuals can pass on their contact details and received further information via email (Attachment 4: RRN Email Introduction Mentor). Other possible mentors can be contacted through Queensland Health Recruitment Offices at the PAH. Similar to the medical students, junior doctors will be able to reply with an initial expression of interest, and then they will be formally invited to participate with an information sheet and consent form (Attachment 5: PICF PAH Junior Doctor), and after this an invitation to login to ‘Chronus’ (in accordance with ethical approval).

### 2.3.4 Informed Consent

Recruitment and consent will occur after ethical approval has been obtained. The proposed time frame is the end of May/June, when possible participants will receive a formal email invitation with information sheet, and they will be asked to sign an informed consent form. The information sheet and consent form will be emailed to participants and be embedded within the online platform ‘Chronus’ for participants to complete. Participants will have an opportunity to talk with research staff regarding participation.

## 2.4 Procedure

#### The mentoring platform: Chronus

Chronus is an online mentoring platform, which provides a framework allowing users to create, implement and manage mentoring programs. This platform hosts’ hundreds of worldwide mentoring programs, and the University of Queensland, Australia, has recently invested in and endorsed Chronus to promote mentoring through UQ. UQ has formalised a contractual agreement which is in line with the Universities’ policies and procedures (Attachment 6: UQ Chronus Service Agreement). The mentor program is securely locked and only accessible to approved users’, with password-protected logins. UQ has embedded its’ own specific code of conduct, and privacy and confidentially agreement within the platform, and all participants, upon signing up to Chronus, are required to abide by the terms and conditions (Attachment 7: CHRONUS Code of Conduct). Participation and behaviour during involvement in the RRN will be governed by University and Queensland Health Codes of Conduct, and will include a strict adherence to policies regarding patient specific information. Specifically the RRN and Chronus are a platform to enable new relationships and is in no way to be used to discuss, document or share patient information.

Data collection, storage and management is managed through UQ approved/endorsed provider (Chronus), and as such bound by a contractual agreement stipulating data safety/security. Data is not stored onsite at UQ. On Chronus there are mentor/mentee resources including information on mentoring, the benefits of mentoring, mentoring styles, and goal setting.

UQFOM has instigated the medical student support strategy, spanning through until 2020. With this they have successfully initiated the first mentoring program, the “Personal Advisor Network.” The Personal Advisor Scheme was launched in 2018, with Chronus as the operating system and a user-friendly guide was developed to aid users in getting started (Attachment 8: Chronus Getting Started Guide). UQ has designated support services and on-site UQ staff to oversee and assist with the management of this PA network. The RRN will be the next mentoring program to be commenced using this Chronus software as the enabling technological platform, and with the support of UQ we will develop a getting started guide specific to the RRN for all users.

Specific to the RRN, Chronus allows for the management of participant distinct groups, with separate participant contact points, and data collection and management options; thus optimising mentor program research. Emails can be sent through Chronus, and this will be used to facilitate information provision, official recruitment, ongoing engagement, data collection and disengagement. The mentor/mentee matching will also occur through Chronus, and this will be explained below.

### 2.4.1 Baseline assessments for matching

After participants have provided informed consent, and once they have signed into Chronus, they will be directed to an online questionnaire. All questionnaires and surveys will be engrained within the Chronus mentoring package and this will be the main point of participant contact and data collection. All medical students and junior doctors will complete the initial questionnaire. This initial questionnaire will inform the mentor/mentee matching process and it is largely a demographics questionnaire. Matching questions will include age bracket, preferred gender, career path, general interests and passions, preferred topics for mentor conversations, preferred frequency and mode of contact and other match and mentor/mentee preferences (Attachment 9: Baseline Demographic Survey + 6 Month + Exit Surveys).

### 2.4.2 Baseline assessments for stress and support

In addition to the initial matching questionnaire, medical students will complete two short validated questionnaires. These questionnaires are not involved in the matching process but will be used to inform safety and the research component of the study. Junior doctors will also complete the Perceived Stress Scale-10 (PSS-10), not for the research aspect, but safety only. Medical students or junior doctors who score highly on the PSS-10 will be referred on to support services (see below).

These questionnaires will be presented through Chronus. Electronic surveys should enhance participant comfort, as they can be completed in their own time and without the presence of a researcher. This may reduce any interviewer effect, whereby the mere presence of a researcher may influence the students’ response, and it also means researchers will remain blind to participants’ responses and scores. All baseline questionnaires will be completed before randomisation.

For medical students, these questionnaires will be completed pre-post, to explore the impact of the RRN. The two questionnaires consist of two validated tools, the Perceived Stress Scale-10 (PSS-10), and the Perceived Social Support from friends survey (PSS-Fr). Both measures have been psychometrically validated and chosen as they have widely used within the health sector, whilst also having low participant burden, as they are relatively short questionnaires.

***Perceived Stress Scale-10***: All medical students and junior doctors will complete the Perceived Stress Scale – 10 items (PSS-10) (Attachment 10: PSS-10) [31, 32]. The PSS-10 is an easy-to-use questionnaire, which asks about stress over the previous month. It is designed to assess the degree to which situations are appraised as unpredictable, uncontrollable, and overloading. It is a 10-item questionnaire asking participants to provide an estimation of the frequency with which they experienced feeling the way described in the question; for example: “In the last month, how often have you been upset because of something that happened unexpectedly?” or “In the last month, how often have you felt that you were on top of things?” Responses range from never (0) to very often (4), and questions 4, 5, 7, and 8 are reverse scored prior to calculation of a total stress score. The PSS-10 has demonstrated both internal and test-retest reliability, as well as concurrent and predictive validity; it is suggested to be more a more global questionnaire than life-event scales, and is sensitive to stress derived from expectations, reactions to stress, and chronic stress [31]. Age was shown to be unrelated to the PSS [31]. The PSS-10, has better psychometric properties than the longer PSS-14.

***Perceived Social Support from friends survey (PSS-FR)***: All medical students will complete the original Perceived Social Support – Friends Survey (PSS-Fr)[33, 34](Attachment 11: PSS-Fr). Perceived social support can be defined as the extent to which individuals believe that their needs for support, information, and feedback are fulfilled. Perceived social support plays a role in mental and physical health and coping with stressful life events. The PSS-Fr measures perceived social support received specifically from friends (not family). The PSS-Fr consists of 20 statements regarding various aspects of social support, for example: “My friends give me the moral support that I need,” or “I wish my friends were different.” For each statement there are three possible answers: Yes, No, and Don’t Know. All individual items are summed to produce a total score for the individual, for that specific time period; “Yes” responses are scored with 2 points; “No” responses with 0 points, and a response of “Don’t Know” is scored with 1 point. An adapted version of the PSS-Fr has also been created to assess mentor social support, and this will be used post-intervention (see below). The PSS-Fr has been widely used within social support research, and it has good psychometric properties including internal consistency (Cronbach's alpha of .88), and a test-retest reliability (r = .83)[33].

Data from these two questionnaires, the PPS-10 and PSS-Fr will only be collected for the medical students, and this will not be used in the matching process. This data will be used to explore utility and impact of the RRN. All data will be de-identified and pooled for pre-post comparisons (see below).

### 2.3.3 Randomisation

After medical students have completed the informed consent process and all baseline questionnaires, they will be randomised to one of the two groups, 1.) active participation in the RRN, or 2.) the control group. Randomisation will be done by RRN administration support officer, external from the researcher team, to ensure allocation independent of stress score results. The randomisation process will be completed online using block randomization (group size = 2)(randomizer.org), whereby an unbiased randomisation list will be generated for the medical students. Furthermore, researchers will not have seen any baseline data at the point of randomisation. Participants will be sent an email through Chronus advising them of the group which they have been randomised to.

### 2.3.4 Intervention Protocol

The study conditions are 1.) active participation in the RRN, or 2.) the control group. Both conditions will involve being a member on the Chronus platform, for participant contact and data collection points; however only the RRN group will receive the active mentoring.

#### The Resident Ready Network

The University of Queensland Faculty of Medicine (UQFOM) has recognised the importance of delivering a multi-faceted learning experience to medical students. The idea of a mentor program has been initiated through student feedback, and it is ground in the current literature. This program is called the Resident Ready Network (RRN) and it has been developed in consultation with medical students, doctors and researchers in South-East Queensland, and it is based on the “Near-Peer” model of mentor relationships. This pledge to increase student support in the form of a near-peer mentoring program has been formalised within the Medical Student Support Strategy 2018 - 2020 (Attachment 1).

The transition from university to the workforce is a time of great stress, and these budding health professionals often feel overwhelmed and under supported. The RRN was designed to address this need, and link fourth year medical students with junior doctors, ‘near-peers,’ to ensure students are better supported through this transition period. The RRN is embedded and supported by the Chronus digital mentor platform and linked in through UQ services and processes. The RRN will provide students with a semi-structured support network to develop a professional relationship with a junior doctor. This mentor experience will commence when students are in their final 6-months of medical school, as they progress through their student assessments. This allows them to develop a connection and build rapport over a few months; then the mentoring will continue as the student takes the step themselves to becoming a junior doctor, with a plan to have the mentor program support them for their first 6-months in the work force. These mentor relationships will provide students a mechanism to explore and troubleshoot any issues with a colleague who has recently navigated similar territory. This mentor program may provide a critical element of student and junior doctor support to enable a safe and confident transition to life as a junior doctor. The RRN is designed to be semi-structured, based on recommendations made in current mentoring literature. The mentor relationship will be initiated, facilitated and encouraged through Chronus and in accordance with the RRN protocol, however individuals can also tailor their experience to their own needs and preferences. Skills developed during this mentorship could provide students with valuable interpersonal skills and stress management skills necessary for an enriching career as a medical professional.

The RRN has several phases- recruitment; matching; initiation and engagement, conclusion and disengagement. Recruitment has been described above, below, we outline the other phases.

#### Matching

Participant matching represents phase two. Matching is thought to be quite important to the mentoring experience and it should reflect the mentees’ needs and preferences [35]. Research suggests mentees favoured choosing their own mentor [36]. To optimise outcomes, and allow for self-selection of mentors, ‘Mentor Profiles’ will be created by the junior doctors themselves, within Chronus. Mentor profiles will be based on answers to the initial demographics questionnaire (see above). Mentees will have a defined 2-week timeframe to peruse Mentor Profiles on Chronus and self-select a mentor. Matches are deigned to be one-to one, and not grouped (not several mentees for one mentor). For mentees who choose not to select a mentor, they will be matched using Chronus algorithms, which match mentors and mentees according to a “best fit” linking algorithm. This will only be used if the mentee has not self-selected a mentor in the defined timeframe.

In the event that a mentor withdraws from the RRN and if the mentee wishes to continue their involvement with the RRN, we will endeavour to re-match them with an appropriate mentor at any time point.

#### Initiation and Engagement: The Launch (Phase three)

The third phase of the RRN is introducing, engaging and facilitating the mentee/mentor experience. ‘The Launch’ has been designed through consultation with expert researchers and medical students, and this will act as a welcome session and icebreaker for the first meeting of all matched mentor/mentee pairs as well as those within the control group. The launch has been planned as an introduction and networking evening, in a safe environment, known to both junior doctors and medical students. The launch will be held on site at the PAH, at the medical research facility ‘Translational Research Institute’ (TRI). The launch will allow investigators to provide additional information on the RRN and the Chronus digital mentoring platform. Guest speakers will also share their experiences with mentoring, to highlight possible benefits of mentoring and also different approaches to mentoring, i.e., ideas on goal setting in mentoring to enhance achieving targeted outcomes. Introducing mentor/mentee pairs in a group environment is thought to build comfort amongst participants, and also to encourage a social and relaxed atmosphere as they will be surrounded by their own peers. Some light refreshments and beverages will be provided and mentors and mentees will be encouraged to get to know each other at the launch. A ‘mentor agreement/objective guide’ will be available for pairs that desire more structure and support, whereas others may freely chat and get to know each other at the launch (Attachment 12: Mentor Agreement/Objective Guide). The desired outcome is for pairs to start building rapport, and from there they can shape and plan their future mentoring interactions. All available resources to support the relationship will be emailed prior to the launch event such that users who can’t attend this session have access to the same resources as those who do attend.

#### Initiation and Engagement: Ongoing support

The RRN is designed to be semi-structured, whereby participants will meet initially at the RRN hosted launch, which will offer them information, guidance, and some structure; however, from there participants can decide the frequency, duration and style of their mentoring interactions. At the launch, participants will receive a mentor agreement, and mentor record, which they can use to guide their ongoing contact (Attachment 13: Mentor Record). The RRN is designed ultimately to encourage individuals to interact in a naturalistic and comfortable way, allowing participants to tailor their mentoring experience to best suit them, as opposed to a ‘prescribed interaction’ or scripted relationship. To further support them on their personal journey, they also have access to many resources through UQ, Queensland Health and Chronus, and they will receive quarterly prompts to stay engaged.

Through the Chronus mentoring platform, mentors and mentees have access to online resources and support; example documents available to all members include ‘Helpful mentoring tips’ and ‘10-reminders for effecting mentoring’. Chronus members can also access linked services at UQ including student support consultants for any extra information on mentoring and the specifics of the RRN.

Participants can engage in an online ‘Discussion Board’, where participants can interact with each other. These are designed to be ‘peer-peer’ discussion boards, meaning there will be two separate discussion boards; a mentor only discussion board, and a mentee only discussion board. These discussion boards are designed to allow within group conversations, and participants can share their experience and ideas with others in the same group. As previously described, Chronus has an agreement with UQ and all members agree to abide by the rules and regulations, and code of conduct established by UQ, so we do not anticipate any problematic interactions through the discussion board, and thus we do not believe it requires strict monitoring.

To further encourage participant engagement, mentors and mentees will receive reminders at 3, 6 and 9 month time points, which will prompt users to meet up with their mentor/mentee. These reminders are strategically scheduled for times that are discrete from foreseeable high-stress events, including study weeks, assessment weeks, student graduation and public holidays. At the halfway mark, participants will receive a reminder email with a short questionnaire to assess engagement and progress. (Attachment 14: Quarterly Reminder Email, Attachment 15: Midyear Reminder Email).

For additional and personalised support, participants can contact UQ, Queensland Health, the research team or Chronus support services depending on their specific need. Difficulties involving the digital platform will be directed to Chronus specific staff, whereas issues with the mentor/mentee relationship will be directed to the RRN program coordinator (Primary investigator MD). Any adverse event, for example participant distress, would be managed in accordance with designated procedures and reported to ethics (see section on safety and adverse events). These individuals would be linked in with support and counseling through UQ or Queensland Health (see below).

Users of the RRN (mentors and mentees) are free to leave the program at any point and this will not have any detrimental effect on their professional or social progression in the workplace or university environment. All users that terminate their affiliation with the RRN (and associated pilot project) will be invited to complete an “Exit Survey” (Attachment 9: Exit Survey + other surveys. Attachment 16: Early Exit Email). The research team would anticipate the information derived from these exit surveys may help influence a more user friendly and fit for purpose RRN in the future.

#### Conclusion and disengagement

Phase four represents the conclusion and ‘disengagement’ from the RRN. Users engaged with the RRN will be emailed a notification at the 10 and also 12-month marks to remind them of the timeframes of the program-supported relationship (Attachments 17/18: Disengagement Emails 10 Month and 12 Month). These notifications will function as prompts that this may “be the last opportunity to meet up” with their respective mentors/mentees. It will also remind them that while this specific structured and supported relationship, through Chronus and the RRN will be terminated at 12-months, that there are other support and networking opportunities available through many avenues, including Queensland Health. This will be an opportunity for users to thank their mentoring buddies and to discuss if any ongoing communication, independent of the RRN, will be looked upon as being favourable in the future. After the 12-months they will receive a final farewell email which will also invite them to complete the post-RRN measures.

#### Control group

The control group will continue with life as usual. This group can continue to access their normal supports including any UQ support and student services, however, they will not receive active mentoring through the RRN.

### 2.3.5 Data collection during and post-intervention

Throughout the RRN, data will be collected around overall participant retention, including total number of participants who enrolled in the study, rate of attrition, loss to follow-up and withdrawal, and reasons given for this. ‘Match data’ will be collected, for example, number of self-selected matches, total number of matches, self-reported match suitability and any within-match difficulty. Chronus website tracking data and contact made with the RRN support team, including the researchers, UQ support services and Chronus will also be collected.

After the 12-month intervention period, all RRN participants (mentors and mentees) will receive a Chronus-initiated email invitation to complete the follow-up RRN satisfaction survey on Chronus (both mentors and mentees will be invited).

The recruited UQ medical students, will be in their first year of work and those participants in both the control and active RRN group will be invited back and asked to complete the PSS-10 (as described previously) and the PSS-Fr [33]. An adapted version of the PSS-Fr is available, which has been designed specifically to capture perceived social support received from a mentor, and it has been used in a similar way in other mentor program [37]. The active RRN group will complete the adapted PSS-M, and also the Mentoring Functions Questionnaire (MFQ-9) (Attachment 19: MFQ-9).

***Mentor version: Perceived Social Support from friends survey (PSS-FR)***: (Attachment 11: PSS-FR)[37]. This mentor specific version of the PSS-Fr asks the respondent to reply to the statement thinking not only about their friends, but also their mentor. The original text describing how the participant should respond is amended to: “The answers on the left should reflect your feelings regarding your friends. The answers on the right should reflect your feelings regarding your mentor.” The statements themselves remain the same, e.g., “My friends/mentor are good at helping me solve problems.” This tool was also seen to be reliable, with a Cronbach’s alpha score similar to that of the original PSS-Fr. The Cronbach’s alphas, calculated from the original PSS-Fr measured at the beginning, middle, and end of the semester were .84, .82, and .82, respectively, compared to the Cronbach’s alphas for the Mentor specific adaptation to the PSS-Fr, measured in the middle and end of the semester were .83 and .84, respectively [37].

**Mentoring Functions Questionnaire (MFQ-9): (**Attachment 19: MFQ-9**)** To assess the mentoring experience, participants in the RRN group will complete the Mentoring Functions Questionnaire (MFQ-9). The MFQ-9 is one of the prominent tools for assessing vocational support, psychosocial support and role-modelling from mentors/supervisors [38]. Example questions include “My mentor takes a personal interest in my career,” and “I share personal problems with my mentor.” Respondents’ answer using a 5-point Likert scale from strongly disagree to strongly agree. **The** MFQ-9 has appropriate psychometric properties, for example, internal consistency of the subsections are vocational support=0.84, psychosocial support=0.82, role-modelling=0.85 and of the total questionnaire=0.92).

**Qualitative focus groups**

After the completion of the 12-months of RRN, mentee and mentor participants will be invited to attend different focus groups to provide feedback on their experience (Attachment 20: Focus Group Guide). Focus groups will be held at the PAH, and the two participant groups will be scheduled for individual sessions (one for mentors, one for mentees). Focus groups will be semi-structured asking participants about their experience with the RRN including best aspects, worst aspects and ways to improve the RRN.

These focus group sessions will then conclude with a RRN “Finale” BBQ function. It will be held at TRI and invitations will be extended to all participants in the entire research project, including those that did not receive a mentor or mentee. We hope this will help spread the reputation of the RRN, further strengthen links within the hospital system and allow participants to network with a wider group of colleagues (Attachment 21: Invitation RRN “Finale” BBQ”).

## 2.4 Safety and risk management

### 2.4.1 Risks associated with participating and adverse events

This program and research is thought to be relatively low risk. We do not anticipate any physical/economic or legal harm should result from inclusion in the RRN in any capacity. We would acknowledge a very small risk that users may encounter psychological or social harm, however, this is no greater than that expected to be encountered in usual life or work environments. In the chance occurrence that users are faced with these difficulties we have engrained mechanisms to identify and support these users. We don’t anticipate or support the disclosure of any sensitive or embarrassing information, nor condone any discrimination within the RRN. RRN information nights and facilitated sessions will however endeavour to introduce topics such as discrimination and managing conflict in the workplace (see mentoring Agreement Guide) for discussion as a professional development strategy more broadly.

Participation and behaviour during involvement in the RRN will be governed by University and Queensland Health Codes of Conduct, and will include a strict adherence to policies regarding patient specific information. Specifically the RRN is a platform to enable new relationships and is in no way to be used to discuss, document or share patient information. This program is designed for healthy adults, to enhance their access to support and facilitate a connection between medical students and junior doctors, or near-peers. Such an interaction occurs naturally across most settings. This is not designed to remove or change current supports, e.g., family, friend or colleague support, or access to additional supports, including services through UQ, or Queensland Health. All participants are encouraged to maintain their current supports, e.g., family, friends, as well as psychological or counselling services, and they can at any time seek additional support, through staff at Chronus, UQ services, Queensland Health and the RRN team should they need. Investigators will meet regularly to discuss the RRN, and will endeavour to investigate and provide supportive referral/management strategies for any issues regarding participant behaviour and comfort. As this near-peer mentoring program is an initiative of the UQ Medical Student Support Strategy, ongoing support, administrative assistance and quality control will be imperative in the success of the RRN. The FOM will approach these aspects of the RRN with the upmost diligence and discretion for the safety of the users and all matters will be handled in line with current UQ policies.

All users will have readily available contact details/numbers for help at any point during the RRN.

These avenues are as follows;

Medical Student Support Team [med.mss@uq.edu.au](mailto:med.mss@uq.edu.au), Ph: 1300851998, 33651704

RRN Team [michael.devlin@uq.edu.au](mailto:michael.devlin@uq.edu.au), 31826739

Qld Health Employee Assistance 1800604640

All participants will have had a police check as part of their medical professional requirements. Furthermore, Chronus and UQ have an inbuilt contractual agreement, which outlines the code of conduct, and privacy and confidentially rules, which participants agree to abide by. This is to safeguard themselves, their information and promote safe, appropriate and healthy interactions. Where possible participants can choose their mentor, thus hopefully enhancing feelings of comfort, otherwise they are purposefully matched with people according to a best-fit algorithm, to again enhance comfort. This program is designed to be largely naturalistic, meaning participants can tailor their level of engagement, as well as the location, style of meeting, and topics of conversations to suit them. This should enhance feelings of safety and comfort and foster positive outcomes. If any participant does experience any distress within the RRN, counselling and support services will be arranged. UQ support services (for medical students) and the Queensland Health Employee Assistance Service (for junior doctors) are committed to providing high quality support and counselling to members, free of charge, at any time. Participants are free to talk about the RRN with clinical supervisors, and in the instance that a graduated student and junior doctor pair (mentor-mentee match) become clinical colleagues, if this is seen to cause distress, users may disengage with the RRN. Participants can also completely withdraw from the program at any time with no impact on their education, training or work place.

We do ask medical student and junior doctors to complete a measure of stress, the PSS-10, before they commence the RRN. The PSS-10 scoring sheet outlines the cut-off for high stress to be a PSS-10 Score >27; out of a total score of 40. Should a participant return a very high stress score on this initial PSS-10 survey, they will be identified as reaching the stress threshold. This will trigger the implementation of a standard mental health protocol. Chronus representatives involved with the administration of the RRN, who collect all PSS-10 scores at the initiation of the RRN will actively refer these participants directly to student support services on med.[mss@uq.edu.au](mailto:mss@uq.edu.au) (for medical students). A student support representative will then make contact with this student to describe the safety/support avenues available to them, including consultation with the local community mental health services/Lifeline/Beyond Blue. This mental health protocol is stipulated in a transparent fashion in the mentee PICF.

For junior doctors scoring highly on the PSS-10, they will be referred to Queensland Heath Employee Assistance Services and local community mental health services/Lifeline/Beyond Blue, which is also mentioned in the mentor PICF. These junior doctors will be excluded from this round of the RRN.

With respect to the research components, the questionnaires asked at baseline and post-intervention are relatively non-intrusive, and no specific health data is sought. The questionnaires consist of demographics questions; match preference questions and single page psychometrically sound tools. These have been chosen to yield appropriate information for the match and study outcomes whilst limiting participant burden. Participants can also choose not to answer any question should they wish. The follow-up survey and focus groups conducted at the conclusion of the RRN will be short and focused on acceptability and utility of the RRN.

Regarding mentors, we would understand taking on the role of a new mentor may involve certain stressors related to time management, leadership pressure as well as navigating new relationships and resource/referral pathways. This will all be undertaken while concurrently maintaining clinical responsibilities which can be highly stressful for new clinicians. The RRN will seek to mitigate additional potential stressors by engaging early with all participants and providing education on mentoring techniques, referral pathways and effective time management skills. We wouldn’t anticipate any risk of physical harm but would recognise the risk of potential inconvenience and/or discomfort and would undertake all measures to support users throughout the RRN. At any time, all users will be free to seek appropriate supportive services or contact RRN staff as well as access digital resources within the Chronus operating system/notice board.

### 2.4.2 Benefits associated with participating

This program has been designed to provide medical students with an additional support as they transition into the workforce. Individual benefits include being better-supported through this stressful time period. Literature suggests that both mentors and mentees may feel better supported, and show personal and professional growth through taking part in mentoring programs. Big-picture benefits may include furthering our understanding of and adding to the knowledge base, looking at mentoring as a way to increase social support and manage stress through difficult phases in life. The research offers participants an opportunity to provide feedback on the RRN and their experiences with mentoring. Individual participants may feel happy about sharing their experiences to better the RRN, which should benefit the program itself, and hopefully all future mentors and mentees.

All participants in the RRN in active or control groups will be exposed to educational material, social networking events, information regarding referral pathways/stress coping strategies. The research will help inform a mentor program for future medical students and junior doctors, whereby they may draw direct benefits through the program themselves in the future, not to mention the altruistic benefits of being involved in the genesis of the RRN.

# 3 Data and Results

This is a mixed methods study and both quantitative and qualitative data will be collected.

## 3.1 Data Management

Data will be collected, managed and stored in accordance with UQ approved processes and through the Chronus digital platform (Attachment 6: UQ Chronus Service Agreement). This information is only accessible via password protected logins and available to Investigators MD, JB, CT. Upon conclusion of the study the data will be exported from Chronus for analysis. This document will be de-identified, and will be stored on password-protected computers at Metro South. All identified or re-identifiable data will be stored on secure QHealth computers and password-protected. Data will be archived within the ED for 5 years from collection and then destroyed as per NHMRC guidelines.

## 3.2 Outcomes

We acknowledge the difficulties in the nature of this research. This research focuses on mentoring, which is based largely on interpersonal relationships and social connection, thus all individual and mentor relationships will be different. It is inherently challenging to define ‘mentoring,’ on an individual level, let alone group level, and thus challenging to accurately measure mentoring and any outcome or change resulting from this relationship. We acknowledge that as a pilot RCT, sample size limitations may restrict analyses and we may be left with insufficient power to explore statistically significant outcome changes. Regardless of this, we believe this is an important body of work given the identified need, a need voiced by UQ medical students themselves, and a need identified in the wider literature.

As a pilot study, our main aims are to look at feasibility, acceptability and utility of the RRN. Being a novel and innovative program, one outcome will be to describe the RRN framework, matching, and experience with the RRN. Descriptive statistics associated with the RRN will be explored including number of people recruited, number of successful matches, demographics of the participants, length of mentor relationships, participant retention, number of meetings per year and the mode, content and the style of mentoring. Participant satisfaction will be assessed through the follow-up survey embedded within Chronus (Attachment 9: Baseline Demographic Survey + 6 Month + Exit Surveys) and the participant focus groups, which will provide more rich and in-depth feedback. Use of resources, the Chronus platform, and contacts made with the RRN team will also be collected to inform of overall feasibility and acceptability.

The three tools that were chosen to look at RRN impact were the PSS-10, PSS-Fr (Mentor) and MFQ-9. Perceived stress and perceived social support will be assessed with the graduating medical students, pre- and post- and the impact of the mentor relationship on these outcomes will be compared between the RRN and the control group. As a pilot study, this data can be used to look for trends in the data, estimate effect sizes, inform power calculations and inform future RRN implementation. The study measured perceived stress, and it is anticipated that respondents would be more stressed at the 12-month mark, as they were new to the workforce, compared to their baseline stress score. Perceived social support is suggested to help people manage stress, and this questionnaire was also used pre-post, in both control and active RRN group. The active RRN group will hopefully experience additional perceived support from their mentor. The quality of the mentor relationship may also impact on perceived support and perceived stress, hence we are also exploring the MFQ-9. It was hypothesised that establishing mentoring relationships would decrease stress and increase social support in graduating medical students; and, the more cohesive the mentoring relationship, the better the result (i.e., higher scores on perceived support and lower scores on perceived stress).

## 3.3 Analysis

**Quantitative Analysis**

Quantitative data will be analysed descriptively via means and standard deviations (parametric) or medians and interquartile ranges (non-parametrically).

The levels of perceived stress and social support will be compared before and after the mentoring program and contrasted with the control group using two-way T-test (Wilcoxon signed-rank or paired t-test). Descriptive statistics associated with the RRN will be explored including number of people recruited, number of successful matches, demographics of the participants, length of mentor relationships, participant retention, number of meetings per year and the mode and duration, the style of mentor relationship and perceived satisfaction with the program. Where appropriate key variables contributing to RRN outcomes will be explored via regression analysis. As it is a pilot study, these results will help estimate effect sizes and inform power calculations, and guide future RRN implementation. To note: any negative trend, i.e., adverse events, self-reported increased stress at the end of the RRN, or self-reported negative feelings towards the RRN will be emphasised, even when not significantly significant, as this is crucial to inform safety aspects of the RRN.

**Qualitative Analysis**

The focus groups and transcribing process will be conducted by researchers external to the clinical environment to protect the privacy and confidentiality of participants. Once transcribed the audio recordings will be deleted. Individual contributions to each focus group will be identified using a focus group and participant code. Simple demographic data such as age and gender of the focus group participants will be collected and collated (see analysis below).

Narrative data from the focus groups will be analysed using Braun & Clarke’s (2006) thematic analysis technique [39]. This technique has been utilised extensively with the health professions. The steps are:

1. Familiarisation with the data – transcribing, reading and re-reading, noting initial ideas
2. Generation of initial codes – coding data in systematic fashion, collating data related to each code
3. Searching for themes – collating codes into potential themes, collating all data relevant to each theme
4. Reviewing themes – checking themes work in relation to the extracts and the entire data set to generate a thematic map. Analysis meets to compared themes and sub-themes until agreement is reached.
5. Defining themes – ongoing analysis to refine the specifics of each theme, generating clear definition and names
6. Producing the report – final analysis, selection of examples, relating back to research questions and literature

The initial searching and reviewing of themes from the transcribed responses will be undertaken by research team members experienced in qualitative research (JB and AJ). Defining of themes from qualitative data will be undertaken using a whole team approach to achieve consensus around data grouping. Initial independent coding of transcripts will be synthesised into unifying themes via discussion.

# 4 Dissemination

We anticipate the results will be disseminated through conferences and peer-reviewed papers, including a Literature review paper, Protocol paper, and Outcomes paper.

# Timeline

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 2018 | 2019 | T-3 months | T -2 months | T -6 weeks | T-2 weeks | T = 0 | 2020 | T 12 months |
| Ethics | x | x |  |  |  |  |  |  |  |
| Increase awareness/promote study |  |  | x |  |  |  |  |  |  |
| Recruitment |  |  |  | x | x |  |  |  |  |
| PICF, Baseline Questionnaires |  |  |  | x | x | x |  |  |  |
| Matching |  |  |  |  |  | x |  |  |  |
| Launch |  |  |  |  |  |  | MAY |  |  |
| RRN |  |  |  |  |  |  |  |  |  |
| Control group receives no mentoring |  |  |  |  |  |  |  |  |  |
| Post-intervention Questionnaires |  |  |  |  |  |  |  |  | x |
| Post-Intervention Focus Groups |  |  |  |  |  |  |  |  | x |

Budget

The RRN in its design and preparation so far has been enabled by the support of the UQ Medical Dean Professor Stuart Carney, as well as head of the Southern Clinical Unit Professor Ruth Hubbard. This has allowed Dr Michael Devlin (PI) to commit 0.1FTE (4hrs per week) solely to the design and administration of the RRN and its accompanied research proposal and this would will be an ongoing minimum commitment to the project.

This project is aligned strategically on a faculty level to compliment other student support initiatives, specifically another mentoring program called the Personal Advisor (PA) Scheme, for phase 1 students. We will be expecting administrative support from the PA Team to ensure a safe, sustainable and user friendly experience. FTE and specific names for this support is pending at this point.

This research proposal as well as the design of the RRN platform/launch/maintenance phases was undertaken with the assistance of Jacqueline Byrne, research consultant. This was made possible with a $10,000 SSAF grant via UQ Student Support Offices during 2018 (Rosanna Ryan, Student Enrichment Manager, Faculty of Medicine). We anticipate further funding from this office to continue in 2019/2020 and are awaiting result of current submission requesting $25,000/yr on this front.

**Attachments:**

Attachment 1: Medical Student Support Strategy

Attachment 2: RRN Email Introduction Mentees (UQ student)

Attachment 3: PICF – UQ Medical Student

Attachment 4: RRN Email Introduction Mentors (PAH)

Attachment 5: PICF – PAH Junior Doctor

Attachment 6: UQ Chronus Service Agreement

Attachment 7: Chronus Code of Conduct

Attachment 8: Chronus Getting Started Guide

Attachment 9: Baseline Demographic Survey + 6 Month + Exit Surveys

Attachment 10: PSS-10 - Individual psychometrically validated tool

Attachment 11: PSS-FR/M - Individual psychometrically validated tool

Attachment 12: Mentor Agreement/Objective Guide

Attachment 13: Mentor Record

Attachment 14: Quarterly Reminder Email (Engagement Email)

Attachment 15: Midyear Reminder Email (Engagement Email)

Attachment 16: Early Exit Email

Attachment 17: Disengagement Email 10 Month Reminder

Attachment 18: Disengagement Email 12 Month Reminder

Attachment 19: MFQ-9 - Individual psychometrically validated tool

Attachment 20: Focus Group Guide

Attachment 21: Email Invitation RRN Finale BBQ

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