GP LINK Lunches | Dr James Zhang

Dr Kenneth McCroary, Chair of Sydney South West GP Link, hosts a series of meetings with clinical/ political/regional individuals or organisations to discuss issues and solutions for GPs working in South Western Sydney.

Dr James Zhang

Ken McCroary

Sydney South West GP Link used to be active in digital health space development. Recently I was at the NSW Ministry of Health Agency for Clinical Innovation working on the data governance and management framework working group. We had gathered for a HOPE phase 3 primary care revalidation workshop follow-up survey and were liaising with Dr James Zhang.

Following this, I thought I'd take the opportunity to catch up with James and discuss his work in the long COVID and post COVID general practice management space.

Dr Zhang is a GP with a strong commitment to improving patient care by establishing a multi-disciplinary long COVID clinic at his local general practice. Inspired by the work of the St Vincent's long COVID clinic, James has used his experience in general practice, health informatics and clinical governance to create a model of care that focuses on streamlining the patient journey.

As part of his ongoing commitment to providing up-to-date care related to long COVID, James collaborates with the staff at St Vincent's Hospital long COVID clinic and contributes to the Northern Sydney Local Health District in their long COVID referral pathways.

His clinical practice includes work as a GP specialist in the Royal North Shore Hospital virtual care services and the long COVID clinic at Shire Family Medical, Sutherland. He aspires to improve access to long COVID care in a primary healthcare setting and hopes his clinic's model of care will serve as a template for other GP practices to adopt.

Ken McCroary - James, give us a rundown on long COVID and sequalae of COVID infection. A mini update.

James Zhang - We go by the WHO definition of long COVID. It's three months or 12 weeks since the patient's last COVID infection and they've had ongoing symptoms for two months or more and often a diagnosis of exclusion or where no other obvious cause has been found to explain their symptoms. In terms of what sort of symptoms people can experience, COVID can affect so many different systems in the acute illness like respiratory, skin, headaches, joint aches. So by logic, COVID can manifest into so many different symptoms and so there is no specific one symptom you could consider long COVID but it's more the symptoms that have been ongoing. The most common ones are breathlessness, decreased levels of concentration, increased fatigue, joint aches, changes in diet, and changes in gastric function. Other common symptoms can be mild. For example, I contracted COVID on Boxing Day last year and lost my smell and taste at the peak of it. I could suck on a lemon and it did not

register for me. My sense of smell still hasn't quite come back, neither has my taste. Would you consider that long COVID? By definition it would be, but I'm a bit more fortunate than a lot of others.

Ken McCroary - That's one of the most pertinent parts of it, that the symptomatology is variable and wide ranging.

James Zhang - That's what makes it so complicated. As GPs, we are equipped to handle long COVID because we are experts at managing cardiovascular disease, chronic respiratory symptoms, metabolic issues like diabetes and gastrointestinal issues, joint pains, headache, fatigue, mental health and sleep function. The moment you catch long COVID everyone drops the ball and goes "I can't handle this anymore", but I think that's because there are so many different symptoms in long COVID. The management and strategy are often left unpacked from symptom to symptom, system to system - I think that is something collectively we are always capable of handling.

Ken McCroary - As generalists that's probably our niche, we should be the ones looking after this syndrome because it affects the person; it doesn't just affect the organ or the organ system.

James Zhang – Absolutely. This is an area of care where we as GP generalists can unironically claim the term, holistic care, and mean it. We can be good at the bio component, but we also have a good grasp of the psycho-social component as well. We have an understanding where allied health fits into the model of care. The ACI model of care for long COVID in NSW is proposing most long COVID patients can self-manage with support from a GP and community allied health. For those with more severe care needs or who require ongoing specialist, dedicated or disciplinary care, that's when GPs can be empowered to refer accordingly to additional units as they are being developed. They are still in the developing space.

Ken McCroary - Yes, and as well as the bio, obviously with psychosocial input, it's interesting things like having the patient feel validated and supported by their GP and their network has a really positive impact on their progress throughout long COVID, doesn't it?

James Zhang - One of the biggest things that stands out in a long COVID nuclear clinic is in that initial 45-minute discussion. People say, "you are the first person who has made me feel heard or validated". Too often, I see workplaces that are unforgiving of long COVID or just don't understand what's going on with long COVID. Sometimes, even well-meaning GPs go, "I don't know what to do about this". Our patients often feel invalidated, but that's in their head. The first thing I tell them is "what you are experiencing is real; what you are experiencing is absolutely having an effect on you, and you may feel like a shell of your former yourself". Mind and body can be closely linked, so if your mind is not in a great place the body can follow. But there are all sorts of processes we haven't quite nailed down from a research point of view. We have yet to work out why you are experiencing this, but that doesn't invalidate what you are doing.

Ken McCroary - Dementia, Parkinson's disease, stroke - that's in their heads too. But people with those syndromes are not made to feel alienated, are they?

James Zhang - Absolutely. I think a Victorian study states one in 25 people experience some form of long COVID symptom at the three-month mark. Of course, the severity correlates with how severe their initial illness was and whether they were vaccinated or not. Bosses may say, "I had COVID, but I recovered after one or two weeks, so why aren't you getting any better?". It's luck of the draw. I don't think we have any clear understanding of why one person gets it over another, apart from maybe vaccination and pre-existing comorbidities.

Ken McCroary - Not accepting it because we are not smart enough to figure it out is seriously a bit of a cop out, isn't it?

James Zhang – Absolutely. Perhaps the last 100 years have come back to bite us because even things like post viral fatigue and post influenza symptoms, we still don't quite fully understand why those things happen. Yet a lot of people can still experience debilitating illness and disability months down the track. As GPs we can help to support patients, and along the way we will have increased research infrastructure to get to the bottom of it even more.

Ken McCroary - You mentioned the World Health Organisation's definition of long COVID and to segue more globally, can you update us on the global experience of long COVID incidents?

James Zhang - I am more focused on the ground as a clinician than on what's happening in the wider world. I am not a big-wig researcher, but I try to keep on top of the big things. I do follow the ACI living evidence for long COVID, and that provides up-to-date evidence for what we currently understand. There have been some massive studies in Israel where they followed up nearly two million people with mild COVID symptoms with vaccination over 12 months. They found at the one-year mark most patients, about 85 per cent of people, either returned to the baseline or near baseline. That's one thing I always reassure other clinicians and even my patients, there is a lot of hope. There is a very good chance you will get better, with time and medical support. There is a bit of uncertainty with the role of vaccination post long COVID but, as I understand it, I still encourage people to ensure their vaccinations are up-to-date because there is a chance your symptoms may get better once you are vaccinated. At least we know you will have some additional protection if, heaven forbid, you get infected with COVID again.

Ken McCroary - Exactly the other thing while we are talking about WHO, with the definition about it being three months post-COVID infection, or I'm pretty sure in their definition they talk about assumed or presumed or likely COVID infection as well, it gives some validation to our other patients with chronic fatigue syndrome and the other parts of these viral syndromes that even if we don't have 100 per cent proof you did have a COVID infection we still validate you, that you have post viral syndrome and symptoms, don't we?

James Zhang - My patient consultations can be akin to bereavement counselling. What they've experienced and how they feel – it's like they are 10 per cent of what they were before. Let's not beat around the bush, it is a terrible thing to go through and it sucks. I tell them it's almost like a grievance for that loss of function and what they used to have, the routine they may have had. I tell patients what you have experienced is an actual loss, we need to support you in what may be a new normal. Hopefully with better evidence around long COVID and with time, adequate support, pacing and making sure you get advocated for work, you can return to your usual functions. Those things will hopefully be on the up and up. That's why I have reason for hope.

Ken McCroary - It is a massive adjustment to one's life, isn't it? Any chronic illness, particularly one you know it's not post behavioural in any way this is just one of those things that afflicts people like other chronic syndromes do, the impact it has on the individual, who can't work anymore or function in the way they used to, is quite significant, isn't it?

James Zhang – Absolutely. There are patients who used to be very functional - they would run marathons - and now they feel like a shell of their former selves because they get winded up a flight of stairs. Likewise, there are people who, I feel, get pressured to go back to work and they feel unsupported because there has been improvement in their health outcomes when they were resting but their work has been really pushing them.

I have a case study of one patient in my clinic where she contracted COVID nearly 12 months ago and was slowly improving in her symptoms over the Christmas period. But when she returned to work in February, her workplace forced her to work five days a week. I put in letters of support and advocation. It's necessary to ease back into work one to two days a week max, because I believe you get worse if you overexert yourself. That's how we understand long COVID – it's not necessarily that increased energy demand that comes from recovery but what happens after. In this patient's case, when she worked five days a week she deteriorated and declined very quickly in both energy and sleep as well as her general mental state. This is an unfortunate outcome of what happens when work doesn't acknowledge long COVID. There is inadequate advocacy. I think the patient has now left her role and found work for one to two days a week. And she has once again started to improve.

Ken McCroary - We incorporate what we can do physically into our thoughts, value and identity, don't we, and having that ripped away is certainly a distressful situation and deserves compassion and empathy.

James Zhang – Absolutely, and I think that is one of the biggest strengths we as GPs have - overview and holistic knowledge and understanding of what the physiology of various illnesses is. We can also be there to provide patients with a foundation for the "compassion" journey as primary carers. We are the point of call when it comes to a lot of their health and that compassion is a strength, as a collective unit.

Ken McCroary – Can you tell us a bit more about your experience and expertise in the local chronic fatigue management and your experience with St Vincent's Hospital clinic and the Royal North Shore Virtual Hospital Care Service in long COVID and post COVID.

James Zhang - I was a senior clinician in the St Vincent's Virtual Hospital COVID unit in the heart of the pandemic and looked after several hundred, possibly thousands of patient - trying to keep people out of hospital and managing their COVID while at home. During that time, I had the privilege to sit in on the long COVID unit run by St Vincent's. To be clear, I didn't review patients in that long COVID unit, but I was able to sit in on several of their multidisciplinary team meetings and get a feel for how they were reviewing patients and the sort of work they were doing. Absolutely fantastic bunch of people, lovely group, really wanting patient-centred care. The thing that unfortunately bothered me was the waiting lists. The team was flat out because they were the first unit, and the only unit for long COVID at the time. In their meetings, the rehab physician would review the patient and spend maybe 45 minutes to an hour going through the list of issues and experiences the patient had come up with. They'd then refer to the rest of the multidisciplinary team and I realised I'm a GP and what you guys are doing is not dissimilar to what I can do as a GP. I review the patient, come up with an issues list and a management plan, refer to relevant allied health as needed, order in relevant investigations and point to specialists to do any specialty tests that are needed.

I think we can all acknowledge that for long COVID there is no cure, there is no one magic bullet solution or tablet that you take. It's more understanding symptom-by-symptom and system-by-system. What is the patient's current experience and what are their goals in this? So, with their blessing, I asked, can I do what you are doing – a similar model of blood tests and investigation prior and reaching out to my own network of allied health and specialists?. Initially in my practice at Shire Family Medical, our senior GP, Dr Franks, had connections with allied health and specialists who were willing to have referred patients from us. We initially just advertised to patients in our clinic who'd experienced COVID. It got us a lot of local attention, so we started to accept patients in the community that GPs had referred to us. The model was the same for old or new patients - we allocated 45 minutes as a dedicated long COVID appointment. If it was an old patient with long COVID I would suggest a 15-minute appointment to get some investigation and the ball rolling, and then come back for a long appointment to really make sure we can go through it together.

In that 45-minute appointment (I am happy to send the proforma for people to share as a bit of inspiration), I checked out how many times they'd been vaccinated, their medical history and current medications. Then I would unpack a bit about their acute COVID illness experience, did they end up in hospital, how many days bedbound were they, what was the experience like and what sort of symptoms, and how severe were they afterwards?

I would have a list of long COVID symptoms to unpack - it's like systems review we would go through anyway. What sort of respiratory symptoms have they experienced, how's your exercise tolerance, do you have any chest pain, what's your energy like, do you get breathless when you walk up flight of stairs, what's your appetite like, what's your sleep like, how is your gut function, are you experiencing headaches and rash, and any changes in sexual function? Then we'd go through all the other things GPs normally ask - are your vaccinations up-to-date and are your other chronic health screens up to date such as bowel cancer and cervical? My work-up in that 45 minutes would be a vitals exam - blood pressure, O2 stats, cardio-respiratory exam, listening to their heart and lungs. The highest yield thing I use for the patient is the 60-second sit to start buffer. For those not familiar, I tell patients and clinicians you're sitting on the chair, you cross your arms in front of you and you sit up and sit down, keeping your feet planted the whole way through, and you do that for 60 seconds as many times as you can. I assess sats pre and post, because I am curious to see if a patient desaturates as an initial screening test for their illness. If they genuinely desaturate, then I'm a bit more worried. You probably need more extensive respiratory workup, and you may be one of the few patients who would benefit from dedicated pulmonary rehab.

Often, we wonder if there's something wrong or major going on with the heart and lungs. If you have normal saturations and normal heart rate prior to the sit and stand immediately after and 60 seconds after that, it's still normal. Your heart rate has gone up as you would expect and it's coming back down to baseline soon after. That reassures me the initial pressure to your heart rate and your heart and lungs is probably on the well side. We will still do initial investigations along the way, but that's a tangible way to reassure the patient there are some things they can take away just from that examination. I order a baseline set of blood tests and I'd include a basic lethargy set of blood you'd normally do for anyone who comes in tired. We've found the odd few patients who are incredibly iron deficient, they've had an iron infusion and they got a lot better. I wouldn't call that long COVID but it's still part of that holistic work-up. I'd add some things like CMV and EBV serology, just because we understand one of the theories of long COVID is possible reactivation of certain viruses that may be dormant. I normally add in D-Dimer. I wouldn't do that in any other screening circumstance but if the patient has dyspnoea in long COVID, I'd do a D-Dimer. There are three cases on a personal anecdotal level where we have found pulmonary embolus. The theory of long COVID being possible microvascular changes or increased clotting means if someone is experiencing dyspnoea on exertion or just general dyspnoea, I would be inclined to do a test to see if it was positive in a range of either VQ or a CTPA scan.

Again, to be clear, I don't normally do this in general screening of patients. I normally add a zinc level because there is research to suggest if people get URTIs then they should take a zinc supplement and that may decrease their symptoms by a few days. A chest X-ray, I think, is a basic minimum and then the rest of the investigation is dependent on what symptoms the patient is experiencing. One common thing I find is people have a lot of sleep issues and that is probably the second thing I've noticed with long COVID, that sometimes it's been enough to tip them over the edge to demonstrate sleep apnoea. I've picked up several patients who didn't have sleep issues or daytime somnolence prior to COVID, but ever since COVID - maybe due to issues such as weight gain, being more sedentary and tired, a family history - it just sounds like part of that work-up has led me to go down the path of actually you've got sleep apnoea and so you never know what you are going to find ever as you do the long COVID work-up and I want to dive into some semantics.

Would I call this long COVID or would COVID have triggered the sleep apnoea was the issue with sleep apnoea always present I am not going to get too much into the semantics of that because at the end of the day I am still treating what is immediately what symptoms they are experiencing and then of course allied health and referrals that's necessary.

Ken McCroary - The resources you and your team are developing sound exciting - you should be congratulated.

James Zhang - At the end of the day I am just a humble GP, not a political advocate. I am not a researcher or a big brain. My wife tells me I am an oyster. The pearls of wisdom I generate are born out of something that has bothered me. The resources we have created is one of them. It's a simple model of care GPs can use to review patients with long COVID in their clinic. It can be readily incorporated into the MBS bulk billing scenarios because the templates we provide for review and management of long COVID meet all the criteria for 705 health assessments or however long it takes at that first appointment. Then I usually get patients to do some investigations and starts with an appointment that would set you up as a GP care plan because you will need review with multiple allied health as part of the ongoing process, long COVID is a chronic condition which I anticipate will be at least six months and it is kind of a win-win as far, as the patient will therefore get some community care but I think also GPs will be somewhat fairly reimbursed for the time they are spending in reviewing the patient and so we have a model of care there. We also have a proforma of "here are some things to consider" when a GP reviews a patient. It will form the foundation of your GP care plan. I'm also hoping to get it released to the PHN so we can have a Medical Director/ Best Practice template where you can add things or populate it. I trust we, as a collective pipeline, can build upon this knowledge to further patient care in the community.

Ken McCroary - You touched on chronic health management plans and the use of enhanced primary care visits, but we only get five a year. Most of our patients already have chronic disease syndromes and probably never used it before they even got long COVID. That's been one of my frustrations, that there's not enough support for our patients. What do you think are the needs for patients with chronic COVID?

James Zhang - Let's go back to the biopsychosocial model of care. From the bio side of things, we must be medically sure their symptoms can be addressed and then optimise and manage them in the best way. We need to ensure there is nothing else that can potentially worsen their condition, from a psychosocial point of view. I think the absolute component of feeling validated and making sure they are supported, both from a medical and general social point of view, because if you have no energy to go out and about, that isolation could impede their recovery. I think the biggest thing we as clinicians and allied health can provide is objective support to allow people to return to social activities or to work. The pen is mightier than the sword and a letter and signature from a GP, as we advocate for the patient and to their workplace, can hold a lot of weight. What I found helpful is those objective assessments done by, for example, an exercise physiologist to explain the patient's current exercise tolerance or an occupational therapist to talk about their capabilities with work - doing the Yorkshire rehabilitation screening tool and tracking that over six months to objectively show the patient they are getting better, this is not a permanent disability but you are able and capable to pace yourself with work. This is what I think your work tolerance is like. I am here to protect you. You are your most valuable asset. I am here to make sure you are adequately prepared to return to work. That is one of the biggest things patients need to know they are not alone, they are advocated this time.

Ken McCroary - Use of the patient reported outcome experience measures to show progress, you hit a good point there. Getting objective feedback sometimes helps the individual with their coping strategies, doesn't it?

James Zhang - As clinicians, we have the benefit of seeing the patients at a single point in time and once every few weeks or months, so it's easier for us to see when they are improving, increase in their voice, the increase in their step. But the patient must live it out, minute-by-minute, day-by-day, and so it's often harder for them to see where they are as they navigate these waters. So having something objective to show them - six months ago this was your score and now your symptoms have improved - even though there hasn't necessarily been any specific tablet or treatment, is giving them hope.

Ken McCroary - What about GPs? What do we still need to help our patients with long COVID?

James Zhang - I'll divide that answer into two. One is GP support on the ground. GPs are capable of managing chronic disease and handling it all at the same time. But the moment it was called long COVID and there was increased awareness of it, everyone started losing their minds. As a GP, you can manage this from a starting point, and having those increased resources, PHN awareness and education sessions is essential. The goal of our unit at RNS is to empower GPs and patients to feel they can manage long COVID in the community. From an educational point of view, I think GPs just need some extra time. I humbly put forward to you, I don't think I am any particularly more learned than anybody else, I would humbly put myself as an average GP as far as knowledge. Just in the height of COVID and getting the people obviously in the long COVID unit I've just been bothered enough to read the documents on what long COVID is but when you boil down what actually occurs in long COVID, I would reason not that dissimilar to what we are already doing as GPs from a symptom-by-symptom, system-by-system point of view so it's just that awareness and empowerment to say you can do this.

From a more political level I think it's always that age old 'GPs are not valued enough' and I always say it's kind of a little bit of a joke when you may have so called health clinicians that claim to be holistic, charge $300-$400 for a half an hour appointment just to be sold glorified bottled water I think there is a little something wrong when we as GPs who can truly be holistic are undervalued by the purse strings that be. Of course I know there are a lot of balances and I'm not a politician and whole health policy makers and I'm sure there are more nuances to that but I would also retort and say perhaps there is possibly a reason why patients want to see those sorts of care providers and that's because they do actively take the time to listen and that's often very hard for GPs when it's hard to run a practice and you have to balance all these other fitting priorities so it's always that increasing application or the value that GPs provide I think that's just the age old topic at hand.

Ken McCroary - If you had to gaze over the next few years looking at the post-acute pandemic Australia, what do you see there?

James Zhang - I think COVID will be a part of our normal life. COVID still exists, thankfully more of a nuisance than a concern for most patients. The lingering effects of COVID may last, such as dealing with chronic fatigue, post exertion on the lungs and long COVID. That is the increased awareness of how we help these patients accordingly. In the grander picture of health, I think there will be an increased digitisation of health and in many cases patients will more readily access care from home without being face-to-face. There will be an increased normalization, one day, of digital health or virtual health. We will just call it health and how we deliver it may be different. I am sure we have already been experiencing that as GPs, but the advent of telehealth and video calling are a nice avenue for patients to still get care even though they could be on the other side of Australia. They can still get scripts and know their regular GP has got their back. I think the increased use of technology to help with patient access is absolutely going to be an interesting space to come.

Ken McCroary - Looking back, what have you found the most challenging in dealing with COVID and long COVID?

James Zhang - The biggest challenge with managing long COVID is knowing I am going off first principles with a lot of my care and knowing there are just so many variables from a research point of view. Definitions of long COVID can vary, everyone's experience is so varied; research methodologies are varied and treatments are varied. The challenge is trying to find the underlying cause of why it happens and is there anything we can specifically do. While I'm able to derive a lot of what I am doing by first principles and going off what symptoms and systems are being affected and optimising it, I believe a lot of what we are doing in medicine is still very much the tip of the iceberg of what we're capable of. The biggest challenge is often trying to get to the bottom of providing something specific for patients. I often tell patients I understand their frustrated rage because we'd like to think if we take our medication then everything gets better. But there's a lot of uncertainty in health. How do we optimise and make the best of what we have? At least we have the expertise and availability to journey with them.

Ken McCroary - What have you found the most rewarding aspect of managing people in this space?

James Zhang - I think the gratefulness and thankfulness - patients know their symptoms have been validated and there's hope. I imagine a lot of the job satisfaction and reward that comes with being a doctor in general is the tangibility of your work - when you see something you do and the fruits of that labour, the effect it has on the patient and how it's improving their outcomes and their function. I think one of the greatest examples would be a patient I diagnosed during the long COVID workshops. She had bilateral small Pe's and got the appropriate workup from the specialist. As a result, she was put on blood thinners and anticoagulants. When I first saw her, she was lethargic. Even going to work for a few hours would take the wind out of her sails; going up a flight of stairs would make her winded and very breathless. Eight months on, she is active and a lot better. She feels like she has energy and purpose and a lot of drive to do the things she was once able to do. That is the beauty of being a GP, isn't it? We journey with our patients over a long period of time, and we can see the victories along with their struggles. To journey with them accordingly and celebrate those victories - I think that's what makes it worthwhile.

Ken McCroary - You come across as very passionate, interested and committed to your patients and to the profession - particularly around COVID and long COVID. Where do you think this passion comes from?

James Zhang - From a holistic view, we always talk about the spiritual component - and addressing people's spiritual needs often leads to better health outcomes. I acknowledge my faith has absolutely had a place, and it is a strong driving factor for how I decide to see and help people. I also have a genuine desire. As I mentioned earlier, I think a "botheredness" and a voiced factor, where I see a need and patients will benefit from it, also contributes to my interest. I seek not my own glory, but there is a need because there is a huge waiting list for long COVID in dedicated hospital units. It makes sense that GPs are the dedicated first wall that can handle the brunt of cases. It was just a bit of inquisitiveness to say "why not give it a go". I believe my worth and identity are not found in the job, the success or what I earn, but how I help people in the process. I'd like to think that translates into how I can provide hope to patients as well in that long COVID journey.

Ken McCroary - You are busy and do a lot of different things. How do you maintain a healthy balance?

James Zhang - With a lot of effort and a lot of trial and error, because overcommitting has led me to times when I get a little bit burnt out.

I need to balance priorities, for sure. I am interested in how we can better help with health care. I'm a tech nerd and I am interested in how technology and new models of care can make things more efficient and easier for patients and clinicians alike. I think it's cool to help in applying that in the same way with long COVID. How do I keep all that in balance? I think it's something I have had to work at. I have a lot of people who keep me accountable if I am starting to burn out, if I am being begrudging in my attitude, if it's starting to affect how I care for people. I entrust myself to others to call me out and to grow from that as well. I often must stand my ground - not to let my work commitments encroach on other areas of life, especially with things like family and friends.

Ken McCroary - For a lot of my colleagues and the wider community, burnout is unfortunately becoming an increasing issue in terms of the ongoing and never-ending battle with health and bureaucracies, funding and viability of practices. Do you have any other specific words for our GP colleagues about coping with the pressures and the stresses we encounter all day every day?

James Zhang - I feel I am still learning. As I observe everyone else, the perspective that keeps me grounded is perhaps the idea of, well, my parents were migrants when they came to Australia and were living week-by-week just on their income and gave their everything to support myself and my sister. I take the attitude of I live in Australia, if I'm worried about what I am going to eat as opposed to if I am going to eat then I have a lot to be thankful for. Having that support network and people outside of work to keep you grounded are what's helped me and perhaps helpful to those going through that burnout as well. The other aspect, from a practical point of view, was that the height of the pandemic was a bit of a shake-up for GPs. We are the jack of all trades, masters of none. But a master of none is still better than a master of only one in the sense that as GPs we can see the whole system and all the various aspects of health - allied health, how they all interact with one another. There are so many things we can do as clinicians outside the GP clinic space, whether that's teaching the next generation or being part of other creative groups. I know there is that vested Facebook group, Creative Careers in Medicine. Knowing there are other avenues where we can use our health balance, it's another thought. Hopefully there is a place as well for more senior GPs and those advocating for the work we do on a primary health frontline level.

Ken McCroary - What advice would you give to GPs treating long COVID as we move forward?

James Zhang - I know you can manage long COVID, you absolutely have got this. Remember, as a GP, you have the capacity and the ability to unironically and holistically care for the patient. It's taking the time to listen and validate which will go a long way. There are resources and help coming. I am hopeful there'll be additional resources and things in the months and years ahead to further support those going through long COVID. You have every power, reason and the capacity to look after people with long COVID even if it's just to get the ball rolling, validate and journey with them. Hopefully some of the resources we have sent out will be of use.

Ken McCroary – James, thank you for joining us. On behalf of the community, I really appreciate the work you do in your day-to-day practice but specifically in the long COVID arena. Congratulations and good luck with the continual development of your resources for us and the patients as well.

James Zhang - I think the thanks and congratulations should be to the GPs and people on the front lines; they need more of a deserving clap than myself.

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