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Exploring the impact and experience of fractional work in medicine: A qualitative study of medical oncologists in Australia

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TITLE: Exploring the impact and experience of fractional work in medicine: A qualitative study of medical oncologists in Australia

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Abstract:

Objectives: Fractional (part time) appointments are becoming more commonplace in many professions, including medicine. With respect to the contemporary oncological landscape, this highlights a critical moment in the optimisation of employment conditions to enable high-quality service provision given growing patient numbers and treatment volume intensification. As part of a broader study focused on exploring workforce experiences amongst a group of medical oncologists in Australia, this paper specifically aims to examine clinicians' views on the consequences of fractional work in oncology.

Design: Qualitative semi-structured interviews were conducted with 22 medical oncologists in New South Wales, Australia, 9 female and 13 male, at a range of career stages. Data was subject to thematic analysis supported by the framework approach and informed by sociological methods and theory.

Results: Four key themes were derived from the analysis: (1) increasing fractional employment relative to opportunities for full-time positions and uncertainty about future opportunities; (2) tightening in role diversity, including reducing time available for research, mentoring, professional development and administration; (3) emerging flexibility of medical oncology as a specialty and (4) impact of fractional-as-norm on workforce sustainability and quality of care.

Conclusion: Fractional appointments are viewed as increasing in oncology and the broader consequences of this major shift in medical labour remains unexamined. Such appointments offer potential for flexible work to better suit the needs of contemporary oncologists, however, fractional work also presents challenges for personal and professional identity and vocational engagement. Fractional appointments are viewed as having a range of consequences related to job satisfaction, burnout, and service delivery. Further research is needed to provide a critical examination of the multiple impacts of workforce trends within and beyond oncology.

Keywords: Oncology, workforce, Australia, fractional work, part-time work, qualitative

Strengths and limitations of this study:

- Use of in-depth interviews to elicit rich data on health professionals' experiences and perspectives on fractional work in medicine, and the benefits and challenges therein.
- Qualitative data may help to better understand changing professional expectations and priorities at both individual and institution/system levels.
- Qualitative data may be critical to better understand professional's views on medical labour more broadly, and the implications of new forms of practice, and new career pathways, for workforce sustainability.
- This study is exploratory in nature and professionals' experiences and perspectives on fractional appointments in medicine may differ across settings/contexts.

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BACKGROUND

A career in medicine has always been competitive, from acceptance into medical school through to acceptance into training programs and specialty areas.[1–5] Yet underlying this competition has been the idea that medicine provided career security.[2, 6 ,7] In recent years, a range of workforce issues (e.g. increasing patient loads, high competition for public hospital job opportunities, super-specialisation, and intensification of work more broadly) have combined to change the very character of medical work within and beyond oncology.[6, 8–19] The traditional 'safety' of the full-time, permanent physician or surgical position within the public hospital system has been eroded in favour of more flexible working arrangements and/or diversified options,[1, 14, 18] or as a clinical fraction of a 'portfolio career'. [5, 20] Thus, fractional appointments[1] – engagement in a fraction of full-time employment (1FTE – full-time equivalent) – are becoming more visible and commonplace within hospital settings in higher-income countries (HICs).

Expectations for oncology work in HICs are shifting. Recent studies within and outside oncology have identified demands for higher level qualifications and research expertise. [6, 11, 13, 19, 21–24] Other studies, meanwhile, have begun to highlight workforce concerns around diminishing opportunities for mentorship and career prospects, job satisfaction and increased burnout.[1, 11, 13, 14, 21, 25, 26] These studies point to the need for renewed focus on individual work adaptive experiences and workforce sustainability. Understanding the experiences of the workforce is integral in maintaining an efficient and productive medical oncology profession at a time of ever-increasing challenges for the provision of quality cancer care. [15, 19, 21, 22, 26, 27] However, little is known about the changing nature of appointments within oncology, nor how they are perceived within the workforce.

[1] Fractional appointments within medicine in Australia commonly refer to regular ongoing/permanent appointments which consist of a part time – 'fractional' – workload.

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Fractional work – consisting of single or multiple part-time appointments – may offer significant flexibility for a career in contemporary medicine. Potential benefits include balancing work hours with other commitments, working without traditional institutional commitments including service roles, the capacity to work for a range of employers, and/or through freeing up time to pursue and/or balance private practice as well as public.[28] Part-time appointments may also be attractive for those working within specialty areas prone to burnout,[15, 23] and for women (and men with primary carer responsibilities).[3, 15, 16, 19, 29] Control over (and fewer) work hours has been shown to be associated with greater job satisfaction, [3, 11, 21, 26] better work-life balance[10, 23] and better lifestyle.[10, 30] Put simply, fractional appointments may hold considerable potential for supporting conditions which better suit work-life wellbeing.[29] Part-time work can also bring challenges. Fractional staff may be positioned on the margins in terms of status, institutional involvement or engagement, and part-time clinicians may be segregated, widening the gap between particular forms of work (e.g. clinical, teaching and research roles).[24] Thus, the aim of this article is to report the experiences of a group of medical oncologists working in Australia to better understand perspectives on fractional appointments, and on medical labour more broadly, within the oncological context.

METHODS

Data collection and sample: The analysis reported below is part of a broader study which explored the experiences and expectations of Australian medical oncologists, and the implications for the present and future viability of provision of medical care within oncological settings. We employed an inductive approach to data collection, using qualitative methodology, specifically in-depth interviews. Following University ethics approval, an email was sent to New South Wales based medical oncologists using the membership list of the Medical Oncology Group of Australia

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(MOGA)[2]. MOGA has over 600 members, and New South Wales accounts for 34% of membership. This email invitation included an information sheet and consent form detailing the aim of the study and participation requirements. Potential participants were asked to contact a research team member to register their interest. Sampling was informed by snowball and convenience sampling strategies,[31] with participants also recruited through colleagues who were either themselves participating or were aware of the study. All those who indicated an interest were interviewed, and during this data collection a preliminary analysis was conducted. Following this analysis, the researchers agreed that data saturation had been reached – namely, we reached the point when no new themes were identified relating to the focal areas of study.[32] At the beginning of each interview, participants were reminded of the study aims, and afforded the opportunity to ask questions, before giving written or verbal informed consent. The interviews were conducted during 2015 by one university-based research team member experienced in social science research and qualitative interviewing techniques, at locations convenient for the participant (e.g. their workplace), lasted between 60 and 90 minutes, and were digitally audio-recorded and transcribed in full by a professional transcribing company. Interviews were semi-structured and guided using a topic guide focused on participants' work-related experiences (e.g., workforce-related issues, patient issues). While the interviews did not specifically focus on fractional appointments, participants focused on this perceived workforce trend; the research question and findings addressed in this article are thus inductively derived from the analysis of participants' accounts.

Analysis: A systematic thematic analysis was conducted, informed by interpretivist sociological perspectives, and driven by a framework approach,[33] using NVivo 11™ software as a data

[2]MOGA is the peak representative body for medical oncologists in Australia. MOGA membership is optional, includes advanced trainees and qualified medical oncologists, and comprises greater than eighty percent of the medical oncology workforce, including trainees.

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management tool. We employed the following steps: (1) Familiarisation: researchers reviewed the transcripts. (2) Identification of framework: key themes were identified around which the data were organised. (3) Indexing: application of themes to text: labelling and arranging each text excerpt, word, term, or research note related to each participant, producing lists including data and notes from several participants according to themes. (4) Charting: headings and sub-headings were used to build an overall picture of the data. (5) Mapping and interpretation: associations were clarified, and explanations developed. This involved finding associations between and within themes and moving towards and developing explanations for the findings in line with our research aims.[32] Independent coding of the data was provided initially by two members of the research team, which was then discussed with two other team members during several team meetings, to cross-check codes and further develop themes.[34, 35] Analytic rigour was enhanced by searching for negative, atypical and conflicting or contradicting cases in theme development.[32, 34, 35] Audio recordings, transcripts, coding reports and notes were retained along with documentation detailing the research aims, design and sampling, and recruitment processes and practices to provide an audit trail. The Standards for Reporting Qualitative Research (SRQR) checklist was used to ensure comprehensive reporting.[36]

RESULTS

We conducted interviews with 22 medical oncologists at different stages of their careers and working in both major city and inner regional settings. Fifteen participants were working in full-time equivalent positions, amongst them eight were advanced trainees. Seven participants were in single or multiple fractional appointments, including private practice and/or research (university paid) positions. Participant characteristics are contained in Table 1. We derived four predominant themes from our analysis around the character and place of fractional appointments for the medical oncology workforce: (1) increasing fractional work relative to opportunities for 1FTE positions

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and uncertainty about future opportunities; (2) the tightening and restricting of diverse roles - fractional appointments associated with clinic time (and reducing time available for research, teaching/learning and administrative work); (3) the emerging flexibility of medical oncology as a specialty and the attraction of fractional appointments (for some); and (4) the impacts of fractional-as-norm on workforce sustainability and quality of care.

Table 1: Characteristics of the sample

Characteristic	***n = 22***
Sex	
Female	9
Male	13
Career stage	
Advanced trainee	8
Early career oncologist	6
Senior consultant	8
Location	
City	19
Regional	3
Appointment type	
Full time	15
Fractional (single or multiple part time appointments)	7

Increasing fractional appointments: uncertainty and lack of full-time equivalent job opportunity

The widespread awareness within the workforce of the increasing proportion of fractional appointments relative to new full-time equivalent appointments within the public hospital system was clear from the interviews (indicative quotations shown in Table 2). Indeed, talk of the 'future' of the medical oncology workforce, both broadly speaking and for individual's future career considerations, was dominated by issues around fractional appointments, and the consequences therein. Fractional appointments were often talked about as part time employment; however, at times, fractional appointments were also viewed as components of full-time work. That is, that fractional appointments might be seen as a set of building blocks to cobble together a full-time equivalent load. Full-time positions were certainly viewed as 'under threat', with a trend towards

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replacing retiring full time staff with one, two or three fractional positions frequently flagged by participants as occurring within their own institutions. Given that full time appointments were viewed as increasingly unusual or rare, participant's accounts within the interviews often turned towards the perceived burdens and benefits of fractional work. Moreover, the interviews highlighted consensus that attaining a traditional full-time role was increasingly unrealistic, but also highlighted that within oncology, such traditional full-time roles retain privilege and credibility that fractional appointments do not.

Table 2: Indicative quotations: Increasing fractional appointments

Participant	Indicative quotation
#10, Male, Consultant	I think, that a big challenge for academic oncology is that the staff specialist positions for medical oncologists are disappearing. Also the idea of full-time salaried positions in public hospitals for medical oncologists is disappearing. They're becoming more and more part-time.
#13, Female, Early Career	You have to be just flexible if you want a job. So my viewpoint is if a fraction came up anywhere that I was going to interview for, it doesn't matter what tumour it is, I'd very happily take it. That's how desperate we are for jobs.
#19, Female, Consultant	I think within medical oncology, there's a huge job shortage at the moment and I can only see it becoming a bigger problem. I certainly see with my colleagues that it's becoming more unusual for people to be appointed as a full time position anymore. People are taking fractionated positions, doing some clinical work here, maybe some research there, different affiliations with the universities. So I think we've got a lot more fractional positions. We've probably got a lot more people working in part-time capacities… Yeah, there are a lot of people out there doing diverse things whilst waiting for that elusive job and when that job comes up, it's very unusual that it's going to be a full-time position. It may well be 0.4 doing this 0.6 here. I think it's a lot more fractional now.
#21, Male, Early Career	There are few opportunities in the public system for the good old full-time staff specialist thing. That doesn't really exist anymore.
#16, Male, Consultant	So what happens is that hospital appointments get fractionated. So someone who was on full-time capacity, when they retire they break their job into three positions, 0.4, 0.4 and 0.2… I can give you 20 names of people who've finished training and they don't have a real [full time] job.

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Tightening and restricting of diverse roles: Fractional work as 'clinic focused'

As shown in the indicative quotations in Table 3, participants reflected on the specificities of roles and tasks within everyday contemporary medical oncology work. All participants, in describing fractional appointments, talked about the distinction between day-to-day work and everything else. *Day-to-day work* referred to clinical practice, with fractional work described as dominated by out-patient clinic hours. *Everything else* referred to all of the non-clinic-based tasks or responsibilities of a specialist hospital clinician. These included teaching, research (including data collection, lab work, publishing, and conference attendance) administrative/institutional responsibilities, service to the profession, mentoring, other professional development, peer support and so on. The distinction between day-to-day work and everything else was inextricably linked to perceptions of workload, with the 'everything else' part of a career in oncology talked about as much more difficult to engage with for those in fractional appointments. Non-clinic-based tasks and roles were repositioned within several participant's accounts as voluntary, pushed outside the paid hours of employment. Yet such volunteer roles within oncological work were concurrently viewed as integral for both career development and progression, and for good practice (keeping 'up to date'). Thus, the interviews highlighted the paradox of non-clinical activities within contemporary fractional oncology work – the extra pressure to be build a career in creative ways, by being involved and engaged with tasks that were increasingly observed as unpaid.

Table 3: Indicative quotations: Tightening and restricting of diverse roles

Participant	Indicative quotation
#10, Male, Consultant	The expectation is that they come in and work their bums off in the outpatients [clinics] for a couple of days and then go and earn squillions outside in private practice, and what that drives is people away from the things that I think are so important, that is engagement in research and training, because they end up just being forced financially and from every other respect to be full-time consulting clinicians and I worry a lot about that because I think of all the things that's kept me sane, it's been the luxury of

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	being able to spend a portion of my life doing that hard consulting work but another, perhaps, two and a half days a week away from that where I'm doing academic things, teaching, researching. Those positions are disappearing and that's a massive problem for the profession here in the next ten years.
#11, Female, Advanced Trainee	I feel like there's a lot of pressure to get involved in research. I'm trying to juggle a few projects at the moment, and everyone's sort of doing projects and you hear about projects other people are doing and this one's doing three, that one's doing four, this one had theirs published like in the top oncology journal and it's, yeah, there's a lot of expectation to get involved in research. I appreciate that because we do, there is so much research and I think to know how to interpret research, you need to be involved in it firsthand but it's an extra layer of work to what you do on a day-to-day basis.
#4, Female, Consultant	So for example, I get a lot of junior staff, 'cause we advertise for fellowships here, who, in their second year of advanced training and they'll ask, "Ah, there's no jobs. What am I going to do? There's no jobs in the public system. I really want a public hospital position in Sydney." *Everyone* wants that. And you just go, "Well, they're not available. Think outside the box. A lot of people have cancer, cancer is going up, treatments are going up, there are a lot of opportunities if you would think outside the box. There are private facilities, there's this, there's that. Build it, build what you want. Start here, start there," and it's never occurred to them to think any differently. [emphasis added]
#21, Male, Early Career	The other thing…that's changing is with the fractional staff specialist appointments now, my perception is there's a general attitude that public hospital positions are being seen more and more as service provision for clinical care and less time set aside for research, education, teaching whereas the traditional full-time jobs usually had a clinical load but did have designated times to do research, and I think they're sort of being slashed and burned a bit and it's all about seeing people at the coalface and treating, and all your research has to be done outside of that job with whatever funding you can cobble together and I certainly have colleagues in a situation where they're having to do that.
#21, Male Early Career (later in interview)	…The short-term I think, likely scenario is there'll be increased fractionation of current consultants to let more people come in, but with fractionation can become a bit of instability in departments and who is going to take the role of teaching if you're all 0.4s and you're all working quite hard clinically and that load, who's going to do that?

The emerging flexibility of oncology as a speciality, and the attraction of fractional appointments (for some)

While the difficulties of building a career were talked about at length by participants, we heard mixed accounts of the benefits of fractional appointments. For some participants, fractional work offered the scope to limit clinical work so as to pursue other areas of work of interest, namely research. In this, and other ways, medical oncology was viewed by almost all participants as

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'better' than other specialties in terms of flexibility. So too was the speciality talked about as a supportive option for women; most participants perceived a growing number of female trainees within the workforce due to this flexibility (in part enabled by fractional appointments which would be less viable in other specialty areas due to the nature of the clinical work).[14] However, there was acknowledgement within the interviews of the potential penalties for those engaging in fractional appointments, namely through fewer opportunities for career advancement. In addition, fractional appointments as a mode of flexible work were frequently positioned as unfair: either for those occupying the fractional appointment, or for those working fulltime around them. This flexibility was positioned by some participants as holding consequences for everyone else, where full time (or other part time) employees experienced resentment at needing to pick up extra work to compensate for those working part time (as shown in Table 4). Indeed, it was clear from the interviews that while medical oncology was viewed as a flexible speciality, structural disadvantages were perceived to be experienced by some more than others.

Table 4: Indicative quotations: Emerging flexibility of oncology as a speciality

Participant	Indicative quotation
#2, Male, Early Career	In terms of I guess what I'm going to be doing [in the future], look, I see myself doing less direct patient clinical work. So at the moment, probably 85% of my week is direct patient care or activities. I'd probably want to see that down to about 50%. I'd want to be doing a lot more clinical research, particularly focused on regional and rural oncology outcomes. So I see myself really trying to pare back my clinical workload and do more research.
#19, Female, Consultant	I think within medical oncology it probably, as a whole, is reasonably flexible. So I think medical oncology is probably one of the specialities, I think, that is a lot more open to that than others. I mean when I was training everyone was full-time and it was, it was [laughs] not seen as difficult but there just wasn't the options out there to do fractional work, whereas it is happening a lot more now and it's just a part of life.
#11, Female, Advanced trainee	I'm all for maternity leave and feminism and work-life balance and working mums and all that but it just leaves everyone short and that makes it very tiring because you're covering…it just means people who aren't pregnant have to pick up extra work.
#7, Male, Consultant	Unfortunately, the penalty for that [career advancement through research], it doesn't work for part-time workers. The feminisation of the workforce makes

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	that pretty tough because I work about 80 to 100 hours a week in order to do both [clinical work and research].
#14, Male, Early Career	I think there's a lot more oncologists that are more comfortable doing point, two or three days a week, as opposed to where I've worked, most of the oncologists have been full-time *or* part-time oncologist, part-time research academic. But I think…it's a lot more, I guess it's a, pretty women heavy specialty, so there's more acknowledgement that someone working three days a week is still fine.
#20, Male, Consultant	Certainly the number of female trainee oncologists has increased significantly. When I started [laughs], there was one female oncologist in New South Wales, trainee oncologist, and now the breakdown across the country…It's very close. It's very equivalent. We get a lot of female trainees, and they've seen the opportunity to go off and have families and all that. Certainly, it's encouraged. It does make life a little bit interesting sometimes but it certainly hasn't been a challenge to females coming in. A lot of females do see oncology as being good from a lifestyle because you don't necessarily have to work full time but the opportunity to work in a sort of 0.5-0.6 FTE type position is certainly something that can be done, you know, perhaps it's more of a challenge in other specialties.
#13, Female, Early Career	I think not many women will be taking on 1.0s, if there were any. Most women would be taking on fractions.

Fractional appointments and 'the healthy triangle': The impacts of fractional-as-norm on workforce sustainability and quality of care

A final significant theme derived from the interviews was the consequences of fractional appointments, both for workforce sustainability (career security, job satisfaction, avoiding burnout and so on), and also for the quality of care provided to patients. The importance of doctors' engagement in clinical work, research and teaching was flagged by all participants (regardless of their personal level of interest in research or teaching). That is, as one participant put it, the optimal *'healthy triangle'* of good doctoring was represented by involvement in teaching and research as well as clinics. Only through such involvement could doctors be adequately equipped to provide quality patient care (through keeping up to date with developments in research and ways of practicing). Several participants (as shown in Table 5) talked about the negative consequences of fractional work for patient care, as research and teaching development were pushed down the list of priorities, while patient volume in oncology was understood to be intensifying. Investment, contribution and loyalty to the hospital, institution, health service and patients were viewed as

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potentially being threatened by fractional appointments, namely through decreased motivation to go 'above and beyond' outside of paid work hours. Importantly, the lack of allocated capacity for teaching was flagged as negatively impacting patient care (dearth of services/available doctors), while the lack of engagement with research was flagged as compromising quality (dearth of highly skilled/up to date doctors). We note here that fractional appointments in and of themselves were not viewed as compromising quality care. Rather, that fractional appointments were understood to be dominated by clinic time, thus without capacity for engagement in other professional activities which were viewed as critical for good practice.

***Table 5: Indicative quotations:* Fractional appointments and 'the healthy triangle'**

Participant	Indicative quotation
#7, Male, Consultant	I am really, principally, a public practice doctor with a tiny private practice one afternoon a week. I value the fact that I'm surrounded by colleagues all the time, of many different disciplines where I can explore any issue that needs exploring and find someone who's knowledgeable in it at a moment's notice. So I really don't know what it would be like to not have that. It defines the way I work…the fact that I know I've got people to work with at all times.
#16, Male, Consultant	…new oncologists get employed in a 0.4 capacity and then the rest of the time they do private practice or they do research or they do something else but they don't have the same contribution to the hospital as a full-timer, and that can have negative impact on patient care, on quality of the service and I don't think it's a good thing. But, we like it or not, that's what's happening.
#10, Male, Consultant	This is well known. It's called the healthy triangle you know. Where you get the best care is where the doctors are engaged in research and teaching because then you will be guaranteed that they will be right up-to-date, they won't be doing stupid things, they won't be doing something that's gone out of fashion or out of date. So yeah, it's pretty obvious. If you just sit in your rooms all day and go and do an outpatients [clinic] twice a week but you're not in, you actually don't know "That's not how you treat brain metastases anymore. You don't do old brain radiotherapy you know. Haven't you heard about this combination of using stereotactic radiotherapy with an immunotherapy treatment?" "What? What's all that about, you know?" How do I know? Well, it's because I'm involved in the clinical trials, I'm in the research team. It's not just a question of going and sitting up the back of the conference once a year. You've got to be engaged with it.
#13, Female, Early Career	[In the future] Probably I'd like a fraction at a teaching hospital and have a day or two in the private. The fraction with the teaching hospital would come teaching with that. I'd like to continue teaching the med students, the basic registrars, and the senior registrars, and mentoring as well … yeah, I'd

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	probably say I'd be probably part-time for the next maybe decade with kids and soccer and whatever, which I think is the way of the future.
#21, Male, Early Career	There's pros and cons of this fractionated system which, unfortunately, I think, for many can mean that research and education are dropped down in the pecking order in terms of importance, whereas I would argue that they are fundamentally important and equally important as a medical oncologist.

DISCUSSION

The findings in this paper highlight the considerable challenges, as well as benefits, associated with fractional appointments among a sample of Australian medical oncologists, raising a series of questions around the changing character of the workforce, particularly for the ways that medical work is performed. The conditions of fractional work, as articulated by our participants, introduce new landscapes of anxiety and uncertainty around job security and longevity, lower pay, less status or visibility, less institutional loyalty, as well as social isolation through lack of collegiality and pressure for non-clinical work to be conducted outside of paid hours.[6, 8, 11, 12, 14-17, 19, 37] Thus, while forms of fractional work may be attractive for oncologists through offering flexibility, the above conditions may also contribute to clinician fatigue, low morale, and burnout, as well as compromising the quality of service provision.[12, 21, 23, 26]

The paradox of fractional work: flexibility or constraint?

Paradoxically, views on flexibility and individual preferences were combined with accounts of the creation of linearity and intensification, namely through the distinction (and contradiction) between fractional work as *flexible work*, and fractional work as *clinic work*. Our findings revealed a divide between the potential attraction of fewer work hours, and the less flexible content of fractional work in practice. In this way, a push towards fractional appointments might actually be viewed as creating more linear, rather than diversified, roles within medical oncology, by repositioning (and narrowing) what is deemed *legitimate* work within clinical appointments. Fractional appointments (as understood by our participants at least) reflected an intensification of

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clinic hours and patient load, with less emphasis on research, teaching, mentoring and other non-clinical tasks or roles.[24]

Fractional work as clinic hours and the implications therein

The implications of fractional appointments focused on clinical work are two-fold and interrelated. First, new volunteer roles emerge, where non-clinical tasks (or those previously considered to be part of clinical work) are undertaken *outside* of paid hours. Second, a form of accelerated medical practice comes to the fore, where there is reduced capacity to develop as a clinician (and person), but also to embark on person-centred approaches to medicine and care. This new mode of practice, emerging from neoliberalism and economic rationalism,[38] shows little consideration for the bigger picture of service provision, care or workforce relations or sustainability. Rather, the emphasis, from an institutional or system perspective at least, narrows towards forms of work (and tasks) that can be easily measured and accounted for (e.g. clinic hours, number of patients),[39] while emphasising the virtues of individual flexibility, choice and entrepreneurial freedom.[38] Such a climate may be more attractive for some than others, and what may emerge are new forms of privilege within the workforce. At the very least, our findings necessitate a timely (re)consideration of the consequences of fractional work for individuals and professions, particularly when work involves such important tasks as doctoring.

Fractional work, (in)stability, and expectations: a social science perspective

Social scientists have pointed to the dangers of instability in employment, on an individual level (through destabilising a person's identity) and a professional/societal level (by promoting anomie).[40,41] Anomie, a term introduced by sociologist Emile Durkheim,[42,43] describes the lack of stability experienced by individuals or groups that results from a breakdown or absence of moral or ethical standards or values, or from a lack of ideals or purpose. In the context of medical

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work with hospitals, a lack of norms in terms of professional expectations for employment and career paths/trajectories may signal considerable danger for personal and professional identity and peer support, with consequences for job satisfaction, burnout, and service delivery. Put simply, well-supported and vocationally engaged clinicians (according to our participants, those experiencing the so-called 'healthy triangle' of clinical work, research and teaching)[24] are likely to be best positioned to provide high-quality care. In turn, clinicians who feel positive about the level of care they are providing have been shown to have greater job satisfaction.[15] Optimising employment conditions and workplace climate to enable high-quality service provision is critically important within oncology, given increasing patient numbers and treatment volume intensification.[21,22]

Study Limitations

Our sample, while appropriate in size for a qualitative study, only captures the experiences of a group of self-selected oncologists, in one Australian state. In addition, our study did not assess the extent to which fractional appointments within public Australian health services are increasing. Thus, while participants described increasing fractional appointments (particularly *in place* of full-time opportunities), we cannot make claims, based on our findings, related to broad structural increases in fractional appointments in medical oncology. Nor can we provide evidence as to oncologists' views on what might constitute the *optimal* fraction (for productivity, job satisfaction, patient care and so on), as this was contested and unclear across our participant group. Indeed, for medical oncology, and as has been noted in radiation oncology,[44] there is little available data in the Australia and New Zealand setting around unemployment and/or underemployment, with most information coming anecdotally from those working at the coalface. Further research is needed to assess whether perceptions of proportional growth in fractional appointments within and outside Australian public hospitals are reflected in practice. Perceptions of the fractional load according

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to full-time equivalent and type of work also requires further research to establish the extent to which part-time jobs are considered attractive, unattractive, or constitute underemployment.

CONCLUSION

Fractional appointments offer potential flexibility to better suit the needs of the contemporary oncologist, whilst allowing a greater number of qualified trainees to enter the workforce and gain experience within the public system. However, fractional work also presents challenges in terms of the imperative of professional reinvention.[14] Our findings suggest a critical juncture in the evolution of the oncological and medical workforce, where traditional understandings and expectations of what one does as, and what it means to be, a medical oncologist, may be shifting; where possibilities and pressures are not only increasing, but also changing. And where the nexus between job description, physician wellbeing and patient care comes to the fore, particularly for those entering the workforce.[13] Medical oncologists face new challenges, new forms of practice and new pathways of career progression. So too are health services tasked with new challenges around managing workforce satisfaction and sustainability at a time of increased patient volume and intensification within cancer care.

AUTHOR CONTRIBUTIONS: AB, RH, ZL, DK and EK conceived of and designed the study. EK and AB analysed and interpreted the data. EK, AB and ZL drafted the article; all authors contributed to the development and refining of the article, and approved the final submitted version.

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ETHICS APPROVAL: This research was performed in accordance with the Declaration of Helsinki. Ethics approval was received from The University of Tasmania Human Research Ethics Committee (Ref: H0014781), and all participants provided written informed consent.

AVAILABILITY OF DATA: Data are available from the Medical Oncology Group of Australia/The University of Tasmania Human Research Ethics Committee, or by contacting the authors, for researchers who meet the criteria for access to confidential data. Ethics approval for this project does not include provision for making full interview transcript data publicly available, so as to preserve participant anonymity. Ethics clearance for the project limits transcript access to only members of the research team. Data will be made available for researchers who meet the criteria for access to confidential data. Requests for data access can be made to Kay Francis, MOGA Executive Officer. Email: kfrancis@moga.org.au.

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PATIENT AND PUBLIC INVOLVEMENT

It was not appropriate or possible to involve patients or the public in this work.

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SUPPLEMENTARY MATERIAL
APPENDIX 1: Topic guide indicative questions

Values

- What do you think drew/attracted you to pursue medical oncology as a specialty?
- What sorts of individuals do you think are drawn to medical oncology? [Probe: Ideologies/values in medical oncology as a profession, personal ideologies/values, those relating to medicine more broadly]
- What values drive medical oncology as a specialty, but also, your own approach to practice? What are the personal qualities you bring to the profession that you think are important? [Probe: What is the practice of medical oncology like? How does medical oncology as a specialty meet/fulfil your values as a healthcare professional?]
- What do you think are the contributions medical oncology makes in cancer service delivery/treatments? [Probe: How is it different to other specialties?]

Roles and everyday practice

- Are there unique aspects to your particular role (specialty) or organisational context (public/private) that affect your experience of working with colleagues, patients?
- How do you negotiate/reconcile with what you want to do/achieve as a medical oncologist and any structural limitations/reality of what you can do?
- Can you give some examples about what it's like for you/your experiences of working with patients living with cancer/their families?
- What are the (more common) issues you have to negotiate/address with your patients/their families? [Probe: expectations of patients and families, managing expectations, managing interpersonal relationships]
- What strategies have you developed to talk about/communicate with patients/their families in terms of breaking bad news or talking about death and dying (for example)? [Probe: development of strategies, on the job training/experience, mentoring, formal training]
- Can you give some examples on how you manage the more challenging aspects of your role and the emotional impact that they might have on you?

Reflections on the profession

- What support/resources you think are given to and needed by medical oncologists in meeting the demands of their clinical practices?
- How would you describe the structure of the profession in terms of its support of newer/advanced-trainees in medical oncology?
- What are your experiences with regards to receiving/giving mentoring, professional support and development? [Probe: approaches to mentoring; meanings/importance of professional support]
- What denotes the qualities of a good future oncologist?
- How different do you think your work is now compared with that early on in your career? How? Why? /How different do you think your work will be as you advance in your career? How? Why?
- Has the profession changed/evolved over the course of your career, and if so, in what ways and to what extent?

- Is there anything else about your experience as a medical oncologist you think hasn't been covered/covered adequately or you want to reiterate?

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Reporting checklist for qualitative study.

Based on the SRQR guidelines.

Instructions to authors

Complete this checklist by entering the page numbers from your manuscript where readers will find each of the items listed below.

Your article may not currently address all the items on the checklist. Please modify your text to include the missing information. If you are certain that an item does not apply, please write "n/a" and provide a short explanation.

Upload your completed checklist as an extra file when you submit to a journal.

In your methods section, say that you used the SRQR reporting guidelines, and cite them as:

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		Reporting Item	Page Number
	#1	Concise description of the nature and topic of the study identifying the study as qualitative or indicating the approach (e.g. ethnography, grounded theory) or data collection methods (e.g. interview, focus group) is recommended	**4-5**
	#2	Summary of the key elements of the study using the abstract format of the intended publication; typically includes background, purpose, methods, results and conclusions	**2**
Problem formulation	#3	Description and signifcance of the problem / phenomenon studied: review of relevant theory and empirical work; problem statement	**3-4**
Purpose or research question	#4	Purpose of the study and specific objectives or questions	**4**
Qualitative approach and research paradigm	#5	Qualitative approach (e.g. ethnography, grounded theory, case study, phenomenolgy, narrative research) and	**4-5**

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		guiding theory if appropriate; identifying the research paradigm (e.g. postpositivist, constructivist / interpretivist) is also recommended; rationale. The rationale should briefly discuss the justification for choosing that theory, approach, method or technique rather than other options available; the assumptions and limitations implicit in those choices and how those choices influence study conclusions and transferability. As appropriate the rationale for several items might be discussed together.	
Researcher characteristics and reflexivity	#6	Researchers' characteristics that may influence the research, including personal attributes, qualifications / experience, relationship with participants, assumptions and / or presuppositions; potential or actual interaction between researchers' characteristics and the research questions, approach, methods, results and / or transferability	**5**
Context	#7	Setting / site and salient contextual factors; rationale	**5 -7**
Sampling strategy	#8	How and why research participants, documents, or events were selected; criteria for deciding when no further sampling was necessary (e.g. sampling saturation); rationale	**5**
Ethical issues pertaining to human subjects	#9	Documentation of approval by an appropriate ethics review board and participant consent, or explanation for lack thereof; other confidentiality and data security issues	**4-5, 18**
Data collection methods	#10	Types of data collected; details of data collection procedures including (as appropriate) start and stop dates of data collection and analysis, iterative process, triangulation of sources / methods, and modification of procedures in response to evolving study findings; rationale	**4-6**
Data collection instruments and technologies	#11	Description of instruments (e.g. interview guides, questionnaires) and devices (e.g. audio recorders) used for data collection; if / how the instruments(s) changed over the course of the study	**5**
Units of study	#12	Number and relevant characteristics of participants, documents, or events included in the study; level of	**5-7**

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		participation (could be reported in results)	
Data processing	#13	Methods for processing data prior to and during analysis, including transcription, data entry, data management and security, verification of data integrity, data coding, and anonymisation / deidentification of excerpts	**5-6**
6Data analysis	#14	Process by which inferences, themes, etc. were identified and developed, including the researchers involved in data analysis; usually references a specific paradigm or approach; rationale	**5-6**
Techniques to enhance trustworthiness	#15	Techniques to enhance trustworthiness and credibility of data analysis (e.g. member checking, audit trail, triangulation); rationale	**5-6**
Syntheses and interpretation	#16	Main findings (e.g. interpretations, inferences, and themes); might include development of a theory or model, or integration with prior research or theory	**6-16**
Links to empirical data	#17	Evidence (e.g. quotes, field notes, text excerpts, photographs) to substantiate analytic findings	**6-14**
Intergration with prior work, implications, transferability and contribution(s) to the field	#18	Short summary of main findings; explanation of how findings and conclusions connect to, support, elaborate on, or challenge conclusions of earlier scholarship; discussion of scope of application / generalizability; identification of unique contributions(s) to scholarship in a discipline or field	**14-17**
Limitations	#19	Trustworthiness and limitations of findings	**16-17**
Conflicts of interest	#20	Potential sources of influence of perceived influence on study conduct and conclusions; how these were managed	**17**
Funding	#21	Sources of funding and other support; role of funders in data collection, interpretation and reporting	**17**

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Exploring the impact and experience of fractional work in medicine: A qualitative study of medical oncologists in Australia

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Keywords:	ONCOLOGY, QUALITATIVE RESEARCH, Workforce, Fractional work, Part time work, Australia

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TITLE: Exploring the impact and experience of fractional work in medicine: A qualitative study of medical oncologists in Australia

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Abstract:

Objectives: Fractional (part time) appointments are becoming more commonplace in many professions, including medicine. With respect to the contemporary oncological landscape, this highlights a critical moment in the optimisation of employment conditions to enable high-quality service provision given growing patient numbers and treatment volume intensification. Data are drawn from a broader study which aimed to better understand the workforce experiences of medical oncologists in Australia. This paper specifically aims to examine a group of clinicians' views on the consequences of fractional work in oncology.

Design: Qualitative semi-structured interviews were conducted with 22 medical oncologists in New South Wales, Australia, 9 female and 13 male, at a range of career stages. Data were subject to thematic analysis supported by the framework approach and informed by sociological methods and theory.

Results: Four key themes were derived from the analysis: (1) increasing fractional employment relative to opportunities for full-time positions and uncertainty about future opportunities; (2) tightening in role diversity, including reducing time available for research, mentoring, professional development and administration; (3) emerging flexibility of medical oncology as a specialty and (4) impact of fractional-as-norm on workforce sustainability and quality of care.

Conclusion: Fractional appointments are viewed as increasing in oncology and the broader consequences of this major shift in medical labour remains unexamined. Such appointments offer potential for flexible work to better suit the needs of contemporary oncologists, however, fractional work also presents challenges for personal and professional identity and vocational engagement. Fractional appointments are viewed as having a range of consequences related to job satisfaction, burnout, and service delivery. Further research is needed to provide a critical examination of the multiple impacts of workforce trends within and beyond oncology.

Keywords: Oncology, workforce, Australia, fractional work, part-time work, qualitative

Strengths and limitations of this study:

- Use of in-depth interviews to elicit rich data on health professionals' experiences and perspectives on fractional work in medicine, and the benefits and challenges therein.
- Qualitative data may help to better understand changing professional expectations and priorities at both individual and institution/system levels.
- Qualitative data may be critical to better understand professional's views on medical labour more broadly, and the implications of new forms of practice, and new career pathways, for workforce sustainability.
- This study is exploratory in nature and professionals' experiences and perspectives on fractional appointments in medicine may differ across settings/contexts.
- The Australian healthcare system has considerable variability across contexts and geographical settings, and the issues and challenges across settings are difficult to completely capture in a small qualitative sample.

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BACKGROUND

A career in medicine has always been competitive, from acceptance into medical school through to acceptance into training programs and specialty areas.[1–5] Yet underlying this competition has been the idea that medicine provided career security.[2, 6 ,7] In recent years, a range of workforce issues (e.g. increasing patient loads, high competition for public hospital job opportunities, super-specialisation, and intensification of work more broadly) have combined to change the very character of medical work within and beyond oncology.[6, 8–19] The traditional 'safety' of the full-time, permanent physician or surgical position within the public hospital system has been eroded in favour of more flexible working arrangements and/or diversified options,[1, 14, 18] or as a clinical fraction of a 'portfolio career'. [5, 20] Thus, fractional appointments[1] – engagement in a fraction of full-time employment (1FTE – full-time equivalent) – are becoming more visible and commonplace within hospital settings in higher-income countries (HICs).

Expectations for oncology work in HICs are shifting. Recent studies within and outside oncology have identified demands for higher level qualifications and research expertise. [6, 11, 13, 19, 21–24] Other studies, meanwhile, have begun to highlight workforce concerns around diminishing opportunities for mentorship and career prospects, job satisfaction and increased burnout.[1, 11, 13, 14, 21, 25, 26] These studies point to the need for renewed focus on individual work adaptive experiences and workforce sustainability. Understanding the experiences of the workforce is integral in maintaining an efficient and productive medical oncology profession at a time of ever-increasing challenges for the provision of quality cancer care. [15, 19, 21, 22, 26, 27] However, little is known about the changing nature of appointments within oncology, nor how they are perceived within the workforce.

[1] Fractional appointments within medicine in Australia commonly refer to regular ongoing/permanent or contracted appointments which consist of a part time – 'fractional' – workload.

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Fractional work – consisting of single or multiple part-time appointments – may offer significant flexibility for a career in contemporary medicine. Potential benefits include balancing work hours with other commitments, working without traditional institutional commitments including service roles, the capacity to work for a range of employers, and/or through freeing up time to pursue and/or balance private practice as well as public.[28] Part-time appointments may also be attractive for those working within specialty areas prone to burnout,[15, 23] and for women (and men with primary carer responsibilities).[3, 15, 16, 19, 29] Control over (and fewer) work hours has been shown to be associated with greater job satisfaction, [3, 11, 21, 26] better work-life balance[10, 23] and better lifestyle.[10, 30] Put simply, fractional appointments may hold considerable potential for supporting conditions which better suit work-life wellbeing.[29] Part-time work can also bring challenges. Fractional staff may be positioned on the margins in terms of status, institutional involvement or engagement, and part-time clinicians may be segregated, widening the gap between particular forms of work (e.g. clinical, teaching and research roles).[24] Thus, the aim of this article is to report the experiences of a group of medical oncologists working in Australia[2] to better understand perspectives on fractional appointments, and on medical labour more broadly, within the oncological context.

METHODS

Data collection and sample: The analysis reported below is part of a broader study which explored the experiences and expectations of Australian medical oncologists, and the implications for the present and future viability of provision of medical care within oncological settings. The study objective was to gain a comprehensive understanding of the experiences of medical

[2] The Australian health care system consists of a two-tiered model of public and private health care. For doctors in public employment (i.e government hospitals), individual states and territories have an Award system which clearly details allowance, hours or work, leave benefits such as study leave, professional development leave, maternity and parental leave for full time and part-time employees. Finer details of the Award conditions vary across the states and territories. Moreover, within each state, workforce context often differs in city, regional or remote settings.

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oncologists in the current workforce, including key insights into barriers to and enablers of career opportunities in the context of current policy and cancer care. We employed an inductive approach to data collection, using qualitative methodology, specifically in-depth interviews. Following University ethics approval, an email was sent to New South Wales based medical oncologists using the membership list of the Medical Oncology Group of Australia (MOGA)[3]. MOGA has over 600 members, and New South Wales accounts for 34% of membership. This email invitation included an information sheet and consent form detailing the aim of the study and participation requirements. Potential participants were asked to contact a research team member to register their interest. Sampling was informed by snowball and convenience sampling strategies,[31] with participants also recruited through colleagues who were either themselves participating or were aware of the study. All those who indicated an interest were interviewed, and during the early stages of data collection, preliminary analysis began. We conducted rounds of initial analysis through several team meetings, sharing note taking and discussion between three research team members, to guide ongoing sampling. This involved sharing ideas that were identified in the data, early development and discussion of themes. Following several rounds of analysis, the researchers agreed that data saturation had been reached – namely, we reached the point when no new themes were identified relating to the focal areas of study.[32,33] At the beginning of each interview, participants were reminded of the study aims, and afforded the opportunity to ask questions, before giving written or verbal informed consent. The interviews were conducted during 2015 by one university-based research team member experienced in social science research and qualitative interviewing techniques, at locations convenient for the participant (e.g. their workplace), lasted between 60 and 90 minutes, and were digitally audio-recorded and transcribed in full by a professional transcribing company. Interviews were semi-structured and guided using a topic

[3]MOGA is the peak representative body for medical oncologists in Australia. MOGA membership is optional, includes advanced trainees and qualified medical oncologists, and comprises greater than eighty percent of the medical oncology workforce, including trainees.

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guide focused on participants' work-related experiences (e.g., workforce-related issues, patient issues). While the interviews did not specifically focus on fractional appointments, participants focused on this perceived workforce trend; the research question and findings addressed in this article are thus inductively derived from the analysis of participants' accounts.

Analysis: A systematic thematic analysis was conducted, informed by interpretivist sociological perspectives, and driven by a framework approach,[34] using NVivo 11™ software as a data management tool. We employed the following steps: (1) Familiarisation: researchers reviewed the transcripts. (2) Identification of framework: key themes were identified around which the data were organised. (3) Indexing: application of themes to text: labelling and arranging each text excerpt, word, term, or research note related to each participant, producing lists including data and notes from several participants according to themes. (4) Charting: headings and sub-headings were used to build an overall picture of the data. (5) Mapping and interpretation: associations were clarified, and explanations developed. This involved finding associations between and within themes and moving towards and developing explanations for the findings in line with our research aims.[32] Independent coding of the data was provided initially by two members of the research team, which was then discussed with two other team members during several team meetings, to cross-check codes and further develop themes.[35, 36] Analytic rigour was enhanced by searching for negative, atypical and conflicting or contradicting cases in theme development.[32, 35, 36] Audio recordings, transcripts, coding reports and notes were retained along with documentation detailing the research aims, design and sampling, and recruitment processes and practices to provide an audit trail. The Standards for Reporting Qualitative Research (SRQR) checklist was used to ensure comprehensive reporting.[37]

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RESULTS

We conducted interviews with 22 medical oncologists at different stages of their careers and working in both major city and inner regional settings. Fifteen participants were working in full-time equivalent positions, amongst them eight were advanced trainees. Seven participants were in single or multiple fractional appointments, including private practice and/or research (university paid) positions. Participant characteristics are contained in Table 1. We derived four predominant themes from our analysis around the character and place of fractional appointments for the medical oncology workforce: (1) increasing fractional work relative to opportunities for 1FTE positions and uncertainty about future opportunities; (2) the tightening and restricting of diverse roles - fractional appointments associated with clinic time (and reducing time available for research, teaching/learning and administrative work); (3) the emerging flexibility of medical oncology as a specialty and the attraction of fractional appointments (for some); and (4) the impacts of fractional-as-norm on workforce sustainability and quality of care. A summary of key themes and indicative examples is included in Table 2.

Table 1: Characteristics of the sample

Characteristic	***n = 22***
Sex	
Female	9
Male	13
Career stage	
Advanced trainee	8
Early career oncologist	6
Senior consultant	8
Location	
City	19
Regional	3
Appointment type	
Full time	15
Fractional (single or multiple part time appointments)	7

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Table 2: Summary of key themes

Theme	***Example***
Increasing fractional appointments	- *Uncertainty around future prospects* - *Perceived lack of full-time equivalent job opportunity* - *Unrealistic to expect a traditional full-time role* - *Fractional work as entailing benefit and burden* - *Fractional work as less credible or privileged that traditional full-time roles*
Tightening and restricting of diverse roles	- *Fractional work as 'clinic focused'* - *Fewer opportunities for teaching, research, administrative or institutional responsibilities* - *Less capacity for mentoring, professional development, peer support within paid hours* - *Additional pressure to build a career in creative/unpaid ways*
Emerging flexibility of oncology as a speciality	- *Fractional appointments as attractive (for some)* - *Opportunity to pursue other (non-clinical) areas of interest* - *Supportive option for those with caring responsibilities* - *Potential penalties: less opportunity for career advancement* - *Imbalance of responsibilities; compensating for full- or part-time employee loads*
Fractional appointments and 'the healthy triangle'	- *Importance of engagement in clinical work, research and teaching* - *Impacts of fractional work on workforce sustainability including career security, job satisfaction, avoiding burnout* - *Consequences for quality of care provided to patients* - *Need for investment, contribution and loyalty to institutions, health services and patients*

Increasing fractional appointments: uncertainty and lack of full-time equivalent job opportunity

The widespread awareness within the workforce of the increasing proportion of fractional appointments relative to new full-time equivalent appointments within the public hospital system was clear from the interviews (indicative quotations shown in Table 3). Indeed, talk of the 'future' of the medical oncology workforce, both broadly speaking and for individual's future career considerations, was dominated by issues around fractional appointments, and the consequences therein. Fractional appointments were often talked about as part time employment; however, at times, fractional appointments were also viewed as components of full-time work. That is, that

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fractional appointments might be seen as a set of building blocks to cobble together a full-time equivalent load. Full-time positions were certainly viewed as 'under threat', with a trend towards replacing retiring full time staff with one, two or three fractional positions frequently flagged by participants as occurring within their own institutions. Given that full time appointments were viewed as increasingly unusual or rare, participant's accounts within the interviews often turned towards the perceived burdens and benefits of fractional work. Moreover, the interviews highlighted consensus that attaining a traditional full-time role was increasingly unrealistic, but also that within oncology, such traditional full-time roles retain status and credibility, given their difficulty to attain.

Table 3: Indicative quotations: Increasing fractional appointments

Participant	**Indicative quotation**
#10, Male, Consultant	I think, that a big challenge for academic oncology is that the staff specialist positions for medical oncologists are disappearing. Also the idea of full-time salaried positions in public hospitals for medical oncologists is disappearing. They're becoming more and more part-time.
#13, Female, Early Career	You have to be just flexible if you want a job. So my viewpoint is if a fraction came up anywhere that I was going to interview for, it doesn't matter what tumour it is, I'd very happily take it. That's how desperate we are for jobs.
#19, Female, Consultant	I think within medical oncology, there's a huge job shortage at the moment and I can only see it becoming a bigger problem. I certainly see with my colleagues that it's becoming more unusual for people to be appointed as a full-time position anymore. People are taking fractionated positions, doing some clinical work here, maybe some research there, different affiliations with the universities. So I think we've got a lot more fractional positions. We've probably got a lot more people working in part-time capacities… Yeah, there are a lot of people out there doing diverse things whilst waiting for that elusive job and when that job comes up, it's very unusual that it's going to be a full-time position. It may well be 0.4 doing this 0.6 here. I think it's a lot more fractional now.
#21, Male, Early Career	There are few opportunities in the public system for the good old full-time staff specialist thing. That doesn't really exist anymore.
#16, Male, Consultant	So what happens is that hospital appointments get fractionated. So someone who was on full-time capacity, when they retire they break their job into three positions, 0.4, 0.4 and 0.2… I can give you 20 names of people who've finished training and they don't have a real [full time] job.

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Tightening and restricting of diverse roles: Fractional work as 'clinic focused'

As shown in the indicative quotations in Table 4, participants reflected on the specificities of roles and tasks within everyday contemporary medical oncology work. All participants, in describing fractional appointments, talked about the distinction between day-to-day work and everything else. *Day-to-day work* referred to clinical practice, with fractional work described as dominated by out-patient clinic hours. *Everything else* referred to all of the non-clinic-based tasks or responsibilities of a specialist hospital clinician. These included teaching, research (including data collection, lab work, publishing, and conference attendance) administrative/institutional responsibilities, service to the profession, mentoring, other professional development, peer support and so on. The distinction between day-to-day work and everything else was inextricably linked to perceptions of workload, with the 'everything else' part of a career in oncology talked about as much more difficult to engage with for those in fractional appointments. Non-clinic-based tasks and roles were repositioned within several participant's accounts as voluntary, pushed outside the paid hours of employment. Yet such volunteer roles within oncological work were concurrently viewed as integral for both career development and progression, and for good practice (keeping 'up to date'). Thus, the interviews highlighted the paradox of non-clinical activities within contemporary fractional oncology work – the extra pressure to build a career in creative ways, by being involved and engaged with tasks that were increasingly observed as unpaid.

Table 4: Indicative quotations: Tightening and restricting of diverse roles

Participant	Indicative quotation
#10, Male, Consultant	The expectation is that they come in and work their bums off in the outpatients [clinics] for a couple of days and then go and earn squillions outside in private practice, and what that drives is people away from the things that I think are so important, that is engagement in research and training, because they end up just being forced financially and from every other respect to be full-time consulting clinicians and I worry a lot about that because I think of all the things that's kept me sane, it's been the luxury of

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	being able to spend a portion of my life doing that hard consulting work but another, perhaps, two and a half days a week away from that where I'm doing academic things, teaching, researching. Those positions are disappearing and that's a massive problem for the profession here in the next ten years.
#11, Female, Advanced Trainee	I feel like there's a lot of pressure to get involved in research. I'm trying to juggle a few projects at the moment, and everyone's sort of doing projects and you hear about projects other people are doing and this one's doing three, that one's doing four, this one had theirs published like in the top oncology journal and it's, yeah, there's a lot of expectation to get involved in research. I appreciate that because we do, there is so much research and I think to know how to interpret research, you need to be involved in it firsthand but it's an extra layer of work to what you do on a day-to-day basis.
#4, Female, Consultant	So for example, I get a lot of junior staff, 'cause we advertise for fellowships here, who, in their second year of advanced training and they'll ask, "Ah, there's no jobs. What am I going to do? There's no jobs in the public system. I really want a public hospital position in Sydney." *Everyone* wants that. And you just go, "Well, they're not available. Think outside the box. A lot of people have cancer, cancer is going up, treatments are going up, there are a lot of opportunities if you would think outside the box. There are private facilities, there's this, there's that. Build it, build what you want. Start here, start there," and it's never occurred to them to think any differently. [emphasis added]
#21, Male, Early Career	The other thing…that's changing is with the fractional staff specialist appointments now, my perception is there's a general attitude that public hospital positions are being seen more and more as service provision for clinical care and less time set aside for research, education, teaching whereas the traditional full-time jobs usually had a clinical load but did have designated times to do research, and I think they're sort of being slashed and burned a bit and it's all about seeing people at the coalface and treating, and all your research has to be done outside of that job with whatever funding you can cobble together and I certainly have colleagues in a situation where they're having to do that.
#21, Male Early Career (later in interview)	…The short-term I think, likely scenario is there'll be increased fractionation of current consultants to let more people come in, but with fractionation can become a bit of instability in departments and who is going to take the role of teaching if you're all 0.4s and you're all working quite hard clinically and that load, who's going to do that?

The emerging flexibility of oncology as a speciality, and the attraction of fractional appointments (for some)

While the difficulties of building a career were talked about at length by participants, we heard mixed accounts of the benefits of fractional appointments. For some participants, fractional work offered the scope to limit clinical work so as to pursue other areas of work of interest, namely research. In this, and other ways, medical oncology was viewed by almost all participants as

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'better' than other specialties in terms of flexibility. So too was the speciality talked about as a supportive option for women; most participants perceived a growing number of female trainees within the workforce due to this flexibility (in part enabled by fractional appointments which would be less viable in other specialty areas due to the nature of the clinical work).[14] However, there was acknowledgement within the interviews of the potential penalties for those engaging in fractional appointments, namely through fewer opportunities for career advancement [16, 38]. In addition, fractional appointments as a mode of flexible work were frequently positioned as unfair: either for those occupying the fractional appointment, or for those working fulltime around them. This flexibility was positioned by some participants as holding consequences for everyone else, where full time (or other part time) employees experienced resentment at needing to pick up extra work to compensate for those working part time (as shown in Table 5). Indeed, it was clear from the interviews that while medical oncology was viewed as a flexible speciality, structural disadvantages were perceived to be experienced by some more than others.

Table 5: Indicative quotations: Emerging flexibility of oncology as a speciality

Participant	Indicative quotation
#2, Male, Early Career	In terms of I guess what I'm going to be doing [in the future], look, I see myself doing less direct patient clinical work. So at the moment, probably 85% of my week is direct patient care or activities. I'd probably want to see that down to about 50%. I'd want to be doing a lot more clinical research, particularly focused on regional and rural oncology outcomes. So I see myself really trying to pare back my clinical workload and do more research.
#19, Female, Consultant	I think within medical oncology it probably, as a whole, is reasonably flexible. So I think medical oncology is probably one of the specialities, I think, that is a lot more open to that than others. I mean when I was training everyone was full-time and it was, it was [laughs] not seen as difficult but there just wasn't the options out there to do fractional work, whereas it is happening a lot more now and it's just a part of life.
#11, Female, Advanced trainee	I'm all for maternity leave and feminism and work-life balance and working mums and all that but it just leaves everyone short and that makes it very tiring because you're covering…it just means people who aren't pregnant have to pick up extra work.
#7, Male, Consultant	Unfortunately, the penalty for that [career advancement through research], it doesn't work for part-time workers. The feminisation of the workforce makes

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	that pretty tough because I work about 80 to 100 hours a week in order to do both [clinical work and research].
#14, Male, Early Career	I think there's a lot more oncologists that are more comfortable doing point, two or three days a week, as opposed to where I've worked, most of the oncologists have been full-time *or* part-time oncologist, part-time research academic. But I think…it's a lot more, I guess it's a, pretty women heavy specialty, so there's more acknowledgement that someone working three days a week is still fine.
#20, Male, Consultant	Certainly the number of female trainee oncologists has increased significantly. When I started [laughs], there was one female oncologist in New South Wales, trainee oncologist, and now the breakdown across the country…It's very close. It's very equivalent. We get a lot of female trainees, and they've seen the opportunity to go off and have families and all that. Certainly, it's encouraged. It does make life a little bit interesting sometimes but it certainly hasn't been a challenge to females coming in. A lot of females do see oncology as being good from a lifestyle because you don't necessarily have to work full time but the opportunity to work in a sort of 0.5-0.6 FTE type position is certainly something that can be done, you know, perhaps it's more of a challenge in other specialties.
#13, Female, Early Career	I think not many women will be taking on 1.0s, if there were any. Most women would be taking on fractions.

Fractional appointments and 'the healthy triangle': The impacts of fractional-as-norm on workforce sustainability and quality of care

A final significant theme derived from the interviews was the consequences of fractional appointments, both for workforce sustainability (career security, job satisfaction, avoiding burnout and so on), and also for the quality of care provided to patients. The importance of doctors' engagement in clinical work, research and teaching was flagged by all participants (regardless of their personal level of interest in research or teaching). That is, as one participant put it, the optimal *'healthy triangle'* of good doctoring was represented by involvement in teaching and research as well as clinics. Only through such involvement could doctors be adequately equipped to provide quality patient care (through keeping up to date with developments in research and ways of practicing). Several participants (as shown in Table 6) talked about the negative consequences of fractional work for patient care, as research and teaching development were pushed down the list of priorities, while patient volume in oncology was understood to be intensifying. Investment,

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contribution and loyalty to the hospital, institution, health service and patients were viewed as potentially being threatened by fractional appointments, namely through decreased motivation to go 'above and beyond' outside of paid work hours. Importantly, the lack of allocated capacity for teaching was flagged as negatively impacting patient care (dearth of services/available doctors), while the lack of engagement with research was flagged as compromising quality (dearth of highly skilled/up to date doctors). We note here that fractional appointments in and of themselves were not viewed as compromising quality care. Rather, that fractional appointments were understood to be dominated by clinic time, thus without capacity for engagement in other professional activities which were viewed as critical for good practice.

Table 6: Indicative quotations: **Fractional appointments and 'the healthy triangle'**

Participant	Indicative quotation
#7, Male, Consultant	I am really, principally, a public practice doctor with a tiny private practice one afternoon a week. I value the fact that I'm surrounded by colleagues all the time, of many different disciplines where I can explore any issue that needs exploring and find someone who's knowledgeable in it at a moment's notice. So I really don't know what it would be like to not have that. It defines the way I work…the fact that I know I've got people to work with at all times.
#16, Male, Consultant	…new oncologists get employed in a 0.4 capacity and then the rest of the time they do private practice or they do research or they do something else but they don't have the same contribution to the hospital as a full-timer, and that can have negative impact on patient care, on quality of the service and I don't think it's a good thing. But, we like it or not, that's what's happening.
#10, Male, Consultant	This is well known. It's called the healthy triangle you know. Where you get the best care is where the doctors are engaged in research and teaching because then you will be guaranteed that they will be right up-to-date, they won't be doing stupid things, they won't be doing something that's gone out of fashion or out of date. So yeah, it's pretty obvious. If you just sit in your rooms all day and go and do an outpatients [clinic] twice a week but you're not in, you actually don't know "That's not how you treat brain metastases anymore. You don't do old brain radiotherapy you know. Haven't you heard about this combination of using stereotactic radiotherapy with an immunotherapy treatment?" "What? What's all that about, you know?" How do I know? Well, it's because I'm involved in the clinical trials, I'm in the research team. It's not just a question of going and sitting up the back of the conference once a year. You've got to be engaged with it.

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#13, Female, Early Career	[In the future] Probably I'd like a fraction at a teaching hospital and have a day or two in the private. The fraction with the teaching hospital would come teaching with that. I'd like to continue teaching the med students, the basic registrars, and the senior registrars, and mentoring as well … yeah, I'd probably say I'd be probably part-time for the next maybe decade with kids and soccer and whatever, which I think is the way of the future.
#21, Male, Early Career	There's pros and cons of this fractionated system which, unfortunately, I think, for many can mean that research and education are dropped down in the pecking order in terms of importance, whereas I would argue that they are fundamentally important and equally important as a medical oncologist.

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DISCUSSION

The findings in this paper highlight the considerable challenges, as well as benefits, associated with fractional appointments among a sample of Australian medical oncologists, raising a series of questions around the changing character of the workforce, particularly for the ways that medical work is performed. The conditions of fractional work, as articulated by our participants, introduce new landscapes of anxiety and uncertainty around job security and longevity, lower pay, less status or visibility, less institutional loyalty, as well as social isolation through lack of collegiality and pressure for non-clinical work to be conducted outside of paid hours.[6, 8, 11, 12, 14-17, 19, 39] Thus, while forms of fractional work may be attractive for oncologists through offering flexibility, the above conditions may also contribute to clinician fatigue, low morale, and burnout, as well as compromising the quality of service provision.[12, 21, 23, 26] Moreover, the analysis above, and as we have shown elsewhere,[14] reveals gender as a key dimension within discussion of fractional work, reflecting ongoing debates, for example, related to the likelihood for women to work part-time or take more career breaks compared to men, and the consequences for career prospects therein.[14, 16, 38, 40, 41] The findings in this paper also bolster research that shows the significant potential for negative costs of fractional work (particularly in terms of persistent gender inequality in medicine), despite increasing demands for flexibility. The imperative within

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medicine to be available and dedicated to working long hours may disadvantage those in fractional work, for example through limited prospects for promotion.[38, 40-43]

The paradox of fractional work: flexibility or constraint?

Paradoxically, views on flexibility and individual preferences were combined with accounts of the creation of linearity and intensification, namely through the distinction (and contradiction) between fractional work as *flexible work*, and fractional work as *clinic work*. Our findings revealed a divide between the potential attraction of fewer work hours, and the less flexible content of fractional work in practice. In this way, a push towards fractional appointments might actually be viewed as creating more linear, rather than diversified, roles within medical oncology, by repositioning (and narrowing) what is deemed *legitimate* work within clinical appointments. Fractional appointments (as understood by our participants at least) reflected an intensification of clinic hours and patient load, with less emphasis on research, teaching, mentoring and other non-clinical tasks or roles.[24]

Fractional work as clinic hours and the implications therein

The implications of fractional appointments focused on clinical work are two-fold and interrelated. First, new volunteer roles emerge, where non-clinical tasks (or those previously considered to be part of clinical work) are undertaken *outside* of paid hours. Second, a form of accelerated medical practice comes to the fore, where there is reduced capacity to develop as a clinician (and person), but also to embark on person-centred approaches to medicine and care. This new mode of practice, emerging from neoliberalism and economic rationalism,[44] shows little consideration for the bigger picture of service provision, care or workforce relations or sustainability. Rather, the emphasis, from an institutional or system perspective at least, narrows towards forms of work (and tasks) that can be easily measured and accounted for (e.g. clinic hours, number of patients),[45]

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while emphasising the virtues of individual flexibility, choice and entrepreneurial freedom.[44] Such a climate may be more attractive for some than others, and what may emerge are new forms of privilege and status within the workforce. At the very least, our findings necessitate a timely (re)consideration of the consequences of fractional work for individuals and professions, particularly when work involves such important tasks as doctoring.

Fractional work, (in)stability, and expectations: a social science perspective

Social scientists have pointed to the dangers of instability in employment, on an individual level (through destabilising a person's identity) and a professional/societal level (by promoting anomie).[46, 47] Anomie, a term introduced by sociologist Emile Durkheim,[48, 49] describes the lack of stability experienced by individuals or groups that results from a breakdown or absence of moral or ethical standards or values, or from a lack of ideals or purpose.. In the context of medical work with hospitals, a lack of norms in terms of professional expectations for employment and career paths/trajectories may signal considerable danger for personal and professional identity and peer support. The findings in this paper support previous work which has emphasised physician empowerment, engagement, community and institutional commitment as associated with physician well-being and the avoidance of burnout[25, 47, 50]. A lack of cohesion or collegiality also has consequences for job satisfaction, burnout, and service delivery.[17, 21, 23, 25, 50, 51]Put simply, well-supported and vocationally engaged clinicians (according to our participants, those experiencing the so-called 'healthy triangle' of clinical work, research and teaching)[24] are likely to be best positioned to provide high-quality care. In turn, clinicians who feel positive about the level of care they are providing have been shown to have greater job satisfaction.[15] Optimising employment conditions and workplace climate to enable high-quality service provision is critically important within oncology, given increasing patient numbers and treatment volume intensification.[21,22]

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Study Limitations

Our sample, while appropriate in size for a qualitative study, only captures the experiences of a group of self-selected oncologists, in one Australian state. In addition, our study did not assess the extent to which fractional appointments within public Australian health services are increasing. Thus, while participants described increasing fractional appointments (particularly *in place* of full-time opportunities), we cannot make claims, based on our findings, related to broad structural increases in fractional appointments in medical oncology. Nor can we provide evidence as to oncologists' views on what might constitute the *optimal* fraction (for productivity, job satisfaction, patient care and so on), as this was contested and unclear across our participant group. Indeed, for medical oncology, and as has been noted in radiation oncology,[52] there is little available data in the Australia and New Zealand setting around unemployment and/or underemployment, with most information coming anecdotally from those working at the coalface. Further research is needed to assess whether perceptions of proportional growth in fractional appointments within and outside Australian public hospitals are reflected in practice. Perceptions of the fractional load according to full-time equivalent and type of work also requires further research to establish the extent to which part-time jobs are considered attractive, unattractive, or constitute underemployment. Finally, award systems and organisational set up within hospitals varies across (and sometimes within) states and territories in Australia. Further research is needed that takes into account such variation and the implications for experiences of fractional work within and outside medical oncology.

CONCLUSION

Fractional appointments offer potential flexibility to better suit the needs of the contemporary oncologist, whilst allowing a greater number of qualified trainees to enter the workforce and gain experience within the public system. However, fractional work also presents challenges in terms

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of the imperative of professional reinvention.[14] Our findings suggest a critical juncture in the evolution of the oncological and medical workforce, where traditional understandings and expectations of what one does as, and what it means to be, a medical oncologist, may be shifting; where possibilities and pressures are not only increasing, but also changing. And where the nexus between job description, physician wellbeing and patient care comes to the fore, particularly for those entering the workforce.[13] Medical oncologists face new challenges, new forms of practice and new pathways of career progression. So too are health services tasked with new challenges around managing workforce satisfaction and sustainability at a time of increased patient volume and intensification within cancer care. Future research into the impacts of changing patterns and demands of work on healthcare service delivery is needed to ensure sustainable provision of quality care.

AUTHOR CONTRIBUTIONS: AB, RH, ZL, DK and EK conceived of and designed the study. EK and AB analysed and interpreted the data. EK, AB and ZL drafted the article; all authors contributed to the development and refining of the article, and approved the final submitted version.

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COMPETING INTERESTS: The authors declare that they have no competing interests.

ETHICS APPROVAL: This research was performed in accordance with the Declaration of Helsinki. Ethics approval was received from The University of Tasmania Human Research Ethics Committee (Ref: H0014781), and all participants provided written informed consent.

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AVAILABILITY OF DATA: Data are available from the Medical Oncology Group of Australia/The University of Tasmania Human Research Ethics Committee, or by contacting the authors, for researchers who meet the criteria for access to confidential data. Ethics approval for this project does not include provision for making full interview transcript data publicly available, so as to preserve participant anonymity. Ethics clearance for the project limits transcript access to only members of the research team. Data will be made available for researchers who meet the criteria for access to confidential data. Requests for data access can be made to Kay Francis, MOGA Executive Officer. Email: kfrancis@moga.org.au.

PATIENT AND PUBLIC INVOLVEMENT: It was not appropriate or possible to involve patients or the public in this work.

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Reporting checklist for qualitative study.

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		Reporting Item	Page Number
	#1	Concise description of the nature and topic of the study identifying the study as qualitative or indicating the approach (e.g. ethnography, grounded theory) or data collection methods (e.g. interview, focus group) is recommended	**4-5**
	#2	Summary of the key elements of the study using the abstract format of the intended publication; typically includes background, purpose, methods, results and conclusions	**2**
Problem formulation	#3	Description and signifcance of the problem / phenomenon studied: review of relevant theory and empirical work; problem statement	**3-4**
Purpose or research question	#4	Purpose of the study and specific objectives or questions	**4**
Qualitative approach and research paradigm	#5	Qualitative approach (e.g. ethnography, grounded theory, case study, phenomenolgy, narrative research) and	**4-5**

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		guiding theory if appropriate; identifying the research paradigm (e.g. postpositivist, constructivist / interpretivist) is also recommended; rationale. The rationale should briefly discuss the justification for choosing that theory, approach, method or technique rather than other options available; the assumptions and limitations implicit in those choices and how those choices influence study conclusions and transferability. As appropriate the rationale for several items might be discussed together.	
Researcher characteristics and reflexivity	#6	Researchers' characteristics that may influence the research, including personal attributes, qualifications / experience, relationship with participants, assumptions and / or presuppositions; potential or actual interaction between researchers' characteristics and the research questions, approach, methods, results and / or transferability	**5**
Context	#7	Setting / site and salient contextual factors; rationale	**5 -7**
Sampling strategy	#8	How and why research participants, documents, or events were selected; criteria for deciding when no further sampling was necessary (e.g. sampling saturation); rationale	**5**
Ethical issues pertaining to human subjects	#9	Documentation of approval by an appropriate ethics review board and participant consent, or explanation for lack thereof; other confidentiality and data security issues	**4-5, 18**
Data collection methods	#10	Types of data collected; details of data collection procedures including (as appropriate) start and stop dates of data collection and analysis, iterative process, triangulation of sources / methods, and modification of procedures in response to evolving study findings; rationale	**4-6**
Data collection instruments and technologies	#11	Description of instruments (e.g. interview guides, questionnaires) and devices (e.g. audio recorders) used for data collection; if / how the instruments(s) changed over the course of the study	**5**
Units of study	#12	Number and relevant characteristics of participants, documents, or events included in the study; level of	**5-7**

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		participation (could be reported in results)	
Data processing	#13	Methods for processing data prior to and during analysis, including transcription, data entry, data management and security, verification of data integrity, data coding, and anonymisation / deidentification of excerpts	**5-6**
6Data analysis	#14	Process by which inferences, themes, etc. were identified and developed, including the researchers involved in data analysis; usually references a specific paradigm or approach; rationale	**5-6**
Techniques to enhance trustworthiness	#15	Techniques to enhance trustworthiness and credibility of data analysis (e.g. member checking, audit trail, triangulation); rationale	**5-6**
Syntheses and interpretation	#16	Main findings (e.g. interpretations, inferences, and themes); might include development of a theory or model, or integration with prior research or theory	**6-16**
Links to empirical data	#17	Evidence (e.g. quotes, field notes, text excerpts, photographs) to substantiate analytic findings	**6-14**
Intergration with prior work, implications, transferability and contribution(s) to the field	#18	Short summary of main findings; explanation of how findings and conclusions connect to, support, elaborate on, or challenge conclusions of earlier scholarship; discussion of scope of application / generalizability; identification of unique contributions(s) to scholarship in a discipline or field	**14-17**
Limitations	#19	Trustworthiness and limitations of findings	**16-17**
Conflicts of interest	#20	Potential sources of influence of perceived influence on study conduct and conclusions; how these were managed	**17**
Funding	#21	Sources of funding and other support; role of funders in data collection, interpretation and reporting	**17**

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Exploring the impact and experience of fractional work in medicine: A qualitative study of medical oncologists in Australia

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Secondary Subject Heading:	Qualitative research, Sociology
Keywords:	ONCOLOGY, QUALITATIVE RESEARCH, Workforce, Fractional work, Part time work, Australia

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TITLE: Exploring the impact and experience of fractional work in medicine: A qualitative study of medical oncologists in Australia

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Abstract:

Objectives: Fractional (part time) appointments are becoming more commonplace in many professions, including medicine. With respect to the contemporary oncological landscape, this highlights a critical moment in the optimisation of employment conditions to enable high-quality service provision given growing patient numbers and treatment volume intensification. Data are drawn from a broader study which aimed to better understand the workforce experiences of medical oncologists in Australia. This paper specifically aims to examine a group of clinicians' views on the consequences of fractional work in oncology.

Design: Qualitative, one-on-one semi-structured interviews. Interview transcripts were digitally audio recorded and transcribed verbatim. Data were subject to thematic analysis supported by the framework approach and informed by sociological methods and theory.

Setting: New South Wales, Australia.

Participants: Medical oncologists (n=22), including nine female and 13 male participants, at a range of career stages.

Results: Four key themes were derived from the analysis: (1) increasing fractional employment relative to opportunities for full-time positions and uncertainty about future opportunities; (2) tightening in role diversity, including reducing time available for research, mentoring, professional development and administration; (3) emerging flexibility of medical oncology as a specialty and (4) impact of fractional-as-norm on workforce sustainability and quality of care.

Conclusion: Fractional appointments are viewed as increasing in oncology and the broader consequences of this major shift in medical labour remains unexamined. Such appointments offer potential for flexible work to better suit the needs of contemporary oncologists, however, fractional work also presents challenges for personal and professional identity and vocational engagement. Fractional appointments are viewed as having a range of consequences related to job satisfaction, burnout, and service delivery. Further research is needed to provide a critical examination of the multiple impacts of workforce trends within and beyond oncology.

Keywords: Oncology, workforce, Australia, fractional work, part-time work, qualitative

Strengths and limitations of this study:

- Use of in-depth interviews to elicit rich data on health professionals' experiences and perspectives on fractional work in medicine, and the benefits and challenges therein.
- Qualitative data may help to better understand changing professional expectations and priorities at both individual and institution/system levels.
- Qualitative data may be critical to better understand professional's views on medical labour more broadly, and the implications of new forms of practice, and new career pathways, for workforce sustainability.
- This study is exploratory in nature and professionals' experiences and perspectives on fractional appointments in medicine may differ across settings/contexts.
- The Australian healthcare system has considerable variability across contexts and geographical settings, and the issues and challenges across settings are difficult to completely capture in a small qualitative sample.

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BACKGROUND

A career in medicine has always been competitive, from acceptance into medical school through to acceptance into training programs and specialty areas.[1–5] Yet underlying this competition has been the idea that medicine provided career security.[2, 6 ,7] In recent years, a range of workforce issues (e.g. increasing patient loads, high competition for public hospital job opportunities, super-specialisation, and intensification of work more broadly) have combined to change the very character of medical work within and beyond oncology.[6, 8–19] The traditional 'safety' of the full-time, permanent physician or surgical position within the public hospital system has been eroded in favour of more flexible working arrangements and/or diversified options,[1, 14, 18] or as a clinical fraction of a 'portfolio career'. [5, 20] Thus, fractional appointments[1] – engagement in a fraction of full-time employment (1FTE – full-time equivalent) – are becoming more visible and commonplace within hospital settings in higher-income countries (HICs).

Expectations for oncology work in HICs are shifting. Recent studies within and outside oncology have identified demands for higher level qualifications and research expertise. [6, 11, 13, 19, 21–24] Other studies, meanwhile, have begun to highlight workforce concerns around diminishing opportunities for mentorship and career prospects, job satisfaction and increased burnout.[1, 11, 13, 14, 21, 25, 26] These studies point to the need for renewed focus on individual work adaptive experiences and workforce sustainability. Understanding the experiences of the workforce is integral in maintaining an efficient and productive medical oncology profession at a time of ever-increasing challenges for the provision of quality cancer care. [15, 19, 21, 22, 26, 27] However,

[1] Fractional appointments within medicine in Australia commonly refer to regular ongoing/permanent or contracted appointments which consist of a part time – 'fractional' – workload.

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little is known about the changing nature of appointments within oncology, nor how they are perceived within the workforce.

Fractional work – consisting of single or multiple part-time appointments – may offer significant flexibility for a career in contemporary medicine. Potential benefits include balancing work hours with other commitments, working without traditional institutional commitments including service roles, the capacity to work for a range of employers, and/or through freeing up time to pursue and/or balance private practice as well as public.[28] Part-time appointments may also be attractive for those working within specialty areas prone to burnout,[15, 23] and for women (and men with primary carer responsibilities).[3, 15, 16, 19, 29] Control over (and fewer) work hours has been shown to be associated with greater job satisfaction, [3, 11, 21, 26] better work-life balance[10, 23] and better lifestyle.[10, 30] Put simply, fractional appointments may hold considerable potential for supporting conditions which better suit work-life wellbeing.[29] Part-time work can also bring challenges. Fractional staff may be positioned on the margins in terms of status, institutional involvement or engagement, and part-time clinicians may be segregated, widening the gap between particular forms of work (e.g. clinical, teaching and research roles).[24] Thus, the aim of this article is to report the experiences of a group of medical oncologists working in Australia[2] to better understand perspectives on fractional appointments, and on medical labour more broadly, within the oncological context.

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METHODS

Data collection and sample: The analysis reported below is part of a broader study which explored the experiences and expectations of Australian medical oncologists, and the implications

[2] The Australian health care system consists of a two-tiered model of public and private health care. For doctors in public employment (i.e government hospitals), individual states and territories have an Award system which clearly details allowance, hours or work, leave benefits such as study leave, professional development leave, maternity and parental leave for full time and part-time employees. Finer details of the Award conditions vary across the states and territories. Moreover, within each state, workforce context often differs in city, regional or remote settings.

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for the present and future viability of provision of medical care within oncological settings. The broader study objective was to gain a comprehensive understanding of the experiences of medical oncologists in the current workforce, including key insights into barriers to and enablers of career opportunities in the context of current policy and cancer care.[11,13,14] Informed by interpretivist sociological perspectives to research design and analysis, we employed an inductive approach to data collection, using qualitative in-depth interviews. Following University ethics approval, an email was sent to New South Wales based medical oncologists using the membership list of the Medical Oncology Group of Australia (MOGA)[3]. MOGA has over 600 members, and New South Wales accounts for 34% of membership. This email invitation included an information sheet and consent form detailing the aim of the study and participation requirements. Potential participants were asked to contact a research team member to register their interest. Sampling was informed by snowball and convenience sampling strategies,[31] with participants also recruited through colleagues who were either themselves participating or were aware of the study. All those who indicated an interest were interviewed, and during the early stages of data collection, preliminary analysis began. We conducted rounds of initial analysis through several team meetings, sharing note taking and discussion between three research team members, to guide ongoing sampling. This involved sharing ideas that were identified in the data, early development and discussion of themes. Following several rounds of analysis, the researchers agreed that data saturation had been reached – namely, we reached the point when no new themes were identified relating to the focal areas of study.[32,33] At the beginning of each interview, participants were reminded of the study aims, and afforded the opportunity to ask questions, before giving written or verbal informed consent. The interviews were conducted during 2015 by one university-based research team member experienced in social science research and qualitative interviewing techniques, at

[3]MOGA is the peak representative body for medical oncologists in Australia. MOGA membership is optional, includes advanced trainees and qualified medical oncologists, and comprises greater than eighty percent of the medical oncology workforce, including trainees.

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3 locations convenient for the participant (e.g. their workplace), lasted between 60 and 90 minutes, and were digitally audio-recorded and transcribed in full by a professional transcribing company. Interviews were semi-structured and guided using a topic guide (see Appendix 1) focused on participants' work-related experiences (e.g., workforce-related issues, patient issues). While the interviews did not specifically focus on fractional appointments, participants focused on this perceived workforce trend; the research question and findings addressed in this article are thus inductively derived from the analysis of participants' accounts.

Analysis: A systematic thematic analysis was conducted, driven by a framework approach,[34] using NVivo 11™ software as a data management tool. We employed the following steps: (1) Familiarisation: researchers reviewed the transcripts. (2) Identification of framework: key themes were identified around which the data were organised. (3) Indexing: application of themes to text: labelling and arranging each text excerpt, word, term, or research note related to each participant, producing lists including data and notes from several participants according to themes. (4) Charting: headings and sub-headings were used to build an overall picture of the data. (5) Mapping and interpretation: associations were clarified, and explanations developed. This involved finding associations between and within themes and moving towards and developing explanations for the findings in line with our research aims.[32] Independent coding of the data was provided initially by two members of the research team, which was then discussed with two other team members during several team meetings, to cross-check codes and further develop themes.[35, 36] Analytic rigour was enhanced by searching for negative, atypical and conflicting or contradicting cases in theme development.[32, 35, 36] Audio recordings, transcripts, coding reports and notes were retained along with documentation detailing the research aims, design and sampling, and recruitment processes and practices to provide an audit trail. The Standards for Reporting Qualitative Research (SRQR) checklist was used to ensure comprehensive reporting.[37]

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RESULTS

We conducted interviews with 22 medical oncologists at different stages of their careers and working in both major city and inner regional settings. Fifteen participants were working in full-time equivalent positions, amongst them eight were advanced trainees. Seven participants were in single or multiple fractional appointments, including private practice and/or research (university paid) positions. Participant characteristics are contained in Table 1. We derived four predominant themes from our analysis around the character and place of fractional appointments for the medical oncology workforce: (1) increasing fractional work relative to opportunities for 1FTE positions and uncertainty about future opportunities; (2) the tightening and restricting of diverse roles - fractional appointments associated with clinic time (and reducing time available for research, teaching/learning and administrative work); (3) the emerging flexibility of medical oncology as a specialty and the attraction of fractional appointments (for some); and (4) the impacts of fractional-as-norm on workforce sustainability and quality of care. A summary of key themes and indicative examples is included in Table 2.

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Table 1: Characteristics of the sample

Characteristic	*n = 22*
Sex	
Female	9
Male	13
Career stage	
Advanced trainee	8
Early career oncologist	6
Senior consultant	8
Location	
City	19
Regional	3
Appointment type	
Full time	15
Fractional (single or multiple part time appointments)	7

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Table 2: Summary of key themes

Theme	*Example*
Increasing fractional appointments	- *Uncertainty around future prospects* - *Perceived lack of full-time equivalent job opportunity* - *Unrealistic to expect a traditional full-time role* - *Fractional work as entailing benefit and burden* - *Fractional work as less credible or privileged that traditional full-time roles*
Tightening and restricting of diverse roles	- *Fractional work as 'clinic focused'* - *Fewer opportunities for teaching, research, administrative or institutional responsibilities* - *Less capacity for mentoring, professional development, peer support within paid hours* - *Additional pressure to build a career in creative/unpaid ways*
Emerging flexibility of oncology as a speciality	- *Fractional appointments as attractive (for some)* - *Opportunity to pursue other (non-clinical) areas of interest* - *Supportive option for those with caring responsibilities* - *Potential penalties: less opportunity for career advancement* - *Imbalance of responsibilities; compensating for full- or part-time employee loads*
Fractional appointments and 'the healthy triangle'	- *Importance of engagement in clinical work, research and teaching* - *Impacts of fractional work on workforce sustainability including career security, job satisfaction, avoiding burnout* - *Consequences for quality of care provided to patients* - *Need for investment, contribution and loyalty to institutions, health services and patients*

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Increasing fractional appointments: uncertainty and lack of full-time equivalent job opportunity

The widespread awareness within the workforce of the increasing proportion of fractional appointments relative to new full-time equivalent appointments within the public hospital system was clear from the interviews (indicative quotations shown in Table 3). Indeed, talk of the 'future' of the medical oncology workforce, both broadly speaking and for individual's future career considerations, was dominated by issues around fractional appointments, and the consequences

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therein. Fractional appointments were often talked about as part time employment; however, at times, fractional appointments were also viewed as components of full-time work. That is, that fractional appointments might be seen as a set of building blocks to cobble together a full-time equivalent load. Full-time positions were certainly viewed as 'under threat', with a trend towards replacing retiring full time staff with one, two or three fractional positions frequently flagged by participants as occurring within their own institutions. Given that full time appointments were viewed as increasingly unusual or rare, participant's accounts within the interviews often turned towards the perceived burdens and benefits of fractional work. Moreover, the interviews highlighted consensus that attaining a traditional full-time role was increasingly unrealistic, but also that within oncology, such traditional full-time roles retain status and credibility, given their difficulty to attain.

Table 3: Indicative quotations: Increasing fractional appointments

Participant	Indicative quotation
#10, Male, Consultant	I think, that a big challenge for academic oncology is that the staff specialist positions for medical oncologists are disappearing. Also the idea of full-time salaried positions in public hospitals for medical oncologists is disappearing. They're becoming more and more part-time.
#13, Female, Early Career	You have to be just flexible if you want a job. So my viewpoint is if a fraction came up anywhere that I was going to interview for, it doesn't matter what tumour it is, I'd very happily take it. That's how desperate we are for jobs.
#19, Female, Consultant	I think within medical oncology, there's a huge job shortage at the moment and I can only see it becoming a bigger problem. I certainly see with my colleagues that it's becoming more unusual for people to be appointed as a full-time position anymore. People are taking fractionated positions, doing some clinical work here, maybe some research there, different affiliations with the universities. So I think we've got a lot more fractional positions. We've probably got a lot more people working in part-time capacities… Yeah, there are a lot of people out there doing diverse things whilst waiting for that elusive job and when that job comes up, it's very unusual that it's going to be a full-time position. It may well be 0.4 doing this 0.6 here. I think it's a lot more fractional now.
#21, Male, Early Career	There are few opportunities in the public system for the good old full-time staff specialist thing. That doesn't really exist anymore.
#16, Male, Consultant	So what happens is that hospital appointments get fractionated. So someone who was on full-time capacity, when they retire they break

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	their job into three positions, 0.4, 0.4 and 0.2… I can give you 20 names of people who've finished training and they don't have a real [full time] job.

Tightening and restricting of diverse roles: Fractional work as 'clinic focused'

As shown in the indicative quotations in Table 4, participants reflected on the specificities of roles and tasks within everyday contemporary medical oncology work. All participants, in describing fractional appointments, talked about the distinction between day-to-day work and everything else. *Day-to-day work* referred to clinical practice, with fractional work described as dominated by out-patient clinic hours. *Everything else* referred to all of the non-clinic-based tasks or responsibilities of a specialist hospital clinician. These included teaching, research (including data collection, lab work, publishing, and conference attendance) administrative/institutional responsibilities, service to the profession, mentoring, other professional development, peer support and so on. The distinction between day-to-day work and everything else was inextricably linked to perceptions of workload, with the 'everything else' part of a career in oncology talked about as much more difficult to engage with for those in fractional appointments. Non-clinic-based tasks and roles were repositioned within several participant's accounts as voluntary, pushed outside the paid hours of employment. Yet such volunteer roles within oncological work were concurrently viewed as integral for both career development and progression, and for good practice (keeping 'up to date'). Thus, the interviews highlighted the paradox of non-clinical activities within contemporary fractional oncology work – the extra pressure to build a career in creative ways, by being involved and engaged with tasks that were increasingly observed as unpaid.

Table 4: Indicative quotations: Tightening and restricting of diverse roles

Participant	**Indicative quotation**

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#10, Male, Consultant	The expectation is that they come in and work their bums off in the outpatients [clinics] for a couple of days and then go and earn squillions outside in private practice, and what that drives is people away from the things that I think are so important, that is engagement in research and training, because they end up just being forced financially and from every other respect to be full-time consulting clinicians and I worry a lot about that because I think of all the things that's kept me sane, it's been the luxury of being able to spend a portion of my life doing that hard consulting work but another, perhaps, two and a half days a week away from that where I'm doing academic things, teaching, researching. Those positions are disappearing and that's a massive problem for the profession here in the next ten years.
#11, Female, Advanced Trainee	I feel like there's a lot of pressure to get involved in research. I'm trying to juggle a few projects at the moment, and everyone's sort of doing projects and you hear about projects other people are doing and this one's doing three, that one's doing four, this one had theirs published like in the top oncology journal and it's, yeah, there's a lot of expectation to get involved in research. I appreciate that because we do, there is so much research and I think to know how to interpret research, you need to be involved in it firsthand but it's an extra layer of work to what you do on a day-to-day basis.
#4, Female, Consultant	So for example, I get a lot of junior staff, 'cause we advertise for fellowships here, who, in their second year of advanced training and they'll ask, "Ah, there's no jobs. What am I going to do? There's no jobs in the public system. I really want a public hospital position in Sydney." *Everyone* wants that. And you just go, "Well, they're not available. Think outside the box. A lot of people have cancer, cancer is going up, treatments are going up, there are a lot of opportunities if you would think outside the box. There are private facilities, there's this, there's that. Build it, build what you want. Start here, start there," and it's never occurred to them to think any differently. [emphasis added]
#21, Male, Early Career	The other thing…that's changing is with the fractional staff specialist appointments now, my perception is there's a general attitude that public hospital positions are being seen more and more as service provision for clinical care and less time set aside for research, education, teaching whereas the traditional full-time jobs usually had a clinical load but did have designated times to do research, and I think they're sort of being slashed and burned a bit and it's all about seeing people at the coalface and treating, and all your research has to be done outside of that job with whatever funding you can cobble together and I certainly have colleagues in a situation where they're having to do that.
#21, Male Early Career (later in interview)	…The short-term I think, likely scenario is there'll be increased fractionation of current consultants to let more people come in, but with fractionation can become a bit of instability in departments and who is going to take the role of teaching if you're all 0.4s and you're all working quite hard clinically and that load, who's going to do that?

The emerging flexibility of oncology as a speciality, and the attraction of fractional appointments (for some)

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While the difficulties of building a career were talked about at length by participants, we heard mixed accounts of the benefits of fractional appointments. For some participants, fractional work offered the scope to limit clinical work so as to pursue other areas of work of interest, namely research. In this, and other ways, medical oncology was viewed by almost all participants as 'better' than other specialties in terms of flexibility. So too was the speciality talked about as a supportive option for women; most participants perceived a growing number of female trainees within the workforce due to this flexibility (in part enabled by fractional appointments which would be less viable in other specialty areas due to the nature of the clinical work).[14] However, there was acknowledgement within the interviews of the potential penalties for those engaging in fractional appointments, namely through fewer opportunities for career advancement [16, 38]. In addition, fractional appointments as a mode of flexible work were frequently positioned as unfair: either for those occupying the fractional appointment, or for those working fulltime around them. This flexibility was positioned by some participants as holding consequences for everyone else, where full time (or other part time) employees experienced resentment at needing to pick up extra work to compensate for those working part time (as shown in Table 5). Indeed, it was clear from the interviews that while medical oncology was viewed as a flexible speciality, structural disadvantages were perceived to be experienced by some more than others.

Table 5: Indicative quotations: Emerging flexibility of oncology as a speciality

Participant	Indicative quotation
#2, Male, Early Career	In terms of I guess what I'm going to be doing [in the future], look, I see myself doing less direct patient clinical work. So at the moment, probably 85% of my week is direct patient care or activities. I'd probably want to see that down to about 50%. I'd want to be doing a lot more clinical research, particularly focused on regional and rural oncology outcomes. So I see myself really trying to pare back my clinical workload and do more research.
#19, Female, Consultant	I think within medical oncology it probably, as a whole, is reasonably flexible. So I think medical oncology is probably one of the specialities, I think, that is a lot more open to that than others. I mean when I was training everyone was full-time and it was, it was [laughs] not seen as difficult but

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	there just wasn't the options out there to do fractional work, whereas it is happening a lot more now and it's just a part of life.
#11, Female, Advanced trainee	I'm all for maternity leave and feminism and work-life balance and working mums and all that but it just leaves everyone short and that makes it very tiring because you're covering…it just means people who aren't pregnant have to pick up extra work.
#7, Male, Consultant	Unfortunately, the penalty for that [career advancement through research], it doesn't work for part-time workers. The feminisation of the workforce makes that pretty tough because I work about 80 to 100 hours a week in order to do both [clinical work and research].
#14, Male, Early Career	I think there's a lot more oncologists that are more comfortable doing point, two or three days a week, as opposed to where I've worked, most of the oncologists have been full-time *or* part-time oncologist, part-time research academic. But I think…it's a lot more, I guess it's a, pretty women heavy specialty, so there's more acknowledgement that someone working three days a week is still fine.
#20, Male, Consultant	Certainly the number of female trainee oncologists has increased significantly. When I started [laughs], there was one female oncologist in New South Wales, trainee oncologist, and now the breakdown across the country…It's very close. It's very equivalent. We get a lot of female trainees, and they've seen the opportunity to go off and have families and all that. Certainly, it's encouraged. It does make life a little bit interesting sometimes but it certainly hasn't been a challenge to females coming in. A lot of females do see oncology as being good from a lifestyle because you don't necessarily have to work full time but the opportunity to work in a sort of 0.5-0.6 FTE type position is certainly something that can be done, you know, perhaps it's more of a challenge in other specialties.
#13, Female, Early Career	I think not many women will be taking on 1.0s, if there were any. Most women would be taking on fractions.

Fractional appointments and 'the healthy triangle': The impacts of fractional-as-norm on workforce sustainability and quality of care

A final significant theme derived from the interviews was the consequences of fractional appointments, both for workforce sustainability (career security, job satisfaction, avoiding burnout and so on), and also for the quality of care provided to patients. The importance of doctors' engagement in clinical work, research and teaching was flagged by all participants (regardless of their personal level of interest in research or teaching). That is, as one participant put it, the optimal *'healthy triangle'* of good doctoring was represented by involvement in teaching and research as well as clinics. Only through such involvement could doctors be adequately equipped to provide

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quality patient care (through keeping up to date with developments in research and ways of practicing). Several participants (as shown in Table 6) talked about the negative consequences of fractional work for patient care, as research and teaching development were pushed down the list of priorities, while patient volume in oncology was understood to be intensifying. Investment, contribution and loyalty to the hospital, institution, health service and patients were viewed as potentially being threatened by fractional appointments, namely through decreased motivation to go 'above and beyond' outside of paid work hours. Importantly, the lack of allocated capacity for teaching was flagged as negatively impacting patient care (dearth of services/available doctors), while the lack of engagement with research was flagged as compromising quality (dearth of highly skilled/up to date doctors). We note here that fractional appointments in and of themselves were not viewed as compromising quality care. Rather, that fractional appointments were understood to be dominated by clinic time, thus without capacity for engagement in other professional activities which were viewed as critical for good practice.

Table 6: Indicative quotations: **Fractional appointments and 'the healthy triangle'**

Participant	Indicative quotation
#7, Male, Consultant	I am really, principally, a public practice doctor with a tiny private practice one afternoon a week. I value the fact that I'm surrounded by colleagues all the time, of many different disciplines where I can explore any issue that needs exploring and find someone who's knowledgeable in it at a moment's notice. So I really don't know what it would be like to not have that. It defines the way I work…the fact that I know I've got people to work with at all times.
#16, Male, Consultant	…new oncologists get employed in a 0.4 capacity and then the rest of the time they do private practice or they do research or they do something else but they don't have the same contribution to the hospital as a full-timer, and that can have negative impact on patient care, on quality of the service and I don't think it's a good thing. But, we like it or not, that's what's happening.
#10, Male, Consultant	This is well known. It's called the healthy triangle you know. Where you get the best care is where the doctors are engaged in research and teaching because then you will be guaranteed that they will be right up-to-date, they won't be doing stupid things, they won't be doing something that's gone out of fashion or out of date. So yeah, it's pretty obvious. If you just sit in your rooms all day and go and do an outpatients [clinic] twice a week but you're not in, you actually don't know "That's not how you treat brain metastases

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	anymore. You don't do old brain radiotherapy you know. Haven't you heard about this combination of using stereotactic radiotherapy with an immunotherapy treatment?" "What? What's all that about, you know?" How do I know? Well, it's because I'm involved in the clinical trials, I'm in the research team. It's not just a question of going and sitting up the back of the conference once a year. You've got to be engaged with it.
#13, Female, Early Career	[In the future] Probably I'd like a fraction at a teaching hospital and have a day or two in the private. The fraction with the teaching hospital would come teaching with that. I'd like to continue teaching the med students, the basic registrars, and the senior registrars, and mentoring as well … yeah, I'd probably say I'd be probably part-time for the next maybe decade with kids and soccer and whatever, which I think is the way of the future.
#21, Male, Early Career	There's pros and cons of this fractionated system which, unfortunately, I think, for many can mean that research and education are dropped down in the pecking order in terms of importance, whereas I would argue that they are fundamentally important and equally important as a medical oncologist.

DISCUSSION

The findings in this paper highlight the considerable challenges, as well as benefits, associated with fractional appointments among a sample of Australian medical oncologists, raising a series of questions around the changing character of the workforce, particularly for the ways that medical work is performed. The conditions of fractional work, as articulated by our participants, introduce new landscapes of anxiety and uncertainty around job security and longevity, lower pay, less status or visibility, less institutional loyalty, as well as social isolation through lack of collegiality and pressure for non-clinical work to be conducted outside of paid hours.[6, 8, 11, 12, 14-17, 19, 39] Thus, while forms of fractional work may be attractive for oncologists through offering flexibility, the above conditions may also contribute to clinician fatigue, low morale, and burnout, as well as compromising the quality of service provision.[12, 21, 23, 26] Moreover, the analysis above, and as we have shown elsewhere,[14] reveals gender as a key dimension within discussion of fractional work, reflecting ongoing debates, for example, related to the likelihood for women to work part-time or take more career breaks compared to men, and the consequences for career prospects therein.[14, 16, 38, 40, 41] The findings in this paper also bolster research that shows

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the significant potential for negative costs of fractional work (particularly in terms of persistent gender inequality in medicine), despite increasing demands for flexibility. The imperative within medicine to be available and dedicated to working long hours may disadvantage those in fractional work, for example through limited prospects for promotion.[38, 40-43]

The paradox of fractional work: flexibility or constraint?

Paradoxically, views on flexibility and individual preferences were combined with accounts of the creation of linearity and intensification, namely through the distinction (and contradiction) between fractional work as *flexible work*, and fractional work as *clinic work*. Our findings revealed a divide between the potential attraction of fewer work hours, and the less flexible content of fractional work in practice. In this way, a push towards fractional appointments might actually be viewed as creating more linear, rather than diversified, roles within medical oncology, by repositioning (and narrowing) what is deemed *legitimate* work within clinical appointments. Fractional appointments (as understood by our participants at least) reflected an intensification of clinic hours and patient load, with less emphasis on research, teaching, mentoring and other non-clinical tasks or roles.[24]

Fractional work as clinic hours and the implications therein

The implications of fractional appointments focused on clinical work are two-fold and interrelated. First, new volunteer roles emerge, where non-clinical tasks (or those previously considered to be part of clinical work) are undertaken *outside* of paid hours. Second, a form of accelerated medical practice comes to the fore, where there is reduced capacity to develop as a clinician (and person), but also to embark on person-centred approaches to medicine and care. This new mode of practice, emerging from neoliberalism and economic rationalism,[44] shows little consideration for the bigger picture of service provision, care or workforce relations or sustainability. Rather, the

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emphasis, from an institutional or system perspective at least, narrows towards forms of work (and tasks) that can be easily measured and accounted for (e.g. clinic hours, number of patients),[45] while emphasising the virtues of individual flexibility, choice and entrepreneurial freedom.[44] Such a climate may be more attractive for some than others, and what may emerge are new forms of privilege and status within the workforce. At the very least, our findings necessitate a timely (re)consideration of the consequences of fractional work for individuals and professions, particularly when work involves such important tasks as doctoring.

Fractional work, (in)stability, and expectations: a social science perspective

Social scientists have pointed to the dangers of instability in employment, on an individual level (through destabilising a person's identity) and a professional/societal level (by promoting anomie).[46, 47] Anomie, a term introduced by sociologist Emile Durkheim,[48, 49] describes the lack of stability experienced by individuals or groups that results from a breakdown or absence of moral or ethical standards or values, or from a lack of ideals or purpose.. In the context of medical work with hospitals, a lack of norms in terms of professional expectations for employment and career paths/trajectories may signal considerable danger for personal and professional identity and peer support. The findings in this paper support previous work which has emphasised physician empowerment, engagement, community and institutional commitment as associated with physician well-being and the avoidance of burnout[25, 47, 50]. A lack of cohesion or collegiality also has consequences for job satisfaction, burnout, and service delivery.[17, 21, 23, 25, 50, 51]Put simply, well-supported and vocationally engaged clinicians (according to our participants, those experiencing the so-called 'healthy triangle' of clinical work, research and teaching)[24] are likely to be best positioned to provide high-quality care. In turn, clinicians who feel positive about the level of care they are providing have been shown to have greater job satisfaction.[15] Optimising employment conditions and workplace climate to enable high-quality service provision is

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critically important within oncology, given increasing patient numbers and treatment volume intensification.[21,22]

Study Limitations

Our sample, while appropriate in size for a qualitative study, only captures the experiences of a group of self-selected oncologists, in one Australian state. In addition, our study did not assess the extent to which fractional appointments within public Australian health services are increasing. Thus, while participants described increasing fractional appointments (particularly *in place* of full-time opportunities), we cannot make claims, based on our findings, related to broad structural increases in fractional appointments in medical oncology. Nor can we provide evidence as to oncologists' views on what might constitute the *optimal* fraction (for productivity, job satisfaction, patient care and so on), as this was contested and unclear across our participant group. Indeed, for medical oncology, and as has been noted in radiation oncology,[52] there is little available data in the Australia and New Zealand setting around unemployment and/or underemployment, with most information coming anecdotally from those working at the coalface. Further research is needed to assess whether perceptions of proportional growth in fractional appointments within and outside Australian public hospitals are reflected in practice. Perceptions of the fractional load according to full-time equivalent and type of work also requires further research to establish the extent to which part-time jobs are considered attractive, unattractive, or constitute underemployment. Finally, award systems and organisational set up within hospitals varies across (and sometimes within) states and territories in Australia. Further research is needed that takes into account such variation and the implications for experiences of fractional work within and outside medical oncology.

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CONCLUSION

Fractional appointments offer potential flexibility to better suit the needs of the contemporary oncologist, whilst allowing a greater number of qualified trainees to enter the workforce and gain experience within the public system. However, fractional work also presents challenges in terms of the imperative of professional reinvention.[14] Our findings suggest a critical juncture in the evolution of the oncological and medical workforce, where traditional understandings and expectations of what one does as, and what it means to be, a medical oncologist, may be shifting; where possibilities and pressures are not only increasing, but also changing. And where the nexus between job description, physician wellbeing and patient care comes to the fore, particularly for those entering the workforce.[13] Medical oncologists face new challenges, new forms of practice and new pathways of career progression. So too are health services tasked with new challenges around managing workforce satisfaction and sustainability at a time of increased patient volume and intensification within cancer care. Future research into the impacts of changing patterns and demands of work on healthcare service delivery is needed to ensure sustainable provision of quality care.

AUTHOR CONTRIBUTIONS: AB, RH, ZL, DK and EK conceived of and designed the study. EK and AB analysed and interpreted the data. EK, AB and ZL drafted the article; all authors contributed to the development and refining of the article, and approved the final submitted version.

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COMPETING INTERESTS: The authors declare that they have no competing interests.

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ETHICS APPROVAL: This research was performed in accordance with the Declaration of Helsinki. Ethics approval was received from The University of Tasmania Human Research Ethics Committee (Ref: H0014781), and all participants provided written informed consent.

AVAILABILITY OF DATA: Data are available from the Medical Oncology Group of Australia/The University of Tasmania Human Research Ethics Committee, or by contacting the authors, for researchers who meet the criteria for access to confidential data. Ethics approval for this project does not include provision for making full interview transcript data publicly available, so as to preserve participant anonymity. Ethics clearance for the project limits transcript access to only members of the research team. Data will be made available for researchers who meet the criteria for access to confidential data. Requests for data access can be made to Kay Francis, MOGA Executive Officer. Email: kfrancis@moga.org.au.

PATIENT AND PUBLIC INVOLVEMENT: It was not appropriate or possible to involve patients or the public in this work.

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SUPPLEMENTARY MATERIAL
APPENDIX 1: Topic guide indicative questions

Values

- What do you think drew/attracted you to pursue medical oncology as a specialty?
- What sorts of individuals do you think are drawn to medical oncology? [Probe: Ideologies/values in medical oncology as a profession, personal ideologies/values, those relating to medicine more broadly]
- What values drive medical oncology as a specialty, but also, your own approach to practice? What are the personal qualities you bring to the profession that you think are important? [Probe: What is the practice of medical oncology like? How does medical oncology as a specialty meet/fulfil your values as a healthcare professional?]
- What do you think are the contributions medical oncology makes in cancer service delivery/treatments? [Probe: How is it different to other specialties?]

Roles and everyday practice

- Are there unique aspects to your particular role (specialty) or organisational context (public/private) that affect your experience of working with colleagues, patients?
- How do you negotiate/reconcile with what you want to do/achieve as a medical oncologist and any structural limitations/reality of what you can do?
- Can you give some examples about what it's like for you/your experiences of working with patients living with cancer/their families?
- What are the (more common) issues you have to negotiate/address with your patients/their families? [Probe: expectations of patients and families, managing expectations, managing interpersonal relationships]
- What strategies have you developed to talk about/communicate with patients/their families in terms of breaking bad news or talking about death and dying (for example)? [Probe: development of strategies, on the job training/experience, mentoring, formal training]
- Can you give some examples on how you manage the more challenging aspects of your role and the emotional impact that they might have on you?

Reflections on the profession

- What support/resources you think are given to and needed by medical oncologists in meeting the demands of their clinical practices?
- How would you describe the structure of the profession in terms of its support of newer/advanced-trainees in medical oncology?
- What are your experiences with regards to receiving/giving mentoring, professional support and development? [Probe: approaches to mentoring; meanings/importance of professional support]
- What denotes the qualities of a good future oncologist?
- How different do you think your work is now compared with that early on in your career? How? Why? /How different do you think your work will be as you advance in your career? How? Why?
- Has the profession changed/evolved over the course of your career, and if so, in what ways and to what extent?

- Is there anything else about your experience as a medical oncologist you think hasn't been covered/covered adequately or you want to reiterate?

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Reporting checklist for qualitative study.

Based on the SRQR guidelines.

Instructions to authors

Complete this checklist by entering the page numbers from your manuscript where readers will find each of the items listed below.

Your article may not currently address all the items on the checklist. Please modify your text to include the missing information. If you are certain that an item does not apply, please write "n/a" and provide a short explanation.

Upload your completed checklist as an extra file when you submit to a journal.

In your methods section, say that you used the SRQR reporting guidelines, and cite them as:

O'Brien BC, Harris IB, Beckman TJ, Reed DA, Cook DA. Standards for reporting qualitative research: a synthesis of recommendations. Acad Med. 2014;89(9):1245-1251.

		Reporting Item	Page Number
	#1	Concise description of the nature and topic of the study identifying the study as qualitative or indicating the approach (e.g. ethnography, grounded theory) or data collection methods (e.g. interview, focus group) is recommended	**4-5**
	#2	Summary of the key elements of the study using the abstract format of the intended publication; typically includes background, purpose, methods, results and conclusions	**2**
Problem formulation	#3	Description and signifcance of the problem / phenomenon studied: review of relevant theory and empirical work; problem statement	**3-4**
Purpose or research question	#4	Purpose of the study and specific objectives or questions	**4**
Qualitative approach and research paradigm	#5	Qualitative approach (e.g. ethnography, grounded theory, case study, phenomenolgy, narrative research) and	**4-5**

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		guiding theory if appropriate; identifying the research paradigm (e.g. postpositivist, constructivist / interpretivist) is also recommended; rationale. The rationale should briefly discuss the justification for choosing that theory, approach, method or technique rather than other options available; the assumptions and limitations implicit in those choices and how those choices influence study conclusions and transferability. As appropriate the rationale for several items might be discussed together.	
Researcher characteristics and reflexivity	#6	Researchers' characteristics that may influence the research, including personal attributes, qualifications / experience, relationship with participants, assumptions and / or presuppositions; potential or actual interaction between researchers' characteristics and the research questions, approach, methods, results and / or transferability	**5**
Context	#7	Setting / site and salient contextual factors; rationale	**5 -7**
Sampling strategy	#8	How and why research participants, documents, or events were selected; criteria for deciding when no further sampling was necessary (e.g. sampling saturation); rationale	**5**
Ethical issues pertaining to human subjects	#9	Documentation of approval by an appropriate ethics review board and participant consent, or explanation for lack thereof; other confidentiality and data security issues	**4-5, 18**
Data collection methods	#10	Types of data collected; details of data collection procedures including (as appropriate) start and stop dates of data collection and analysis, iterative process, triangulation of sources / methods, and modification of procedures in response to evolving study findings; rationale	**4-6**
Data collection instruments and technologies	#11	Description of instruments (e.g. interview guides, questionnaires) and devices (e.g. audio recorders) used for data collection; if / how the instruments(s) changed over the course of the study	**5**
Units of study	#12	Number and relevant characteristics of participants, documents, or events included in the study; level of	**5-7**

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		participation (could be reported in results)	
Data processing	#13	Methods for processing data prior to and during analysis, including transcription, data entry, data management and security, verification of data integrity, data coding, and anonymisation / deidentification of excerpts	**5-6**
6Data analysis	#14	Process by which inferences, themes, etc. were identified and developed, including the researchers involved in data analysis; usually references a specific paradigm or approach; rationale	**5-6**
Techniques to enhance trustworthiness	#15	Techniques to enhance trustworthiness and credibility of data analysis (e.g. member checking, audit trail, triangulation); rationale	**5-6**
Syntheses and interpretation	#16	Main findings (e.g. interpretations, inferences, and themes); might include development of a theory or model, or integration with prior research or theory	**6-16**
Links to empirical data	#17	Evidence (e.g. quotes, field notes, text excerpts, photographs) to substantiate analytic findings	**6-14**
Intergration with prior work, implications, transferability and contribution(s) to the field	#18	Short summary of main findings; explanation of how findings and conclusions connect to, support, elaborate on, or challenge conclusions of earlier scholarship; discussion of scope of application / generalizability; identification of unique contributions(s) to scholarship in a discipline or field	**14-17**
Limitations	#19	Trustworthiness and limitations of findings	**16-17**
Conflicts of interest	#20	Potential sources of influence of perceived influence on study conduct and conclusions; how these were managed	**17**
Funding	#21	Sources of funding and other support; role of funders in data collection, interpretation and reporting	**17**

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