BMJ Open

Interactions between Australian cancer physicians and the pharmaceutical industry: a qualitative study

Adrian M J Pokorny ,[1,2] Lisa A Bero ,[1,3] Peter Fox,[4,5] Deme J Karikios,[6] Eliza J McEwin,[1] Ray Moynihan,[1,7] Barbara Mintzes [1]

To cite: Pokorny AMJ, Bero LA, Fox P, *et al*. Interactions between Australian cancer physicians and the pharmaceutical industry: a qualitative study. *BMJ Open* 2023;**13**:e065719. doi:10.1136/bmjopen-2022-065719

► Prepublication history and additional supplemental material for this paper are available online. To view these files, please visit the journal online (http://dx.doi.org/10.1136/bmjopen-2022-065719).

Received 17 June 2022
Accepted 07 May 2023

For numbered affiliations see end of article.

Correspondence to
Dr Adrian M J Pokorny;
apokorny@uni.sydney.edu.au

ABSTRACT

Objectives To understand how and why Australian cancer physicians interact with the pharmaceutical industry.

Design Qualitative study using semistructured interviews, performed by a medical oncologist. Thematic analysis using a combination of deductive and inductive codes.

Setting Given the evidence on industry influences on clinical practice and the importance to the market of oncology drugs, we sought to better understand cancer physicians' experiences. Practising consultant medical oncologists and clinical haematologists from four Australian states were interviewed over Zoom.

Participants 16 cancer physicians were interviewed between November 2021 and March 2022, from 37 invited (response rate 43%). Most were medical oncologists (n=12 of 16, 75%) and male (n=9 of 16, 56%).

Outcome measures The analysis of all interviews was based on grounded theory. Transcripts were coded and then codes formed into themes with supporting quotes. The themes were then placed into categories, used to describe the broad areas into which the themes could be grouped.

Results Six themes were identified that fell within two broad categories: cancer physicians' *views and experiences of interactions* and *management of these interactions*. Views and experiences included: the transactional nature of relationships, risks of research dependence, ethical challenges and varied attitudes based on interaction type. Management themes included: lack of useful guidance and reduced interactions during the COVID-19 pandemic. These led to an overarching seventh theme, on the desire for a 'middle road'. Cancer physicians identified the transactional nature of industry relationships and felt uncomfortable with several types of interactions, including those with sales representatives. Most wanted less contact with industry, and the forced separation that occurred with the COVID-19 pandemic was generally welcome.

Conclusions Cancer physicians may have difficulty balancing the perceived need to interact with industry in modern cancer care while maintaining distance to minimise conflicts of interest. Further research is needed to assess management strategies in this area.

STRENGTHS AND LIMITATIONS OF THIS STUDY

⇒ This study is the first comprehensive qualitative analysis of cancer physicians' experiences interacting with the pharmaceutical industry.
⇒ Preplanned thematic analysis using combination of deductive and inductive codes.
⇒ Interviews with cancer physicians performed by a practising medical oncologist to encourage openness and honesty in discussions.
⇒ Limited to the Australian context.
⇒ Sole interviewer and analysis and predominantly limited to a sole coder.

INTRODUCTION

Relationships between the pharmaceutical industry and physicians are widespread globally. These relationships inherently create conflicting priorities; physicians may perceive interactions with industry as a way to learn about new drugs, with an aim to provide the best possible treatment for their patients, while the commercial imperative of industry representatives is to sell their products.[1]

In this study, we define cancer physicians as medical oncologists and clinical haematologists. For industry, the motivation to interact with cancer physicians is high. Anticancer drugs are more lucrative to industry than any other therapeutic group, and this is an area of rapid drug development, with both the numbers and market share of cancer drugs increasing as a proportion of total pharmaceutical revenue.[2 3]

Physicians' relationships with industry are important to understand, as industry financing can lead to both poorer prescribing practices and bias in research.[4] In cancer care, this is of utmost concern: cancer is the second leading cause of death in the USA and contributed 18% of the burden of disease in Australia in 2018.[5 6] Additionally, for many newer available cancer treatments, there is no evidence of survival benefits as compared with existing options.[7 8] Industry-led trials are at the forefront of clinical cancer research and although not all new drugs have therapeutic advantages, a number of new cancer

treatments that have been developed within the last couple of decades have been genuine breakthroughs.[9 10] In the context of the preponderance of industry-funded studies, some form of working relationship with industry, such as a role as an investigator in industry-funded trials, is therefore inevitable for most cancer physicians.

Previous research suggested that Australian cancer physicians interact with industry frequently, and that the majority had at some point received non-research payments from industry.[11] The motivations behind these interactions, however, are poorly understood. For physicians other than cancer specialists, these relationships were last analysed in Australia in 2006 in a qualitative interview study.[12] Physicians' views varied on the potential risks and benefits of interactions with industry. They largely saw themselves as competent to manage these relationships and relied on their own moral compasses, with large individual variation in the types of interactions deemed to be acceptable. A 2014 Japanese interview study found that physicians' attitudes tended to change over time as their careers progressed and they gained more experience of interactions with sales representatives, but this did not necessarily flow into altered behaviour.[13]

To our knowledge, no previous study has specifically explored the relationships between cancer physicians and the pharmaceutical industry. It is therefore unknown to what extent cancer physicians choose to maintain contact with industry, including both financial interactions, such as receiving gifts and payments, and non-financial interactions, such as meeting regularly with sales representatives. Nor is it known how they perceive these relationships and why they maintain them. The aim of this study was to understand how and why Australian cancer physicians interact with industry.

METHODS

Design and participants

We performed a qualitative analysis of in-depth, semi-structured interviews with practising Australian consultant cancer physicians, reported in line with Consolidated Criteria for Reporting Qualitative Research guidelines (online supplemental appendix 1).[14] Development of the interview guide was based on topics raised in responses to a previous survey of Australian cancer physicians.[11] Survey respondents were also invited to leave their details if they wished to be contacted to participate in a later interview study. Of 116 survey respondents, 39 agreed to be contacted. Following exclusion of trainees and coworkers of the lead researcher, 37 potential participants were identified, all of whom were invited to participate.

Potential participants were emailed once and provided with a Participant Information Statement. Of the 37 people contacted, 18 agreed to an interview, 2 asked to be recontacted but did not respond to further queries, 1 declined upfront and 16 did not respond. Those who responded were asked to complete a consent form prior to arranging an interview using the Zoom platform on the University of Sydney secure server. Zoom has previously been considered a useful and effective platform to perform qualitative interviews.[15] Sixteen interviews were ultimately completed after contact was lost with two potential participants, resulting in an ultimate response rate of 43% of those contacted.

Interview process

As noted above, interview questions were developed based on responses to an earlier survey[11] and were further revised in discussions among all the researchers. These were intended as a guide to encourage flowing conversation around issues, rather than be prescriptive (online supplemental appendix 2).

A single researcher (AMJP) carried out all interviews and also had sole access to the recruitment list. Interviews were recorded with both video and sound, then transcribed verbatim and de-identified by AMJP, prior to distribution back to the interviewees for confirmation. Original recordings were then destroyed.

Participant involvement

Aside from confirming the content of the interview transcriptions, participants were not involved in the design or analysis of the study.

Patient and public involvement

Neither patients nor the general public were involved in the design, conduct or analysis of the study.

Analysis

Deductive codes, which had emerged from the results of the prior survey, were used initially,[11] as well as codes that were based on two previous studies on this topic (online supplemental appendix 3).[12 16] Inductive codes were also developed based on the interviewee responses. Two researchers with postgraduate training in qualitative analysis but different clinical backgrounds (AMJP and EJM) initially independently coded two interviews to ensure inter-reviewer reliability and allow for reflexivity, with differences resolved through discussion, after which coding was performed exclusively by AMJP. Codes were formed into themes using Braun and Clarke's six-step process: (1) data familiarisation, (2) code generation, (3) theme searching, (4) theme reviewing, (5) theme naming and definition and (6) report production.[17] Analysis of themes was based on grounded theory.[18] Data were managed using NVivo V.1.6.1 (QSR International, Melbourne, Australia).

Reflexivity

Three authors are practising medical oncologists in Australia (AMJP, PF and DJK), and four are researchers (BM, RM, LAB and EJM) with a background in research integrity and industry influence on health and healthcare. All the oncologist authors have contact with the pharmaceutical industry through drug access programmes and clinical trials. Two of these authors do not meet with sales representatives or attend sponsored educational events

in person (AMJP and PF), while the third has received speaker fees from a company within the last year (DJK). None of the researcher authors (BM, RM, LAB and EJM) have any financial ties with industry.

Prior to commencing the interview, each participant was informed of the varied levels of industry interactions of the researchers, with the overall neutrality of the team emphasised. Participants were encouraged to be open and honest, with the intention of the research being to understand their experiences, rather than hold preconceived judgements.

RESULTS

Sixteen interviews were completed between November 2021 and March 2022. Participant characteristics are described in table 1. The median interview duration was 39.5 min (range 29–53 min).

After coding each transcript, we developed six key themes that fell into two categories. An overarching theme (*desire for a 'middle road'*) then emerged from these two categories. Figure 1 shows the relationships between each theme. Some codes contributed to more than one theme within a category, and the two categories led to the overarching theme. Illustrative quotes attributable to each theme are shown in tables 2 and 3, box 1, with the themes discussed in detail below.

Table 1 Participant characteristics (N=16)

Characteristic	n (%)
Specialty	
Medical oncology	12 (75)
Clinical haematology	6 (25)
Gender	
Female	7 (44)
Male	9 (56)
State	
NSW	9 (56)
VIC	4 (25)
SA	2 (13)
QLD	1 (6)
Primary practice setting	
Urban	11 (69)
Regional/remote	5 (31)
Years as specialist	**Median (range)**
	9 (1–38)

NSW, New South Wales; QLD, Queensland; SA, South Australia; VIC, Victoria.

Category I: views and experiences of interactions

Transactional nature of relationships

Access programmes, clinical trials and advisory boards

Participants generally identified the transactional nature of all relationships with industry, with all beneficial relationships interpreted as having significant caveats. This was considered most pertinent in the context of access programmes, with some participants only maintaining contacts with industry for this purpose: '…that relationship [with industry] for the odd patient where you want to try and get access to drugs that you can't get otherwise' (participant (P)14).

In Australia, cancer drugs found to be acceptably cost-effective are publicly funded under the Pharmaceutical Benefits Scheme, with patients required to pay a co-payment. Access programmes may allow unfunded medicines to be prescribed at either no cost to patients or at a discount on the retail price, with patients being required to contribute a co-payment. While interviewees saw these access programmes as generally beneficial for patients, required co-payments were often considered exorbitant and put cancer physicians in an awkward position with their patients. One noted that companies 'weren't generous' (P7). The opaque nature of these programmes was also seen by some as a way of rewarding preferred clinicians who had provided benefits to the companies, such that these clinicians would learn about the existence of programmes prior to anybody else.

Participants also discussed the benefits of these programmes to industry, underscoring their transactional nature. It was clear to most that companies used these programmes to gain useful data and create advocates who could then support the companies' cases for funding of their drugs under Australia's Pharmaceutical Benefits Scheme. This was similarly true for trial involvement or membership of advisory boards within companies, where participants felt there was likely to be just as much benefit to the company as clinicians or patients. One participant noted, for example, that while advisory board membership allowed them to 'interact with people who I greatly respect within my field', they concurrently 'from the point of view of a pharmaceutical company, are probably incredibly potent marketing tools' (P13).

Education

Interactions that are often proffered as beneficial for clinicians were interpreted with some scepticism. The educational role of industry, for example, both in the context of formal meetings and more broadly within medicine, was frequently considered 'overstated' (P6). It was seen as just as likely to benefit companies as clinicians and, accordingly, be potentially detrimental to the latter. Several participants expressed reluctance to attend sponsored education due to inherent biases such as the selection of speakers by sponsors, noting:

> … that's how they censor speakers, basically. They pick people who they know will have a positive viewpoint. (P13)

Sales representatives

Interviewees' scepticism often extended to the role of sales representatives, with some participants noting specific uncomfortable instances when it had become clear that

the relationship was transactional, despite representatives 'trying to be your bestie' (P14). Others noted pragmatically that:

> …[sales representatives] are very pleasant people to interact with, but they are running a business. (P5)

There were exceptions to this, with some other clinicians expressing enjoyment at the social aspect of meeting sales representatives, only acknowledging the likely transactional nature of these interactions as a secondary concern. For example:

> I really enjoy meeting them at third-party events and having social conversations with them. And I like that part of the relationship. (P10)

Research dependence and associated risk

There was a universal acknowledgement by participants of the role industry plays in funding research, though this was connected to an acknowledgement of the risk of bias from industry funding. Most participants identified, either directly or indirectly, that modern cancer research is dependent on the pharmaceutical industry, and no participant was able to see an alternative model for sustainable research funding. The risk of this dependence was clear, with participants noting instances where, for example:

> …the editorial for a large phase 3 trial is actually written by somebody who sits on the advisory board of the funding body. It's impossible to say in that scenario that there's not a level of bias. (P10)

While participants were able to identify impressive drugs that could only have been developed with industry funding, some noted that further funding would be skewed towards 'preferred centres' (P15) and researchers (both in Australia and abroad), based on the strength of relationships with industry, noting:

> No one is publishing in NEJM [*New England Journal of Medicine*] with their little investigator-initiated study, right? So, all of those intangible advantages come from building relationships with them. (P15)

Participants did not discuss why clinicians may need to produce high-impact publications, such as to maintain academic positions. They also did not explicitly discuss the motivation to seek industry assistance to obtain these high-impact publications.

However, participants did report concerns that this funding model meant there were fewer trials focusing on patient care, such as dose reduction studies, studies using older drugs in new contexts or quality-of-life studies. When discussing the 'profit motive' (P16) of industry, one participant noted that these clinical questions would remain unresearched, stating that:

> …that's the problem [with dependence on industry for research funding], is the gaps and holes, and the other questions that are nothing to do with therapeutics. (P16)

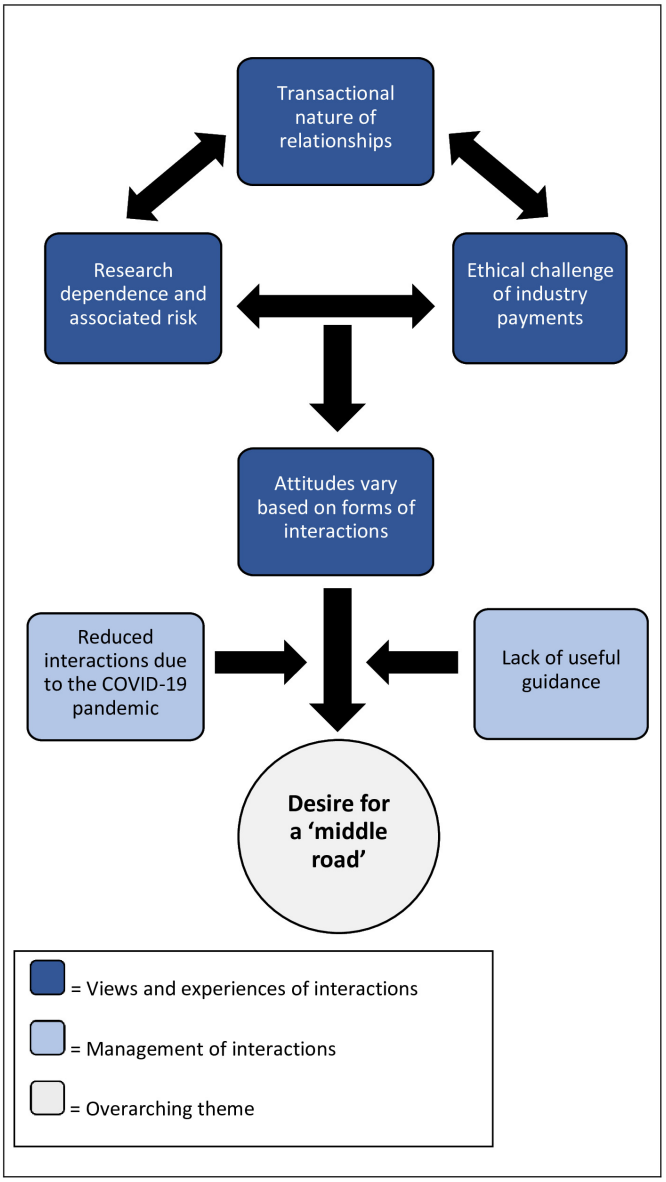

Figure 1 Themes identified and the relationships between them.

Ethical challenge of industry payments

Among all participants, the acceptance of non-research payments from industry was considered 'just a norm that lots of people [do]' (P2). Even for those who refused payments, there was some reluctance to condemn colleagues for doing so for situations that were deemed broadly beneficial to patients, such as membership of advisory boards to guide clinical trial development. In these contexts, participants felt that 'mostly I see people do it in very good faith' (P8), even if in doing so, 'the work [they] do by its nature must be biased in emphasis' (P8).

Conversely, most did not see it as reasonable for industry to be funding travel expenses to attend conferences or

Table 2 Representative quotes for category I: views and experiences of interactions

Transactional nature of relationships	
Access programmes, clinical trials and advisory boards	'…to access drugs that are either off-label or compassionate. Or pseudo-compassionate, I think. Having to stump up $60K for a drug is pretty bad.' (P14) 'I think being in the good books of pharmaceutical companies often can bring trials as well to the Centre.' (P11) '…building relationships with pharma usually means better research opportunities for the institution.' (P15) 'I feel like I learn quite a lot from hearing what's being discussed round the table [of advisory boards). But, you know, I mean they control the agenda, the drug company, in that context, control the agenda.' (P6)
Education	'I'm very cautious about using pharma for education.' (P4) 'Some of those educational meetings… I feel have value, but they're obviously problematic because… there is a bias to the way the information is presented. Some of it's really good information, but there's a bias to it.' (P6) 'I don't see education as a main role, even though it's often zhuzhed up to, you know, they say it's a main role.' (P12)
Sales representatives	'There was one instance where a drug rep just seemed like a really nice lady… and we were pregnant at the same time, and we just had nice conversations… she did try to talk with me about work stuff as well, of course, because that's her job.' (P7) 'I think it's important to be aware that it is a transactional relationship… try and recognise the gain that they are getting out of things.' (P5)
Research dependence and associated risk	
	'They want to run trials that, at the end of the day, expand their market, so de-escalation studies and stopping studies, this sort of stuff, is not in the interests of a drug company.' (P2) 'If you look at the major studies which are published in large journals, it is very hard to find one that is not sponsored by industry.' (P5) 'If the industry or pharmaceutical oversight is such that you don't find out about certain arms because they weren't favourable, financially favourable for the company, then that's hugely problematic.' (P7) 'I think that those interactions mean that the companies have their ear and, in fact, have too much power over the research agendas that are being driven.' (P13)
Ethical challenge of industry payments	
Unreasonable circumstances	'I introduced an international speaker and sat down again and they wanted to pay me $1000. I think that's just excessive, to be honest. I didn't accept, they're ones I just haven't accepted. But I think they're excessive.' (P6) 'I have spoken at a drug company lunch for GPs, and I was given slides to present. And I took about $1000 for it, and I feel like that wasn't commensurate with the work that I put in, and it was the last time that I did it… I did feel really grubby about it for years after, and even now I'm like 's***, I really shouldn't have done that'.' (P3) 'Sometimes they turn out to be an enormously hourly rate, for example, that doesn't seem very justifiable. You know, if you're really reimbursing for time that you've spent away from your private practice, for example, it shouldn't be $25 000 for a morning's work.' (P12)
Reasonable circumstances	'If you've given time to go and sit on an advisory board, then I think it's reasonable that that your time should be reimbursed by the company.' (P1) 'I think that it would hard to justify asking people to voluntary donate their expertise and their ideas to a major pharmaceutical company for no reimbursement.' (P2) 'I'm of the view that if I have spent time at the advisory board, appropriate monetary reimbursement should be made.' (P11) 'My kind of perspective on it is that the payment that they're offering has to be a realistic, in both directions, it has to be a realistic compensation for the time I personally committed to it.' (P13) 'I think pharma needs to pay for my time. So if they ask me a question, advice about clinical practice, or 'what do you guys do for myelofibrosis?', or, you know.' (P15)
Attitudes vary based on forms of interactions	
Clinical trials	'I think the… kind of interaction that we often don't think about, which I think is very important, is interacting with them in a more academic capacity. So, for example, talking about trial planning, trial placement at our centre, which I truly believe would actually benefit our patients.' (P11) 'If there are trials around or investigator-initiated things, you can access, there may be a benefit for you in that interaction.' (P14) 'I'm much more comfortable in my research space… I'm very happy to talk about research.' (P15)

Continued

Table 2 Continued

Access programmes	'…the other reps that I really don't mind and find very helpful, informative about their access program…' (P10) '…the interactions that I'm most comfortable with, it would probably be drug access programs, where patients can access drugs earlier, because that can offer some clinical benefit to the patient in terms of avoiding cost, or funding it themselves.' (P5) '…where there's an access program, I feel there's some value.' (P6)
Sales representatives	'I'm not interested in them when they come and say 'buy my drug', you know, that's just, that's pointless.' (P4) 'There's no time that I'm thoroughly enjoying sitting down and hearing it from the rep. It's often just an excuse to get coffee, if I'm honest.' (P10) 'The pure sales reps, to be honest, I really can't stand them. I hate people coming to talk to me with a slide deck. I hate glossy leave-behinds. I hate emails that look like mass-emails with logo branding and other stuff, I can't stand that kind of stuff.' (P13)

GPs, general practitioners; P, participant.

taking 'a small bunch of doctors out to a very fancy very expensive restaurant' (P1). Even those who had previously accepted these payments were sometimes critical. Indeed, those who had received payments that they felt were not commensurate with the amount of work put in described these with some contrition, such as:

> I haven't accepted any for six or seven years, and part of that is some minor discomfort around [the ethics of accepting payments]. (P6)

It was not clear in these discussions how an appropriate level of compensation should be determined, nor to whom it should be considered appropriate, be they clinicians or patients.

Several participants also described a focus of industry largesse on clinicians deemed 'key opinion leaders':

> They pick the opinion leaders. They pick the people that are then going to go and influence the other people. (P12)

The nature of disclosure of these payments was discussed by participants with an additional level of nuance. Many felt that the Australian public register of industry payments, administered by the industry trade association Medicines Australia,[19] acted as disincentive for receiving payments (being 'not a good look' (P14)), but did not provide sufficient information to be of use. For example, several participants reported passing on their

Table 3 Representative quotes for category II: management of interactions

Lack of useful guidance	
Senior colleagues	'I trained in an institution where my head of department encouraged registrar interactions with the pharmaceutical industry.' (P13) 'I think the fact that my bosses [did] go to drug company dinners and, you know, [ate] very nicely on them, normalised if for me when I was a registrar, and even as a younger consultant.' (P3) 'I don't think it's spoken about, particularly. I don't hear senior colleagues talking about their speaker fees or their honoraria.' (P6)
Ethical guidelines	'Guidelines are fine. [laughs] I don't know that anyone reads them.' (P1) 'I think they are usually compromised, committee documents that nobody reads and just, basically, say facile stuff.' (P8) 'I suspect they would be a huge, long document that no one would read.' (P10) 'Waste of print. I mean, I'm no fan of guidelines at the best of times. I think guidelines are generally used by people who already know what's in the guidelines before they read them. I think guidelines are largely a waste of time.' (P12)
Reduced interactions due to the COVID-19 pandemic	
	'…with COVID, no one was willing to come up and I felt that the phone interactions weren't as helpful … I don't know if I got lazy and I found other ways to spend that hour slot on a Tuesday. So I've actually stopped [seeing sales representatives] in the last year and a half.' (P3) 'I tend to exclusively see, particularly sales reps, via virtual meeting. That's my own practice, and that's been something that's come as a result of the COVID pandemic. Not because I'm worried about getting COVID from them, but that's been a hospital policy since COVID's come. And actually I've found that it's an easier way for me to control my time.' (P6) 'I think the COVID pandemic dampened things down, to my advantage. I don't particularly get anything out of meeting with the commercial side of the pharma industry.' (P11) '…these days in the post-COVID world now that we've got Zoom, I actually much prefer to do that anyway.' (P14)

P, participant.

Box 1 Representative quotes for Overarching theme: Desire for a 'middle road'

'I think we will work with them very closely indefinitely, and I think for each individual practitioner they need to navigate what that looks for them and where their moral compass is happy in the transactional part of the relationship.' (P10)

'I think both extremes of opinion [in] this matter, which [are], 'I never talk to pharma, I never have any interactions with pharma reps', and on the other spectrum, 'there's no problem, la la la, I'm an independent thinker.' I think both those approaches are completely wrong. And there is actually a happy medium, and it's about how do we navigate that particular pathway?' (P13)

'No one can cure cancer or disease alone without the corporate or industrial world. We need to learn how to engage in an open, honest and mature way, rather than this, really, this dichotomy of good and bad.' (P15)

payments to their institution if the remunerated activity occurred during work hours. This was not considered in company reports recorded in the register; some felt that 'there's a big difference' (P11) as this was seen as a way of mitigating any ethical dilemma and, further, providing financial benefit to their institution.

Attitudes vary based on forms of interactions

Approaches to interactions reflected the participants' interpretation of each interaction's value. The most frequent forms of interactions discussed were clinical trials, access programmes and meetings with sales representatives. The findings of the three prior themes—on the transactional nature of relationships, research dependence and ethical risks—informed the development of this theme.

Clinical trials

Universally, participants expressed confidence in participating in clinical trials run by the pharmaceutical industry. This reflected the willingness of industry to be involved in research, as:

> …negotiating for more funding with a pharma company is easier because they have more money… (P1)

This was generally seen as a core aspect of participants' jobs. Industry's role in research was highly valued, and accessing trials was seen as 'extremely important' (P13), discussed further below. This was reflected by the confidence clinicians showed in approaching discussions around research.

Access programmes

Similarly, participants frequently expressed confidence in their interactions around compassionate drug access programmes, with most stating that they:

> …from time to time, will directly approach representatives of the pharmaceutical companies requesting for compassionate access to their drugs. (P2)

While some expressed scepticism about both the putative compassionate nature of these programmes and their opacity, as discussed in our first theme '*Transactional nature of relationships*', no participants felt that access programmes were inappropriate, and most demonstrated confidence in using them, although with understandable difficulties around discussing the co-payments with patients.

Sales representatives

Conversely, there were varying levels of comfort around interactions with sales representatives. Some felt confident in their ability to interact with sales representatives, while others would 'usually avoid' (P15) these relationships, or 'just say no' (P7) to meeting with them. Regardless, almost all participants questioned the value of sales representatives, with only a minority sensing any value in their role, and some finding the approach of representatives in building profiles about clinicians 'really weird' (P6) or invasive. One participant noted that:

> They collect information about who's affiliated with whom, who's married to whom, and then you get these kinds of comments that come out years down the track, and I found that was, I was peeved by that, actually. (P14)

Because of this, most went out of their way to evade sales representatives at least some of the time, noting that they 'don't find [them] very valuable' (P16) or that they 'barely have time for those meetings' (P10). The only situations in which sales representatives were seen as beneficial related to discrete periods of solo practice, in which information might be brought to the attention of a clinician that made them think, for example, 'I didn't actually know that I could [prescribe a given drug] for X cancer' (P3). However, this was still met with ethical concern, noting 'that's another discomfort that I have with [sales representatives], knowing that I could potentially be impacting my practice [negatively],' (P3) leading that participant to state they've 'weaned off them' (P3).

Category II: management of interactions

Lack of perceived useful guidance

Participants were asked to discuss the role of both ethical guidelines and senior colleagues in managing interactions with industry. Most participants felt that ethical guidelines had little if any value. Even among those who felt they were useful, none had read any guidelines. This was despite the existence of ethical guidelines around industry interactions produced by the Australian Medical Association, the Royal Australasian College of Physicians and the industry association, Medicines Australia.[20–22] Some participants felt that the guidelines were patronising or written as 'rules to treat us like Kindergarten kids' (P11), while others noted that in the absence of regulation, guidelines were likely to remain inconsequential.

Most participants acknowledged that senior colleagues influenced more junior practitioners. Despite some

participants describing positive experiences in this regard, others felt that this could be detrimental, as:

> …juniors probably have a better understanding about the ethical issues … than the senior colleagues. (P1)

Additional education was also not consistently seen as a solution, though several participants felt there should be more discussions about industry interactions during training.

Reduced interactions due to the COVID-19 pandemic

This study was conducted during the COVID-19 pandemic. Many participants discussed the pandemic's effects on these interactions during the interviews. Primarily, participants described COVID-19, and the associated travel restrictions, lockdowns and cancellation of in-person conferences, as providing a welcome buffer between them and industry. It inherently reduced the ability of sales representatives to visit cancer physicians, given:

> …that they're finding it a lot more difficult to sort of reach people at this moment. (P2)

Several participants expressed this as a relief, particularly among those who tended to avoid these interactions at a baseline. The COVID-19 pandemic was perceived as a 'natural experiment' to exclude sales representatives from cancer physicians' practices, with no participant reporting this as detrimental to either them or their patients.

Participants did not discuss the role of online scientific meetings during the COVID-19 pandemic, nor how the shift to online meetings may have affected industry's influence on content and ability to interact with attendees.

Overarching theme: desire for a 'middle road'

Desire for a 'middle road'

An overarching theme that emerged was the desire for a 'middle road' in managing these interactions, with all participants describing a nuance in their industry relationships. While participants were able to identify risks or potentials for harm arising from industry interactions, several described the presence of industry in cancer care as a 'necessary evil' (P1, P4, P13, P14). This referred in particular to industry's fundamental role in drug development and distribution.

In general, participants were able to identify some relationships that were unnecessary or unacceptable, such as meeting with sales representatives or receiving excessive remuneration for services, as well as others that were seen as necessary, such as participation in clinical trials and access programmes. The concept of a 'middle road' appeared to be an ethically acceptable navigation of the myriad interactions possible.

Several participants proposed alternatives to the current industry funding structure that may reduce the risk of bias among recipients. A common proposition was a mixed pool of funding that could be administered and distributed independently of industry. In addition, participants expressed a desire to obtain the benefits of industry interactions, such as drug access programmes, without needing to develop uncomfortable relationships, such as with sales representatives.

DISCUSSION

Key findings

Although interactions between Australian cancer physicians and the pharmaceutical industry occur frequently and are in many ways seen as integral to clinical practice, there remained a feeling of unease about specific types of interactions. Some interactions, such as involvement in industry-sponsored research and using access programmes to obtain new drugs for patients, were seen positively. Conversely, interactions where the benefit to the company was much clearer than any benefit to either the involved practitioner or their patients were seen negatively.

This distinction was best observed in participants' views on sales representatives and payments from industry. Most participants interpreted both meeting sales representatives and receiving payments as reasonable if there was a recognisable benefit for patients and, for payments, if the amount received was commensurate with the work involved. When the focus of an industry representative was purely sales, or when payments to a clinician were seen as clearly excessive, participants expressed discomfort or, in some circumstances, overt disapproval. The exact reason for this discomfort was not made clear by participants. No interviewee explicitly articulated whether such meetings provoked an ethical contest per se, but this seems plausible based on their approaches to other forms of interaction.

Some of our themes broadly reflect previous research in this area for other populations. An interview study of Australian patient groups' interactions with industry highlighted the transactional nature of these relationships.[23] Similarly, a study of Irish general practitioners found frequent discomfort around sales interactions.[16] In addition, the framing of interactions that benefit patients as altruistic and therefore without ethical contest is consistent with focus groups with primary care physicians in the USA, France and Canada.[24] However, unlike other groups, cancer physicians in our study may feel they need to maintain relationships with industry to conduct clinical trials or access unfunded drugs while concurrently feeling discomfort about other interactions. The predominance of oncology as a therapeutic area for both drug access programmes and clinical trials has been established previously.[25 26]

Participants frequently dismissed ethical guidelines as a strategy to navigate these interactions. At times, these guidelines were met with open hostility and seen as out of touch with the system in which cancer physicians work. This attitude did not necessarily reflect familiarity with the guidelines' provisions as no participant discussed having

read any guidelines; most assumed that their contents would be unacceptably restrictive. There was therefore no consideration that ethical guidelines could be either inadequate or even flawed in endorsing problematic relationships with industry.

Several participants discussed how the COVID-19 pandemic has forced distance from industry, eliminating, although transiently, many of the interactions that were seen as challenging. This was expressed with relief, suggesting that the pandemic has provided a real-world experience of separation from industry. Notably, this dissolution of non-essential contact was not seen as detrimental to patients and, instead, was felt to be a positive experience for cancer physicians.

It follows, then, that there was a clear feeling of discontent with the current state of industry relationships. Among the minority of participants with particularly positive experiences, there was minimal understanding of the marketing intent of sales representatives.[27] Yet, even for those who felt confident about their interactions, there were issues identified that could be improved upon or that made these clinicians feel uncomfortable or disparaged by industry. We found, in this way, that some interactions with cancer physicians occur reluctantly and with discomfort on the part of the clinician, and changes could occur to improve these while maintaining benefits for patients.

The attitudes expressed in this study were broadly similar to our previous survey of Australian cancer physicians,[11] but in the setting of a qualitative interview, participants were able to expand on their motivations and responses. For example, while we previously determined that most Australian cancer physicians would accept industry payments or funding at some point, we have now shown that the perceived appropriateness of these payments varies based on the perceived benefit to patients or the extent of work being remunerated. Further, while we previously showed frequent interactions between industry and Australian cancer physicians, this study assessed the reasons for and responses to these relationships. We now have a deeper understanding of interactions between cancer physicians and industry, noting circumstances, such as the presence of sales representatives, which are perceived as having little if any value in practice, and others, such as involvement in clinical trials, which are considered beneficial for patients.

A previous study by Doran *et al* classified Australian internal medicine physicians into avoiders, confident engagers and ambivalent engagers when interacting with the pharmaceutical industry.[12] Similarly, a study by Larkin *et al* on Irish general practitioners described reluctant meeters, anti-meeters and eager meeters.[16] By focusing specifically on cancer physicians, we found that these categories were not applicable, primarily due to the large number of different interactions that cancer physicians report having with industry.[28] Our study created new categories, reflective of the unique challenges faced by cancer physicians in navigating industry interactions.

Strengths and limitations

To our knowledge, this is the first qualitative study of cancer physicians looking specifically at their relationships with industry. As cancer drugs provide more profit to industry than any other therapeutic group, and increasingly so with an expanding range of medicines, it is vital to understand the interactions of this group of prescribing clinicians. The results of our study may therefore be useful in shaping policies to manage these interactions effectively.

As with all qualitative studies in this area, there is a risk that the extent of relationships with industry will be incompletely disclosed due to social desirability bias, particularly with the interviewer being a colleague. However, interviewees may conversely have been more open with a fellow cancer physician, which seems likely based on the breadth of disclosures discussed, so this may be seen as a strength of our study. Using only one author for the majority of coding and thematic development may also bias our results.

Another limitation is that our sampling was restricted by the limited pool of those who offered to be contacted in a previous study.[11] This also does not appear to have affected our results in a negative way, as a broad range of opinions and experiences were discussed, to the point that saturation was met.

Meaning of results

As discussed, the overarching theme within these interviews was a desire among cancer physicians for a 'middle road' in navigating interactions, indicative of some level of internal contest, as has been suggested in previous studies.[12] While participants frequently expressed feelings of discontent, they also frequently expressed the need to maintain some connection with industry. Despite this, it was clear that clinicians felt uncomfortable with the current state of these relationships, even when expressing confidence in their own ability to manage interactions.

Two issues particularly reflected this. First, several participants described passing payments from industry on to their institutions, with the implication being that they were therefore absolved of influence. In doing so, however, these clinicians ignored the less tangible aspects associated with payments from industry, such as the formation of an ego-boosting relationship with industry and the professional status gain that may exist from redistributing payments to one's institution. They did not consider the risk of influence from building these relationships over time, regardless of the setting or direct financial benefit.

Second, when discussing the potential influence industry interactions may have on prescribing, some participants deferred to the protective role of the Pharmaceutical Benefits Scheme, which independently determines public funding of medicines in Australia. However, this may be seen as a form of diffused responsibility or bystander effect, where individuals may assume responsibility is attributed to others.[29] In doing so, clinicians discounted the increasing competition within classes of

drugs available on the Pharmaceutical Benefits Scheme, the ethical issues of partially funded access programmes and the possibility of skewed research findings that may negatively affect patient care. It is conceivable that such a diffusion arose from an avoidance of internal contest.

The best way to manage interactions remained unclear, but the total disregard for ethical guidelines was notable, suggesting a need for regulation of these relationships. This study has provided another example of the limits of self-regulation, supporting previous research suggesting regulatory solutions are likely to be more effective at limiting the influence of pharmaceutical and other corporations on clinical practice than voluntary processes.[30 31] One of our key study findings was participants' lack of attention and contempt for ethical guidelines. Given these attitudes, it seems unlikely that strengthened ethical guidelines or further education on their use would alter behaviour. Assessment of the effectiveness of similar types of interventions in other physicians is limited.[32]

Implications for further research

This study has identified several areas that could be altered to improve relationships between industry and cancer physicians. This may include the removal of sales representatives as a presence in clinicians' lives, or the creation of a centralised database of drug access programmes independent of industry control. Medicines Australia is preparing to launch a database of access programmes in Australia, though it remains to be seen how comprehensive this will be or whether the link between individual companies and clinicians will be broken, given that this programme remains industry controlled.[33]

As discussed, the COVID-19 pandemic provided a real-world experiment of reduced contact with industry, and future research should concentrate on the purposeful introduction of similar policies to assess how physicians respond. Based on our analysis, it seems likely these changes would be welcomed by clinicians, although perhaps not by industry.

CONCLUSIONS

Australian cancer physicians have numerous interactions with industry, with attitudes towards these interactions usually reflecting their perceived benefits for patients, but frequent discomfort expressed with some forms of interactions. Most clinicians could identify interactions they felt were problematic, and there was a general desire for a 'middle road' approach to managing these. More research is needed to determine the acceptability of potential management strategies to clinicians.

Author affiliations
[1]Faculty of Medicine and Health, The University of Sydney, Sydney, New South Wales, Australia
[2]Department of Medical Oncology, Alice Springs Hospital, Alice Springs, Northern Territory, Australia
[3]Center for Bioethics and Humanities, University of Colorado–Anschutz Medical Campus, Denver, Colorado, USA
[4]Central West Cancer Care Centre, Orange Health Service, Orange, New South Wales, Australia
[5]School of Medicine, Western Sydney University, Orange, New South Wales, Australia
[6]Department of Medical Oncology, Nepean Hospital, Kingswood, New South Wales, Australia
[7]Faculty of Health Sciences and Medicine, Bond University, Robina, Queensland, Australia

Contributors AMJP designed the study, undertook recruitment of participants, conducted and transcribed all interviews, extracted the data, performed the initial qualitative analysis, wrote the draft manuscript and accepts overall responsibility for the study as its guarantor. EJM assisted with coding two interviews. AMJP, LAB, PF, DJK, EJM, RM and BM contributed to the interview questions, final qualitative analysis and manuscript revisions, and approved the final manuscript.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests DJK has received speaker fees from Merck Sharp & Dohme in the past 2 years. In 2020, BM acted as an expert witness for Health Canada in a legal case related to marketing of an unregistered product in Canada. There are no other conflicts to declare.

Patient and public involvement Patients and/or the public were not involved in the design, or conduct, or reporting, or dissemination plans of this research.

Patient consent for publication Not required.

Ethics approval This study involves human participants and was approved by the University of Sydney Human Research Ethics Committee (project no. 2020/689). Participants gave informed consent to participate in the study before taking part.

Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement No data are available.

ORCID iDs
Adrian M J Pokorny http://orcid.org/0000-0002-6987-0499
Lisa A Bero http://orcid.org/0000-0003-1893-6651
Barbara Mintzes http://orcid.org/0000-0002-8671-915X

REFERENCES

1 Komesaroff PA, Kerridge IH. Ethical issues concerning the relationships between medical practitioners and the pharmaceutical industry. *Med J Aust* 2002;176:118–21.
2 Meyers DE, Meyers BS, Chisamore TM, *et al*. Trends in drug revenue among major pharmaceutical companies: A 2010-2019 cohort study. *Cancer* 2022;128:311–6.
3 Waters R, Urquhart L, eds. *World Preview 2019, Outlook to 2024*. London, UK, 2019.
4 Pokorny AMJ, Fabbri A, Bero LA, *et al*. Interactions with the pharmaceutical industry and the practice, knowledge and beliefs of medical Oncologists and clinical Haematologists: a systematic review. *Br J Cancer* 2022;126:144–61.
5 Siegel RL, Miller KD, Fuchs HE, *et al*. Cancer statistics, 2021. *CA Cancer J Clin* 2021;71:7–33.
6 Australian Institute of Health and Welfare. *Cancer in Australia 2021*. Canberra: AIHW, 2021: 144.

7 Davis C, Naci H, Gurpinar E, *et al*. Availability of evidence of benefits on overall survival and quality of life of cancer drugs approved by European medicines agency: retrospective cohort study of drug approvals 2009-13. *BMJ* 2017:j4530.
8 Shahzad M, Naci H, Wagner AK. Estimated Medicare spending on cancer drug indications with a confirmed lack of clinical benefit after US food and Drug Administration accelerated approval. *JAMA Intern Med* 2021;181:1673–5.
9 Linker A, Yang A, Roper N, *et al*. Impact of industry collaboration on randomised controlled trials in oncology. *Eur J Cancer* 2017;72:71–7.
10 Ling SP, Ming LC, Dhaliwal JS, *et al*. Role of Immunotherapy in the treatment of cancer: A systematic review. *Cancers (Basel)* 2022;14:5205.
11 Pokorny AMJ, Moynihan R, Fox P, *et al*. Australian cancer physicians and the pharmaceutical industry: A survey of attitudes and interactions. *JCO Oncol Pract* 2022;18:e1154–63.
12 Doran E, Kerridge I, McNeill P, *et al*. Empirical uncertainty and moral contest: a qualitative analysis of the relationship between medical specialists and the pharmaceutical industry in Australia. *Soc Sci Med* 2006;62:1510–9.
13 Saito S, Mukohara K, Miyata Y, *et al*. Chronological changes in Japanese physicians' attitude and behavior concerning relationships with pharmaceutical representatives: a qualitative study. *PLoS ONE* 2014;9:e106586.
14 Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *Int J Qual Health Care* 2007;19:349–57.
15 Archibald MM, Ambagtsheer RC, Casey MG, *et al*. Using zoom Videoconferencing for qualitative data collection: perceptions and experiences of researchers and participants. *International Journal of Qualitative Methods* 2019;18:160940691987459.
16 Larkin J, Pericin I, Collins M, *et al*. Gps' perceptions of their relationship with the pharmaceutical industry: a qualitative study. *BJGP Open* 2021;5:BJGPO.2021.0057.
17 Braun V, Clarke V. Using thematic analysis in psychology. *Qualitative Research in Psychology* 2006;3:77–101.
18 Walker D, Myrick F. Grounded theory: an exploration of process and procedure. *Qual Health Res* 2006;16:547–59.
19 Centralised reporting system for medicines Australia member companies' payments and transfers of value to Healthcare professionals Deakin ACT: medicines Australia. 2022. Available: https://www.disclosureaustralia.com.au/ [Accessed 1 Apr 2022].
20 Canberra ACT. Doctors' relationships with industry 2018. Australian Medical Association; 2018. Available: https://www.ama.com.au/position-statement/doctors-relationships-industry-2018 [Accessed May 2022].
21 Komesaroff P. *Guidelines for ethical relationships between health professionals and industry, (Chair*). Sydney, Australia: Royal Australasian College of Physicians, 2018.
22 Deakin, ACT. Code of conduct. In: . 19th edn. edn. Medicines Australia, 2019. Available: https://www.medicinesaustralia.com.au/wp-content/uploads/sites/65/2020/11/20200108-PUB-Edition-19-FINAL.pdf [accessed May 2022].
23 Parker L, Fabbri A, Grundy Q, *et al*. Asset Exchange"-Interactions between patient groups and pharmaceutical industry: Australian qualitative study. *BMJ* 2019:l6694.
24 Reynolds E, Guénette L, Lexchin J, *et al*. Reconciling a "pleasant exchange" with evidence of information bias: A three-country study on pharmaceutical sales visits in primary care. *Health Policy* 2018;122:250–5.
25 Krendyukov A. Early access provision for innovative medicinal products in oncology: challenges and opportunities. *Front Oncol* 2020;10:1604.
26 Proportion of clinical trials started worldwide from 2017 to 2022, by key therapeutic area. Statista; 2022. Available: https://www.statista.com/statistics/1248657/clinical-drug-trials-by-key-therapeutic-area/
27 Sah S, Fugh-Berman A. Physicians under the influence: social psychology and industry marketing strategies. *J Law Med Ethics* 2013;41:665–72.
28 Mitchell AP, Winn AN, Lund JL, *et al*. Evaluating the strength of the association between industry payments and Prescribing practices in oncology. *Oncologist* 2019;24:632–9.
29 Hudson JM, Bruckman AS. The bystander effect: A lens for understanding patterns of participation. *J Learn Sci* 2004;13:165–95.
30 Grande D. Limiting the influence of pharmaceutical industry gifts on physicians: self-regulation or government intervention? *J Gen Intern Med* 2010;25:79–83.
31 Mialon M, Vandevijvere S, Carriedo-Lutzenkirchen A, *et al*. Mechanisms for addressing and managing the influence of corporations on public health policy, research and practice: a Scoping review. *BMJ Open* 2020;10:e034082.
32 Alkhaled L, Kahale L, Nass H, *et al*. Legislative, educational, policy and other interventions targeting physicians' interaction with pharmaceutical companies: a systematic review. *BMJ Open* 2014;4:e004880.
33 MAP offers new Online pathway for Accessing cancer treatments: medicines Australia. 2022. Available: https://www.medicinesaustralia.com.au/media-release/map-offers-new-online-pathway-for-accessing-cancer-treatments/

Appendix 1: Consolidated criteria for reporting qualitative research (COREQ) checklist			
No.	**Item**	**Guide questions/description**	**Page**
Domain 1: Research team and reflexivity			
Personal characteristics			
1	Interviewer/facilitator	Which author/s conducted the interview or focus group?	9
2	Credentials	What were the researcher's credentials? E.g. PhD, MD	9
3	Occupation	What was their occupation at the time of the study?	9
4	Gender	Was the researcher male or female?	N/A
5	Experience and training	What experience or training did the researcher have?	9
Relationship with participants			
6	Relationship established	Was a relationship established prior to study commencement?	10
7	Participant knowledge of the interviewer	What did the participants know about the researcher? e.g. personal goals, reasons for doing the research	10
8	Interviewer characteristics	What characteristics were reported about the interviewer/facilitator? e.g. Bias, assumptions, reasons and interests in the research topic	10
Domain 2: study design			
Theoretical framework			
9	Methodological orientation and Theory	What methodological orientation was stated to underpin the study? e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis	9
Participant selection			
10	Sampling	How were participants selected? e.g. purposive, convenience, consecutive, snowball	8
11	Method of approach	How were participants approached? e.g. face-to-face, telephone, mail, email	8
12	Sample size	How many participants were in the study?	8
13	Non-participation	How many people refused to participate or dropped out? Reasons?	8
Setting			
14	Setting of data collection	Where was the data collected? e.g. home, clinic, workplace	8
15	Presence of non-participants	Was anyone else present besides the participants and researchers?	8
16	Description of sample	What are the important characteristics of the sample? e.g. demographic data, date	10
Data collection			
17	Interview guide	Were questions, prompts, guides provided by the authors? Was it pilot tested?	8
18	Repeat interviews	Were repeat interviews carried out? If yes, how many?	8
19	Audio/visual recording	Did the research use audio or visual recording to collect the data?	8
20	Field notes	Were field notes made during and/or after the interview or focus group?	N/A

21	Duration	What was the duration of the interviews or focus group?	10
22	Data saturation	Was data saturation discussed?	24
23	Transcripts returned	Were transcripts returned to participants for comment and/or correction?	9
Domain 3: analysis and findings			
Data analysis			
24	Number of data coders	How many data coders coded the data?	9
25	Description of the coding tree	Did authors provide a description of the coding tree?	Appendix
26	Derivation of themes	Were themes identified in advance or derived from the data?	9
27	Software	What software, if applicable, was used to manage the data?	9
28	Participant checking	Did participants provide feedback on the findings?	N/A
Reporting			
29	Quotations presented	Were participant quotations presented to illustrate the themes / findings? Was each quotation identified? e.g. participant number	10
30	Data and findings consistent	Was there consistency between the data presented and the findings?	21
31	Clarity of major themes	Were major themes clearly presented in the findings?	10
32	Clarity of minor themes	Is there a description of diverse cases or discussion of minor themes?	10

Adapted from: Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *Int J Qual Health Care*. 2007;19(6):349-57. doi: 10.1093/intqhc/mzm042.

Appendix 2: Interview Structure

Research Study: Interactions with the pharmaceutical industry: a qualitative study of Australian cancer physicians.

These indicative questions are displayed in their intended branching logic. The probing questions within the sub-branches are likely to be modified or expanded based on the responses given to the base questions.

1. Introduction

The interviews will commence with the interviewer expressing the researchers' neutrality around the topic. The interviewer will state that there are many types of interactions with industry, and that we are interested in understanding and learning about the current types of interactions occurring in medical oncology and haematology. Participants will be encouraged to be as open and honest as possible, but will be specifically asked not to identify or provide information that may identify any other practitioners in their answers.

2. Contextual demographic information

- Can you tell me a bit about your workplace and the types of patients you see?
    - What are some of the main ways you interact with industry?
        - For example, do you see drug reps, or have much contact with trials sponsors or access programs?

3. Specific interaction description

- Can you describe your last interaction with a drug rep?
    - What drug were they promoting and what did they say?
    - How did you feel about the interaction?
    - What did you find was most positive about the interaction?
    - Did you have any specific concerns?

4. Exploration of views on general industry interactions

- How do you feel about interacting with reps or industry in general?
    - Are there certain types of interactions that you are more comfortable with than others?
    - Are there any situations that make you feel uncomfortable?
        - What about situations you've seen other oncologists/haematologists in?
            - How do these affect your own interactions?
    - How do you feel about payments to cancer physicians?
        - When do you think these are reasonable or justified?
        - When do you think they aren't?
        - What do you see as the role of public disclosure of payments?

5. Exploration of policy opinions

- What do you see as the main role or benefits of industry in general to our profession?
  - What about industry-physician relationships specifically?
- What do you see as the main risks or harms, for both industry in general and industry-physician relationships specifically?
- What can our profession do to improve our relationships with industry?
  - What changes would you like to see?
- What do you see as the role of ethical guidelines?
- What do you see as the role of senior colleagues or mentors?
- Are you aware of any other initiatives to try and manage industry relationships?
  - How do you feel about these?

6. Conclusion

- Is there anything else would you like me to know about industry relationships?

Interviewer will then thank the participant for their time and insights and then end interview.

Appendix 3: Initial coding analysis framework

Category	Code	Sub-code
Industry interactions	Descriptive experiences	Positive experiences
		Negative/uncomfortable experiences
	Style of engagement[1]	Confident
		Ambivalent
		Avoidant
Role of industry	Perceived benefits	Research funding
		Education funding
		Access programs/patient-centred
	Perceived risks	Perception of influence (personal and education)[2]
		Research dependence
Industry payments	Approaches	Unconditional acceptance
		Conditional acceptance
		Refusal
	Perceived appropriateness	Renumeration of work (eg advisory boards)
		Sponsorship of travel/accommodation
Management strategies	Ethical guidelines	Lack of utility of guidelines
	Education/colleague guidance	Need for more education
Ideas for change	Proposals for change	
Emerging themes		

1. Doran et al., Soc Sci Med. 2006;62:1510–1519
2. Larkin J et al. BJGP Open. 2021; DOI: 10.3399/BJGPO.2021.0057