Family Medicine and Community Health

Should I take aspirin? A qualitative study on the implementation of a decision aid on taking aspirin for bowel cancer prevention

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ABSTRACT

Objectives Australian guidelines recommend 50–70 years consider taking aspirin to reduce their bowel cancer risk. We trialled a decision aid in general practice to facilitate the implementation of these guidelines into clinical practice. This publication reports on the qualitative results from the process evaluation of the trial. We aimed to explore general practitioners’ (GPs) and their patients’ approach to shared decision-making (SDM) about taking aspirin to prevent bowel cancer and how the decision aids were used in practice.

Methods Semistructured interviews were conducted with 17 participants who received the decision aid and 12 GPs who participated in the trial between June and November 2021. The interviews were coded inductively, and emerging themes were mapped onto the Revised Programme Theory for SDM.

Results The study highlighted the dynamics of SDM for taking aspirin to prevent bowel cancer. Some participants discussed the decision aid with their GPs as advised prior to taking aspirin, others either took aspirin or dismissed it outright without discussing it with their GPs. Notably, participants’ trust in their GPs, and participants’ diverse worldviews played pivotal roles in their decisions. Although the decision aid supported SDM for some, it was not always prioritised in a consultation. This was likely impacted during the trial period as the COVID-19 pandemic was the focus for general practice.

Conclusion In summary, this study illustrated the complexities of SDM through using a decision aid in general practice to implement the guidelines for low-dose aspirin to prevent bowel cancer. While the decision aid prompted some participants to speak to their GPs, they were also heavily influenced by their unwavering trust in the GPs and their different worldviews. In the face of the COVID-19 pandemic, SDM was not highly prioritised. This study provides insights into the implementation of guidelines into clinical practice and highlights the need for ongoing support and prioritisation of cancer prevention in general practice consultations.

Trial registration number ACTRN12620001003965.

INTRODUCTION

In Australia, in 2022, bowel cancer was a leading cause of mortality among cancers, second only to lung cancer. In as early as 1991, evidence emerged that aspirin could help reduce the risk of and mortality from bowel cancer. Aspirin has been shown to reduce the incidence, and mortality of bowel cancer by up to 25% and 33%, respectively, based on findings of several systematic reviews and meta-analyses. Australian guidelines recommend that all Australians aged 50–70 years, without a contraindication to aspirin, consider taking low-dose aspirin (100–300 mg) daily for 2.5–5 years to reduce risk of bowel cancer.

As the decision to take aspirin is a personal one where potential benefits and harms need to be considered, we designed and trialled a
decision aid to implement these aspirin guidelines into
general practice to facilitate shared decision-making
(SDM).

The decision aid included three key components: (1)
an expected frequency tree (EFT) to communicate the
risks and benefits associated with taking aspirin, including
effects on the incidence of bowel cancer, cardiovascular
disease, gastrointestinal bleeding and all-cause mortality;
(2) a reminder to patients that they should speak to their
general practitioner (GP) before commencing aspirin
and (3) information about who should not take aspirin
due to contraindications.

Details about the methods for the SITA (Should I Take
Aspirin?) trial are published elsewhere,7 as are papers
describing how we developed the decision aid.8

To date, one other decision aid has been developed for
the use of aspirin to reduce bowel cancer risk, but not
for Australians and an educational leaflet was developed
for people at increased risk of developing bowel cancer,
but none have been trialled in general practice.9 10 The
UK decision aid underwent user-testing, where 11 people
in the community provided feedback on the prototype
of their decision aid, in one-on-one interviews but this
user-testing was not conducted with clinicians.7 The SITA
trial follow-up was completed in May 2022. The aim of
this process evaluation of the SITA trial was to explore
the effectiveness of a decision aid on facilitating SDM
between GPs and their patients about taking aspirin to
reduce their risk of developing bowel cancer and other
chronic illnesses. We further sought to understand how
the decision aid was used and received to provide insights
that could inform future efforts to implement guidelines
into clinical practice using decision aids. Furthermore,
the aim was to explore the feasibility of implementing the
decision aid into routine practice.

METHODS

SITA trial participation
Details of the SITA trial methods have been published in a
protocol.7 The SITA trial, an individually randomised trial,
invited individuals aged 50–70 who were not currently
taking aspirin and had a scheduled GP appointment to
participate. Participants were randomised into either the
intervention or control group. Participants in the inter-
vention group attended a consultation with a trained
research assistant where the decision aid was used to
discuss taking aspirin for disease prevention. In 2020, we
developed a second brochure alongside the decision aids,
which presented general ways to reduce bowel cancer risk
and served as the control brochure. This brochure was
also presented to intervention participants.

The sex-specific decision aids and control brochure can
be found in online supplemental files A-C

Approach
A qualitative process evaluation was conducted using
semistructured interviews with SITA trial intervention
participants and with GPs who participated in the trial.
The approach used was based on a constructivist para-
digm, which assumes that individuals create their own
understanding and perspective of the world.11 This means
that people are active learners who construct their knowl-
edge rather than passive recipients of information.

Setting and sampling strategy
During the trial, as participants were consented to partici-
pate, they indicated if they were happy to be approached,
for a subsequent interview about their experience in the
trial. Trial participants randomised to the intervention
group, were purposively sampled to ensure a diverse
group were recruited based on recruitment site. Using a
sampling matrix, we included participants based on their
age, gender, education, socioeconomic status based
on postcode and their decision to take aspirin or not,
including starting and subsequently stopping aspirin.

During the 6-month follow-up medical record audits
for trial participants, a researcher (SO) invited the trial
GPs to be interviewed. The interviews could take place in
person that day, or over the phone or via Zoom12 at a later
scheduled time.

Recruitment for all participants and GPs were conducted
between June and November 2021. Before commencing
the interviews, researchers provided copies of the deci-
sion aid to participants. All participants provided written
or e-consent. GPs were reimbursed US$100 for their time.

Data collection techniques
The authors developed separate semistructured inter-
view guides for participants and GPs. These guides were
created by the trial steering group committee (online
supplemental files D-E).

Trial intervention participants were interviewed by
researchers LB and NK after the completion of the trial,
including the follow-up after 6 months. LB and NK, both
university educated, served as research assistants respon-
sible for delivering the trial intervention. They were not
part of the participant age group. LB and NK interviewed
participants who they did not recruit in order to reduce
biasing participants’ responses to the interview questions.
All participant interviews were conducted over the phone
or via Zoom12 videoconferencing software according to
the participant’s preference and/or because of COVID-
19-related state-wide restrictions and Victorian lock-
downs. All GPs were interviewed by researcher SO. SO
was a PhD candidate, leading the trial coordination and
this process evaluation.

Throughout the data collection process, we assessed
data saturation through peer debriefing sessions among
the authors, until no new themes or insights emerged, or
we had no more participants left to interview. We reached
data saturation for participants who decided not to take
aspirin but ran out of participants to interview for those
who decided to take aspirin and those who started then
stopped taking aspirin. This was due to a limited number
of eligible participants within the trial cohort. We further reached data saturation for GP participants.

**Analysis**

All audio-recordings were deidentified and assigned unique ID numbers before being professionally transcribed. The completed transcripts were uploaded into NVivo V.12 (QSR International released 2020), which was used to organise the qualitative data for coding.

Interview transcripts were inductively analysed into codes which were organised into emerging themes. A second researcher (JM) who was not involved in the data collection checked the coding. The themes that emerged from the data were mapped onto the Revised Programme Theory for SDM, a framework developed to understand the underlying mechanisms and the contextual factors which impact on SDM. Figure 1 shows the Revised Programme Theory for SDM, revised focused interprofessional-SDM (IP-SDM) mechanism map, which will be referred to as the ‘IP-SDM mechanism map’. The IP-SDM mechanism map shows when each of the mechanisms would appear before, during and after a SDM health practitioner consultation where a decision about an individual’s health is made. The wider framework ‘Revised Programme Theory for SDM’ includes contextual factors that impact on the mechanisms, including the difficulty of a healthcare decision, the pre-existing relationship between healthcare professionals and patients, and system support (figure 2). We present the results for all the contextual factors except for pre-existing relationship which we’ve incorporated into the trust mechanism. As themes emerged, these were discussed and refined in meetings with the core research team (SO, JM, JE and FM). Tong and colleagues’ Consolidated criteria for Reporting Qualitative checklist was used to ensure enhanced interpretive rigour.

**RESULTS**

Thirty-five trial participants were invited, 18 refused and 17 were ultimately interviewed for this study. The participants were diverse with varying levels of education and a range of socioeconomic backgrounds (table 1). After being shown the decision aid, most of the participants interviewed in this process evaluation decided not to take aspirin (58.8%), some had started and then stopped taking aspirin (17.7%) and 23.5% started and continued to take aspirin. Participants were invited to be interviewed after the trial follow-up complete.

Twelve GPs were interviewed including GPs from both rural and urban settings with a range of years of clinical experience (table 2). The interviews lasted between 15 and 40 min.

All quotations corresponding to the results can be found in tables 3 and 4.

**Eight key mechanisms which impact on SDM**

The qualitative results followed the IP-SDM mechanism map where the mechanisms were aligned to the area they were thought to arise in an SDM consultation (figure 1).

**Trust (including a pre-existing relationship between participant and GP)**

Patients reported that they generally trusted what their GPs advised them about their health. Patients mentioned unquestioningly following their GPs’ instructions with little contemplation. Patients wanted a degree of SDM, as after being presented with decision aid, they discussed it with their GPs before deciding to take aspirin (quotation...
1A, 1B and 1C). Some GPs also spoke of the ease of incorporating SDM into a consultation if their patients’ trust them; noting that if they discussed taking aspirin to prevent bowel cancer and showed them the decision aid, most did not hesitate to take aspirin (quotation 1D).

Anxiety
Participants did not speak of any feelings of anxiety associated with taking aspirin; they were familiar with aspirin and thought it was safe (quotation 2).

GPs’ recognition of decision
GPs understood that if their patients came into an appointment with a decision aid, and asked questions, they were looking for their GPs to help them decide whether taking aspirin was right for them (quotation 3).

Worldview
A few participants mentioned that they were sceptical about medical advice because it often changes over time (quotation 4A).

Participants also thought that having a healthy diet and weight, and screening for bowel cancer was enough to reduce their bowel cancer risk. They did not believe that they were at increased risk of developing bowel cancer and therefore did not feel that they needed to take aspirin to prevent it (quotations 4B, 4C and 4D).

A few participants believed that it was not worth trying to prevent cancer as they thought they were all going to get cancer someday so did not see the point in taking aspirin (quotation 4E). Some individuals had a distinct perception of their cancer risk, understanding the potential benefits of aspirin, and thus, chose to include aspirin in their regimen (quotations 4F and 4G).

Perception of capacity of other party
GPs found that due to the COVID-19 pandemic, patients were more aware of their health, and were more confident about asking questions. This perception led GPs to believe that patients would ask questions about the decision aid (quotation 5A).
Some GPs, who worked in areas of high social deprivation, where patients present with multiple comorbidities, thought their patient population would not have the capacity for a SDM discussion about taking aspirin. GPs thought the decision aid was better suited for more affluent populations (quotation 5B).

Perception of time and clinician capacity
GPs acknowledged that they did not have time to talk about the decision aid due to patients coming in with competing health demands (quotations 6A and 6B).

For patients living in regional areas, the COVID-19 pandemic increasingly hindered access to their GPs, therefore, when they were able to see their GPs, the decision aid was not prioritised as they perceived that discussing aspirin would impede their GPs more ‘important’ work (quotation 6C and 6D).

Access to external support
GPs spoke of using the internet to search up the bowel cancer guidelines and because they could be easily found through conducting a Google Search and found on reputable websites, the guidelines were sufficiently supported.

On Googling ‘bowel cancer prevention’, a GP tried to see if aspirin guidelines would come up early (quotation 7A). GPs also mentioned that the Australian government is in support of SDM, which encouraged them to support their patients proactively approaching them with new medical advice, such as the decision aid for aspirin chemoprevention (quotation 7B).

Self-efficacy
Participants approached the decision-making process as if they were external to the decision to take aspirin. They did not speak of participating much in the decision-making process. Participants relied on the belief and support of their GPs to decide whether to take aspirin (quotations 8A and 8B).

Most participants perceived aspirin as beneficial for preventing bowel cancer after seeing the decision aids, but this did not translate into action or much participation in the decision-making if their GPs did not support the evidence (quotation 8C).

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**Table 1** Characteristics of participants (N=17)

<table>
<thead>
<tr>
<th>Characteristics</th>
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<tbody>
<tr>
<td>Mean age (years)</td>
<td>59.1</td>
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<tr>
<td>Sex, female</td>
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</tr>
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<td>Mode of trial delivery</td>
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<tr>
<td>Face to face</td>
<td>76.5</td>
</tr>
<tr>
<td>Teletrial</td>
<td>23.5</td>
</tr>
<tr>
<td>Education</td>
<td></td>
</tr>
<tr>
<td>Never completed high school</td>
<td>23.5</td>
</tr>
<tr>
<td>Completed high school only</td>
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<tr>
<td>TAFE qualification or similar</td>
<td>23.5</td>
</tr>
<tr>
<td>University degree or higher</td>
<td>53.0</td>
</tr>
<tr>
<td>Aspirin use after study participation</td>
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</tr>
<tr>
<td>No, I haven’t taken aspirin</td>
<td>58.8</td>
</tr>
<tr>
<td>I started then stopped taking aspirin</td>
<td>17.7</td>
</tr>
<tr>
<td>Yes, I am currently taking aspirin</td>
<td>23.5</td>
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**IRSAD socioeconomic status**

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<tr>
<td>2</td>
<td>0</td>
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<tr>
<td>3</td>
<td>47.1</td>
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<td>Advantaged 5</td>
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*The IRSAD: The IRSAD considers economic and social conditions to rank relative advantage and disadvantage in an area by postcode. Low scores indicate relatively greater disadvantage and a lack of advantage, while high scores indicate relatively lack of disadvantage and greater advantage. IRSAD, Index of Relative Socio-economic Advantage and Disadvantage; TAFE, Technical and Further Education.

**Table 2** Characteristics of general practitioner participants (N=12)

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</thead>
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<tr>
<td>Mean years working as a GP (years)</td>
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</tr>
<tr>
<td>Years in general practice (n)</td>
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<tr>
<td>&lt;10</td>
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</tr>
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<td>10–19</td>
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<tr>
<td>20–29</td>
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</tr>
<tr>
<td>30+</td>
<td>7</td>
</tr>
<tr>
<td>Mean hours worked per week</td>
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</tr>
<tr>
<td>Mean percentage telehealth appointments</td>
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<tr>
<td>Work setting</td>
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<td>General practice (%)</td>
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<td>Mixed billing</td>
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<tr>
<td>Bulk-billing clinic</td>
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**Private**

<table>
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<td>3</td>
<td>3</td>
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<td>4</td>
<td>0</td>
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<tr>
<td>Advantaged 5</td>
<td>2</td>
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</table>

*The IRSAD: The IRSAD considers economic and social conditions to rank relative advantage and disadvantage in an area by postcode. Low scores indicate relatively greater disadvantage and a lack of advantage, while high scores indicate relatively lack of disadvantage and greater advantage. GP, general practitioner; IRSAD, Index of Relative Socio-economic Advantage and Disadvantage.
### Table 3

The quotations organised by the eight key mechanisms which impact on shared decision-making from the revised focused interprofessional-SDM mechanism map

<table>
<thead>
<tr>
<th>Eight key mechanisms which impact on SDM</th>
<th>Quote #</th>
<th>Quotation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Trust (including a pre-existing relationship)</strong></td>
<td>1A</td>
<td>“At the time, because they got me before I was going to a doctor's consultation so I asked, should I take aspirin and she said yeah, it's good for you. The GP didn’t try to talk me out of it.” -Male participant, 51 years I would take it. Yeah, because I trust her.” -Female participant, 65 years</td>
</tr>
<tr>
<td></td>
<td>1B</td>
<td>“When I spoke with my GP and he was quite supportive of it, I was happy to take it.” -Female participant, 66 years</td>
</tr>
<tr>
<td></td>
<td>1C</td>
<td>“Not to say that I wouldn’t take it in the future. If the doctor suggested that I take it, I would.” -Female participant, 65 years</td>
</tr>
<tr>
<td></td>
<td>1D</td>
<td>“So, I think that, if a patient trusts you as a GP, and your present information, certainly in the demographic that I work with up north [mostly socially disadvantaged populations], they—it’s very rare that people question sources.” -Female GP, 35 years</td>
</tr>
<tr>
<td><strong>Anxiety</strong></td>
<td>2A</td>
<td>“Yeah. It was sort of what—it didn’t come as a big surprise. You know, wow, aspirin. I mean, I know aspirin’s used in—I used to drive tow trucks, and often the ambos would just—somebody had a busted leg or something, they’d just give them the aspirin straight away, and that was to help not get clots and stuff like that as well. So, it’s fairly handy for a lot of things.” —Male participant, 51 years</td>
</tr>
<tr>
<td><strong>General practitioners recognition of decision</strong></td>
<td>3A</td>
<td>“I think it does because they’ve read it in the room, in the off—out the front and they’d say, oh yeah, well, I had a look at this. I think most of them just say, oh, because it reduces risk of this so what do I need to do?” -Male GP 67 years</td>
</tr>
<tr>
<td><strong>Worldview</strong></td>
<td>4A</td>
<td>“Life is a continuum of listening to and accepting or rejecting advice. This one wasn’t worth accepting.” Male participant, 62 years.</td>
</tr>
<tr>
<td></td>
<td>4B</td>
<td>“I looked at the other components what was recommended and thought, well, most of that is not dissimilar to my current diet, et cetera.” —Female participant, 66 years</td>
</tr>
<tr>
<td></td>
<td>4C</td>
<td>“Well, I think the thing is to have a sensible diet—which I’ve always eaten really well, I’m not overweight—I think that has a lot to do with it.” —Female participant, 67 years</td>
</tr>
<tr>
<td></td>
<td>4D</td>
<td>“I’ve had two colonoscopies in the last 2 months, so I’m not particularly worried about bowel cancer at the moment” —Female participant, 65 years</td>
</tr>
<tr>
<td></td>
<td>4E</td>
<td>“There is an old song that you may not know called ‘Everything Gives You Cancer’. It’s not a particularly down song, it’s just a sort of factual song by someone called Joe Jackson from way back. I think that we’re all going to die, weigh up their risks, all that sort of thing.” Male participant, 62 years</td>
</tr>
<tr>
<td></td>
<td>4F</td>
<td>“Just taking aspirin is probably—when you get to a certain age it’s better for you, rather than not” —Male participant, 51 years</td>
</tr>
<tr>
<td></td>
<td>4G</td>
<td>“Well, I think it’s such a simple way of increasing your prevention and it has other benefits as well, which that brochure identified. Heart attack, stroke, deaths from other causes. So there didn’t seem to be a reason not to” —Female participant, 66 years</td>
</tr>
<tr>
<td><strong>Perception of capacity of other party</strong></td>
<td>5A</td>
<td>“I think the COVID’s done one thing, it’s raised people’s awareness of how to ask questions and how to ask very sophisticated questions about their health and what treatments are.” —Male participant, 67 years</td>
</tr>
<tr>
<td></td>
<td>5B</td>
<td>“Yeah, I mean some affluent suburbs, yeah, I think that would be ideal for this decision aid.” —Male GP, 55 years</td>
</tr>
<tr>
<td><strong>Perception of time and clinician capacity</strong></td>
<td>6A</td>
<td>“Yeah, people who want to discussion preventive activities are very healthy and then they have nothing else to talk with the doctor and then they will come and say oh, what do you think that I might do to improve my health? Yeah, then we can talk preventative, but here it’s just yeah, it’s more of issues already bothering them and there are so many that you don’t have time to talk about preventative.” —Male GP, 55 years</td>
</tr>
<tr>
<td></td>
<td>6B</td>
<td>“Why would I bring it up in the first place when there’s so many other things, they talk about that are totally unrelated.” Male GP, 69 years</td>
</tr>
<tr>
<td></td>
<td>6C</td>
<td>“Yep. It wasn’t like an urgent medical issue that I thought I must make an appointment, because I think he was snowed under during telehealth appointments over COVID.” —Female participant, 65 years</td>
</tr>
</tbody>
</table>

Continued
Participants further commented on the price of aspirin. Though many thought it was affordable, cheap and easy to access, one participant who started then stopped taking aspirin explained it was due to financial difficulties they were experiencing due to the COVID-19 pandemic and recently migrating to Australia with a large family (quotations 8D and 8E).

### Three contextual components that impact on the above key mechanisms

#### System support
As GPs already discuss preventive health activities, they found that advising aspirin for bowel cancer prevention suited their existing practice (quotation 9A). GPs also recognised that care plans presented a great opportunity to talk through the decision aid, and other preventive health activities (quotation 9B).

#### Engagement in SDM
Participants spoke about how the decision aid prompted them to speak to their GP and helped them become aware of their contraindications to aspirin. Prompting SDM conversations and discussing contraindications to aspirin are clear purposes of the decision aids and the logic model within the SITA trial (Quotation 10A). Although the decision aid was designed to prompt a discussion between participants and their GPs, a few participants decided to bypass having a discussion (quotation 10B).

Some of the dialogues between patients and their GPs regarding aspirin were characterised by brevity and lack of depth, as they were simple and it was the GPs’ goal to ensure their patients did not have any contraindications to taking aspirin. Multiple patients conveyed a sense of feeling underwhelmed with respect to aspirin, and although many discussed aspirin and the decision aid, it did not reach a high level of engagement (quotation 10C).

According to the GPs, patients who were provided with the decision aids about aspirin expressed a high level of satisfaction with the discussion. Patient satisfaction suggested that engaging in such a discussion was likely to be perceived as valuable by potential patients (quotation 10D).

#### Difficulty of decision to be made
Participants generally thought the decision aids were clear and easy to understand but struggled to correctly interpret the statistics or risks and benefits of taking aspirin from the EFTs (quotation 11A). Many were unable to see the relevance of taking aspirin for themselves as the numbers of people required to take aspirin for it to have an effect seemed very large (quotation 11B).

Participants understood from the EFTs that aspirin was beneficial for reducing the risk of bowel cancer and other chronic illnesses. Although they could clearly see the benefit, they did not always believe that it was worth it.
taking aspirin. Participants also overestimated the risks and due to existing contraindications decided against taking aspirin (quotations 11C and 11D).

Decision aids are interventions designed to facilitate a discussion between patients and their healthcare practitioners. GPs understood this and felt that the decision aid would make it easier to engage their patients in a discussion (quotation 11E).

**DISCUSSION**

**Principal findings**

This study highlights how participants in the SITA trial used a decision aid to come to a shared decision to take aspirin to prevent bowel cancer in the context of a consultation in general practice. Participant engagement in SDM varied, although most participants actively engaged in SDM due to their trust in their GPs, low levels of anxiety about the thought of taking aspirin and having a perceived risk of developing bowel cancer. Consequently, after being shown the decision aid and speaking to their GPs, some participants decided to take aspirin. Most participants also found that aspirin was affordable and easily accessible, although one participant expressed that due to their financial difficulties, they could not afford to buy it. GPs also thought the decision aid made it easier to engage in SDM, since they already discuss preventive strategies with their patients, and have government support for SDM. SDM has been increasing in Australian healthcare since 2017, with government support to back it up. GPs also liked that the guidelines were easily accessible on the internet and were supported by reputable organisations, such as the Cancer Council Australia, and the Royal Australian College of General Practitioners, which are guideline publishing bodies in Australia, regularly used by GPs.

Participants and GPs expressed several barriers to engaging in SDM which led to many not discussing the decision aid and ultimately deciding against taking aspirin. Participants perceived aspirin as not being compelling or interesting and they had low levels of anxiety about taking aspirin and speaking to their GPs about the thought of taking aspirin and having a perceived risk of developing bowel cancer. Consequently, after being shown the decision aid and speaking to their GPs, some participants decided to take aspirin. Most participants also found that aspirin was affordable and easily accessible, although one participant expressed that due to their financial difficulties, they could not afford to buy it. GPs also thought the decision aid made it easier to engage in SDM, since they already discuss preventive strategies with their patients, and have government support for SDM. SDM has been increasing in Australian healthcare since 2017, with government support to back it up. GPs also liked that the guidelines were easily accessible on the internet and were supported by reputable organisations, such as the Cancer Council Australia, and the Royal Australian College of General Practitioners, which are guideline publishing bodies in Australia, regularly used by GPs.

Participants and GPs expressed several barriers to engaging in SDM which led to many not discussing the decision aid and ultimately deciding against taking aspirin. Participants perceived aspirin as not being compelling or interesting and they had low levels of anxiety about taking aspirin. Participants also overestimated the risks and due to existing contraindications decided against taking aspirin (quotations 11C and 11D).

Decision aids are interventions designed to facilitate a discussion between patients and their healthcare practitioners. GPs understood this and felt that the decision aid would make it easier to engage their patients in a discussion (quotation 11E).

**Table 4** The quotations organised by the three contextual components which impact shared decision-making from the revised focused interprofessional-SDM mechanism

<table>
<thead>
<tr>
<th>Three contextual components that impact on the above key mechanisms</th>
<th>9A</th>
<th>“So, I’m looking at cardiovascular disease prevention, musculoskeletal issue prevention, and now, since, obviously, meeting you, I’ve then added this into my little kind of speech that I normally do about, you know, the other things that they need to be looking at.” — Male GP, 34 years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>9B</td>
<td>“So, healthcare plans if they’re done properly, should address all of this stuff. But we know that the majority of healthcare plans in Australia are done purely because people want to get the discounted visits to the podiatrist or the physio, yes.” — Male GP, 55 years</td>
</tr>
<tr>
<td>Engagement in shared decision-making</td>
<td>10A</td>
<td>“Well, when I read about the aspirin, I asked my doctor about it, and she said that because of the medicine I’m on that I can’t have aspirin. So, yeah, I was interested enough to ask my doctor about it.” — Female participant, 67 years</td>
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<td></td>
<td>10B</td>
<td>“Couple of weeks, and then I sort of stopped and thought about it. Then I had an interview and I said, oh, look, I’m not taking it, because I have to speak to my doctor (laughs).” — Female participant, 65 years</td>
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<td></td>
<td>10C</td>
<td>“It was good stuff I guess but—and they talked about the side-effects of aspirin which was good. It was all quite fair, but it just didn’t seem quite compelling. I might be better, for example, eating a lot of celery than taking aspirin for the rest of my life.” — Male participant, 62 years</td>
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<td></td>
<td>10D</td>
<td>“So, he definitely started it, and he was really happy with the conversation we’d had.” — Female GP, 35 years</td>
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<td>Difficulty of decision to be made</td>
<td>11A</td>
<td>“I thought the information in the brochures was clear and easy to understand.” — Female participant, 56 years</td>
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<td></td>
<td>11B</td>
<td>“Yeah, it’s a reduction but it’s not a massive reduction, but it’s better than nothing, isn’t it?” — Male participant, 51 years</td>
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<td></td>
<td>11C</td>
<td>“Well, my thoughts were that it communicated well to me. I know statistically there are fewer deaths from stroke or for fewer strokes, it is not really significant. But I suppose it reinforced that it was most beneficial in the bowel cancer space, but it had other advantages as well.” — Female participant, 66 years</td>
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<td></td>
<td>11D</td>
<td>“Yeah, just that I bleed a lot, bleed easily so that would have been an issue sometimes.” — Male participant, 70 years</td>
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<td></td>
<td>11E</td>
<td>“So, that—I found that probably the most interesting and easiest way to engage the patients through looking through that.” — Female GP, 35 years</td>
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</table>

SDM, shared decision-making.
aspirin, which could have prevented them from participating in SDM. They often misunderstood the benefits of taking aspirin and thought that the absolute benefits at an individual level were relatively small. Additionally, participants perceived their GPs as being too busy with more important activities due to the COVID-19 pandemic, resulting in them deprioritising engaging in SDM about the decision aid. A few participants bypassed the discussion and decided to take aspirin anyway or decided against it due to their fatalistic and sceptical attitudes. One study identified several factors that impact patients’ engagement in SDM, including socioeconomic status and ethnicity. Additionally, the study found that individuals with higher levels of numeracy are better equipped to participate in SDM. This study supported our finding by additionally concluding that, those with lower numeracy skills, may struggle to comprehend the risks and benefits of treatments for cancer. Some participants in our study decided against taking aspirin due to their perceived low risk of ever developing bowel cancer. Similarly, a qualitative study concluded that patients who misperceive their cancer risk as lower than it actually is, are less likely to engage in behaviours that reduce their cancer risk.

A few GPs also believed that the decision aid was better suited for higher socioeconomic status populations, who are already in better health, further suggesting that they do not have enough time to address preventive health strategies with patients who are unwell. This view is contrary to what is found in the literature. In one systematic review of 11 randomised controlled trials on the use of decision aids in disadvantaged populations, more than half reported improved knowledge and informed choice, and high patient engagement in SDM.

For some, the decision aid prompted discussions between GPs and their patients, while others deprioritised discussing the decision aid with their GP due to it not being seen as urgent, especially regional participants in the context of the COVID-19 pandemic. Although some discussions were had, participants discussed that they were brief, and pending their GPs opinion they either decided for or against taking aspirin. GPs conversely understood that a decision was to be made, helped their patients decide, and reported a high level of patient satisfaction with the consultations.

Such findings underline the decision aid’s potential in promoting SDM and enabling constructive patient-GP dialogue, although it was not useful for everyone. Our findings are consistent with a qualitative study of a decision aid for prostate cancer screening in supporting SDM between GPs and male patients. In our study, the decision aid was not universally accepted, and participants’ worldviews, socioeconomic status, self-efficacy, their general practice readiness for implementation and the timing of advice impacted on SDM.

Strengths and limitations
The results of this qualitative process evaluation should be interpreted in the context of some limitations. First, GPs and participants were interviewed after their initial researcher consultations, about 6–8 months later, consequently, the findings must be interpreted with regard for the possible influence of recall bias and social desirability bias, given the role of the interviewers in the trial.

We included a diverse group of participants and GPs who practised in both metropolitan and regional locations. Participants were also diverse in socioeconomic status and educational attainment, which further shows that SDM via a decision aid was feasible for them.

Other limitations include the relatively small number of participants interviewed in terms of their different behavioural responses to the decision aid, whether they decided to take aspirin or started then stopped taking it.

Context in relation to other studies
It is well documented in the literature that decision aids are beneficial for implementing evidence into clinical care. Decision aids support SDM between patients and clinicians, in a systematic review of decisions aids for complex healthcare decisions, decision aids were beneficial for communicating the risks and benefits of healthcare decisions. In our study, the decision aid possibly supported SDM for some participants through facilitating discussions between participants and their GP. In contrast, if GPs supported the decision to take aspirin, no further discussion was had, and patients took it because they trusted their GP.

This study is a process evaluation of an efficacy trial where trained research assistants delivered the decision aid in a controlled way, thus the results do not reflect patient and GP engagement in SDM if the decision aid were implemented in the real-world. We do not know the impact of the decision aid if the GPs discussed it vs it being discussed by a research assistant. A few implementation strategies were discussed, as GPs thought the decision aid would fit well with their current practice, during care plan appointments, and with government support of SDM. Barriers to real-world implementation include the limited time GPs have to successfully participate in SDM consultations, which is a well-documented barrier in the literature.

Possible explanations and implications for clinicians and policy-makers
This study shows that a decision aid about taking aspirin for bowel cancer prevention is feasible for use in general practice, even though some patients and GPs might overestimate the risks of potential harms from taking aspirin. In Lloyd et al’s review they found that the general public and patients generally had positive attitudes towards aspirin use for cancer prevention, including for bowel cancer prevention.

This process evaluation shows that the use of decision aids is effective in encouraging a discussion with a GP about cancer prevention. If GPs agree with what the decision aid presents, then it can be a powerful tool for communicating the harms or benefits of different
healthcare decisions. In our previous research, input from 64 clinicians, including GPs, was obtained in an iterative process to refine the EFT used to communicate the benefits and risks of taking aspirin as part of the decision aid. The clinician consultation or developing the decision aid with clinicians did not convince all GPs participating in the SITA trial to support the aspirin guidelines. While involving consumers in the intervention development process was crucial it does not guarantee that it will be acceptable by all end-users. In a qualitative study, where Australian GPs were interviewed about the primary prevention of cardiovascular disease, they found that if GPs thought taking aspirin was a good idea, patients were more likely to initiate taking it. This study further supports our findings, that patients are influenced by what their GP recommends.

Although the aspirin guidelines are still in existence in Australia, due to the changing evidence about taking aspirin for the primary prevention of bowel cancer and cardiovascular disease in the USA during this study, GPs may find the decision aids to be confusing. Australia’s largest run randomised controlled trial, the ASPREE trial, a trial of aspirin in healthy elderly people aged 50–70 years showed that aspirin is not beneficial for people over 70 years. The ASPREE trial, a widely publicised study, may have caused some confusion around whether aspirin is safe even for those aged 50–70 years. Largely as a result of ASPREE, the US Preventative Services Task Force have also recently updated their guidelines and removed the recommendation of aspirin for the prevention of bowel cancer. The benefits of aspirin are seen only after 10 years, and with the US guidelines being based on cardiovascular studies with short-term follow-up, the USPTF may have prematurely downgraded the beneficial effects of aspirin, even in the elderly.

Unanswered questions and future research
This process evaluation shows that even though some participants and clinicians supported using the decision aids and participated in a degree of SDM, it may not be useful for all. It may be beneficial to communicate risk in several different ways, in a single decision aid or have decision aids developed for disadvantaged populations. We also do not know how the results of this study would have been different if it were conducted outside of the COVID-19 pandemic.

This is a process evaluation of a randomised controlled trial, the SITA trial, and will help interpret the results. The SITA trial results publication is underway.

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Competing interests JE and FM were members of the Cancer Council Australia guideline development group which recommends the use of low-dose aspirin for the prevention of bowel cancer. No other authors had any competing interests.

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Patient consent for publication Not applicable.

Ethics approval This study involves human participants and ethics approval granted in 2020 by the University of Melbourne Human Research Ethics Committee in 2020 (approval ID: 2056513). Participants gave informed consent to participate in the study before taking part.

Provenance and peer review Not commissioned; externally peer reviewed.

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