The two main groups who are less convinced about the value of screening for social determinants of health within clinical care adopt this stance for very different reasons. On the one hand, it has been shown that while many health workers can appreciate the connection between social factors and poor health, common themes explaining their reticence to ask about and address social determinants include being overworked, not knowing how to ask about social determinants or what to do about it once they find out, questioning whether addressing social determinants is part of their role, lacking role models and support in helping patients address the social determinants, being fearful of opening a "Pandora's box" by embarking on this path, and feeling helpless or powerless in the face of such daunting social challenges [3]. A survey conducted by the Robert Wood Johnson Foundation found that four out of five physicians do not feel confident in their capacity to meet their patients' social needs, and they believe this impedes their ability to provide quality care [4].

On the other hand, there are also champions in the field of social determinants who question whether screening is the most appropriate level of intervention. These experts in the field rightly point out that making an impact on social determinants requires broad intersectoral action and whole of government approaches [5]. The factors influencing people's daily living conditions are generally political and structural [6]. These experts therefore question what value, if any, talking to patients about these issues could possibly do to change the larger political and structural forces at play within a society. They consider that action on the social determinants must occur beyond the health sector, but perhaps do not sufficiently appreciate the potential catalyzing role of frontline health workers in advocating and partnering for broader social change, whether at the grassroots community level or at the broader societal level nationally and globally [7]. Indeed, there are many examples of the important influence of physician advocates in many spheres that affect health, from raising awareness on climate change to the 2017 Nobel Peace Prize being awarded to an initiative launched by International Physicians for the Prevention of Nuclear War.

There is growing interest among frontline health workers, particularly, but not limited to, those working in areas such as immigrant and refugee health, caring for homeless and marginally housed persons, inner city health, Indigenous health, social pediatrics, cultural psychiatry, community-oriented primary care and global health, who want to be equipped with evidence-based guidance on how to better care for and support marginalized populations as part of their day-to-day clinical practice. Indeed, with the Lancet Commission on the Education of Health Professionals for the 21st Century highlighting the need for increasing emphasis on social accountability in medical education [8], as well as expanding networks of equity-focused medical educators such as Towards Unity for Health (TUFH), there is a strong core group of health professionals wanting to be more proactive when it comes to addressing social determinants in clinical care.

The purpose of this review is therefore to examine the evidence relating to screening for the social determinants of health in clinical care, including identifying (1) what screening tools currently exist, (2) the potential impact screening can have on improving patient outcomes (i.e., effectiveness), and (3) what factors promote health worker uptake and offer of screening in clinical settings (i.e., adherence).

## Methods

The scoping review followed commonly used methodology as described elsewhere [9]. A search strategy using key search terms relating to social determinants of health and

screening (Table 1) were used to identify primary and secondary research studies in PubMed (MEDLINE). In total, there were 212 publications identified (Fig. 1). Titles and abstracts were scanned for relevance, and a total of 26 articles were retained. Inclu-

Results

Table 2 Articles included in the review

| Publication | Topic area |
|---|---|
| Aery et al. 2017 | Screening tools |
| Gallione et al. 2017 | Screening tools |
| Morone et al. 2017 | Screening tools |
| Thomas et al. 2017 | Screening tools |
| Pai et al. 2016 | Screening tools |
| Cohen-Silver et al. 2016 | Screening tools |
| Andermann et al. 2015 | Screening tools |
| Bright et al. 2015 | Screening tools |
| Behforouz et al. 2014 | Screening tools |
| Elbogen et al. 2014 | Screening tools |
| Soc Adol Health and Med, 2013 | Screening tools |
| Vogel, 2013 | Screening tools |
| Hawkins et al. 2012 | Screening tools |
| Bricic et al. 2011 | Screening tools |
| Phelan, 2010 | Screening tools |
| Roffman et al. 2008 | Screening tools |
| Denny, 2007 | Screening tools |
| Olive, 2007 | Screening tools |
| Harley, 2006 | Screening tools |
| Wilson et al. 2006 | Screening tools |
| Savell, 2005 | Screening tools |
| Lapp, 2000 | Screening tools |
| Cohen et al. 1991 | Screening tools |
| Sprague et al. 2016 | Effectiveness single domain |
| Strong et al. 2016 | Effectiveness single domain |
| Williams et al. 2016 | Effectiveness single domain |
| O'Doherty et al. 2015 | Effectiveness single domain |
| O'Doherty et al. 2014 | Effectiveness single domain |
| Taft et al. 2013 | Effectiveness single domain |
| Decker et al. 2012 | Effectiveness single domain |
| Taft et al. 2012 | Effectiveness single domain |
| Zibowski et al. 2012 | Effectiveness single domain |
| Feder et al. 2009 | Effectiveness single domain |
| Killick et al. 2009 | Effectiveness single domain |
| Beautrais et al. 2007 | Effectiveness single domain |
| Holland and Bultz, 2007 | Effectiveness single domain |
| Trabold, 2007 | Effectiveness single domain |
| Bilukha et al. 2005 | Effectiveness single domain |
| Mulvihill, 2005 | Effectiveness single domain |
| Taket, 2004 | Effectiveness single domain |
| Malecha, 2003 | Effectiveness single domain |
| Wathen et al. 2003 | Effectiveness single domain |
| Anderson et al. 2002 | Effectiveness single domain |
| Godfrey, 2001 | Effectiveness single domain |

childhood experiences 1[4

but also potential perpetrators [21, 22]. However, in terms of screening for social determinants of health more broadly, there are often fewer tools that cover multiple domains in a more comprehensive way. For instance, the Poverty Tool, as the name suggests, focuses primarily on screening for financial insecurity using the simple phrase "do you have trouble making ends meet at the end of the month" [23]. This tool is currently in the process of being evaluated in primary care [24].

Table 4 Proposed topics for taking a more complete social history

| |
|---|
| 1. Individual characteristics |
| • Self-defined race or ethnicity |
| • Place of birth or nationality |
| • Primary spoken language |
| • English literacy |
| • Life experiences (education, job history, military service, traumatic or life-shaping experiences) |
| • Gender identification and sexual practices |
| 2. Life circumstances |
| • Marital status and children |
| • Family structure, obligations, and stresses |
| • Housing environment and safety |
| • Food security |
| • Legal and immigration issues |
| • Employment (number of jobs, work hours, stresses/concerns about work) |
| 3. Emotional health |
| • Emotional state and history of mental illness (e.g., depression, anxiety, trauma, post-traumatic stress) |
| • Causes of recent and long-term stress |
| • Positive or negative social network: individual, family, community |
| • Religious affiliation and spiritual beliefs |
| 4. Perception of health care |
| • Life goals & priorities; ranking health among other life priorities |
| • Personal sense of health or fears regarding health care |
| • Perceived or desired role for health care providers |
| • Perceptions of medication and medical technology |
| • Positive or negative health care experiences |
| • Alternative care practices |
| • Advance directives for cardiopulmonary resuscitation |
| 5. Health-related behaviors |
| • Sense of healthy or unhealthy behaviors |
| • Facilitators of health promotion (e.g., behaviors among peers) |
| • Triggers for harmful behaviors and motivation to change (determined through motivational interviewing) |
| • Diet and exercise habits |
| • Facilitators or barriers to medication adherence |
| • Tobacco, alcohol, drug use habits |
| • Safety precautions: seatbelts, helmets, firearms, street violence |
| 6. Access to and utilization of health care |
| • Health insurance status |
| • Medication access and affordability |
| • Health literacy and numeracy |
| • |

sense to simultaneously screen for multiple domains of social risk. This is an approach that has long been used by physicians in the field of social medicine, but a relatively recent focus of research inquiry with regards to mainstream care.

#### *The impact of screening for a single domain of social risk*

There are many evaluations of screening for single domains of social risk and, in particular, a large literature on screening for different types of violence, particularly intimate partner violence [31], as well as suicide (self harm), child abuse, and elder abuse .

While a Cochrane Review did not find sufficient evidence to support an association between screening and reduced harm to women experiencing violence [32], this does not mean that screening is not effective, simply that there is not sufficient evidence at this time to demonstrate an effect [33]. Similarly, an analysis from the UK found that the HITS (Hurts, Insults, Threatens and Screams) scale is a sensitive screening tool able to identify victims of violence in health care settings, most women consider screening for domestic violence to be acceptable, and there is growing evidence of effectiveness for advocacy and psychosocial counselling, nonetheless, universal screening of all women presenting to clinical care in the absence of violence-related concerns or health

conditions does not yet meet the criteria of the National Screening Committee of the NHS [34].

Not surprisingly, the rates of screening for violence in practice across various health care settings (i.e. prenatal care and pediatrics) are variable [35]. Many in the field advocate for developing more evidence-based approaches to assist women when they do disclose abuse and for greater emphasis on training health professionals to respond appropriately to such disclosures [36]. This is important recognizing that addressing such issues in clinical care can be complex and often raises certain ethical challenges [37] and requires a broader systems approach to ensure patient-centered care, access to appropriate referral pathways, and timely follow-up [38]. Implementation science research is also needed to improve screening uptake and ensure the translation of research findings into routine practice [39].

In terms of current national guidelines, the US Preventive Services Task Force

programs and services, screening can help to identify patients who need more support in primary care [61] and can lay the groundwork for the future development of interventions that are better adapted to patient needs [62].

## Discussion

This review has demonstrated that over the last few decades, there has been a growing literature on screening for the social determinants of health in clinical practice. There are an increasing number of screening tools for single and multiple dimensions of social risk and also for specific populations ranging from veterans [63] to the LGBT community [64]. There are also more and more primary research studies and reviews being published that examine the efficacy and effectiveness of screening. For instance, Naz and colleagues [47] found that health workers who have sensitive and caring ways to ask about social determinants were able to open the door to addressing these issues in clinical care. A cluster RCT conducted by Garg and colleagues [51] demonstrated that screening for social determinants of health during well child care visits led to greater referral to social support resources, greater odds of being employed and having child care at 12 months of follow-up, and lower odds of being in a shelter. In addition to improving social outcomes, studies have also shown improvements in health outcomes, such as Strong and colleagues [45] who found that screening for social determinants, and particularly for violence exposure, among youth presenting with injuries led to a reduction in recurrent presentations to clinical care for repeat injuries (i.e., recidivism).

Yet, amassing a body of evidence to demonstrate sufficient benefit in a complex area such as this has resulted in some divergence in national screening recommendations even around single-dimension screening such as screening for intimate partner violence. National recommendations around multi-dimension screening for social risk are not yet available since the evidence base to support such recommendations is highly under-developed at present. More research is still needed in this area to bea99(still)-4632.8999som(,)-33

While there is not always consistency in clinical practice guidelines for single-dimension social risk screening (e.g., for identifying intimate partner violence) due to variability of interventions studied and outcomes measured, and while a great deal more research is needed in the area of multi-dimension screening, which is most relevant to the clinical context and meeting patient needs, there already exist many effective and evidence-based interventions to promote health equity, but clinicians would need to identify patients for whom referral to these interventions would be appropriate and may also need to raise awareness and convince local policy-makers to make these interventions available in the local setting. Thus, screening for social determinants of health is an emerging area of clinical practice that still requires a great deal more research and ongoing continuing medical education on how to do this in practice.

Yet, there is increasing traction within the medical field for improving social history-taking and integrating more formal screening for social determinants of health within clinical practice. There is an increasing diversity of screening tools now available, which can be adapted and tailored to the local context, practice population, and needs. There is therefore a great deal that frontline health workers can already do to begin to address social determinants in clinical practice and beyond.

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Author's contributions
AA drafted and revised the manuscript, approved the final version to be published and agreed to act as guarantor of the work. The author read and approved the final manuscript.

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