

A Systematic Review towards Carried out Cancer Screening

Prerna Mewawalla*

Department of Anatomy and Neurobiology, University of Tennessee, USA

Abstract

Cancer screening will only make a substantial difference to population health if a sufficient proportion of the eligible population uses them. Care should be taken to enable informed consent and protect individual autonomy.

Keywords: Anxiety; Self-collected samples; Diagnosis; Quality improvement; Prevention; Establishment

Introduction

Barriers to accessing services can include availability, location and convenience of services, for example, mammography units may only be available in towns rather than rural areas and people may not be able to take time off work to attend screening, costs, people may be deterred from screening because of the cost of the screening test or its follow-up and potential treatment or travel costs; low health literacy people may not understand what conditions are screened for or the process of screening, so may not want to attend; stigma and anxiety about the process of screening may deter some people; and social and cultural factors can influence screening participation, which tends to be lower among disadvantaged and underprivileged populations and people from ethnic minority communities. Reasons for low participation will be context and country-specific, so addressing them requires an understanding of barriers and drivers to participation and then use of evidence-based initiatives such as reminders or self-collected samples to address them [1]. The screening programme should be designed to ensure that all segments of society can benefit. It is particularly important to address barriers in access for the most disadvantaged individuals and groups, who usually experience higher morbidity and mortality from cancer, so the screening programmes do not accentuate health inequalities. Ensuring high-quality screening programmes, The four activities to ensure a high-quality cancer screening programme that maximizes benefits and minimizes harms are checking the quality of individual screening service providers through continuous monitoring of screening processes by, for example, quarterly reporting of numbers of screen positives and referral times to diagnostic services; monitoring the performance of the screening programme annually at national or regional level to assess the provision and quality of screening activities using measures such as coverage and participation rates; evaluating outcomes of screening programmes can be carried out less frequently, such as every five years, to assess whether the programme is meeting its aims by, for example, measuring invasive cancer detection rates or interval cancer rates at national or regional level; and periodically evaluating new evidence or changes to the population to check that a screening programme continues to be effective and cost effective; an example would be when a new effective primary prevention strategy, such as the human papillomavirus vaccine or new tests or treatments that change the balance of benefits and harms or change the target population, becomes available. Together, this set of activities is often referred to as a quality assurance system [2]. Terminology in this field can be confusing, however, and use of terms can vary between countries. There is a preference in some settings for terms such as quality management, quality assessment and quality control. The scope of quality assurance also may vary. In some health-care systems, it may overlap with accreditation systems for health-care services and in others evaluation of screening programmes may be carried out as a

separate activity. A quality assurance system The principles of a quality assurance system are: specification of high-quality screening processes in a quality assurance guideline that covers all the critical processes in the screening pathway, development of key performance indicators and quality standards to measure if the screening processes meet the specification, collection and analysis of good-quality data to check if the KPIs meet the quality standards, and Action to improve quality if screening processes do not meet the expected standards through quality improvement activities such as use of failsafe systems and provision of training and peer-to-peer support [3]. Measurement of performance with KPIs relies on good-quality data collected through an effective information system.

Discussion

Further qualitative information on the quality of services can be collected through visits to facilities, self-assessment questionnaires, patient surveys and audits of screening processes and cancer cases. This additional information can be very helpful in assessing quality of services and can also be combined with quality-improvement activities [4]. A dedicated team should be responsible for carrying out all such activities. Some health-care systems carry out multiple screening tests at the same time as part of, for example, adult health checks or a dispensarization service that is used in some countries. Carrying out multiple screening tests at the same time may reduce costs, but each test needs to be assessed on its own merits. When more than one test is offered as part of a health check, each test should be: subject to the same stringent criteria used to determine whether to start a screening programme; part of a pathway of care and provided in a way that fulfils the requirements of an organized screening programme. Expanding the scope of clinical examinations beyond evidence-based screening tests increases the costs and administrative burden for health-care systems. There is consistent evidence that offering general adult health checks compared with routine case-finding work in primary care is unlikely to be beneficial and may lead to unnecessary tests and treatments [5]. There are many cancer sites for which there is active research or interest in screening. Often there is insufficient evidence to support screening or further work is needed to assess the feasibility or affordability of screening for these cancers. Some countries, however,

*Corresponding author: Prerna Mewawalla, Department of Anatomy and Neurobiology, University of Tennessee, USA, E-mail: Prewalla@yahoo.com

Received: 01-Jul-2022, Manuscript No. ACP-22-64942; **Editor assigned:** 04-Jul-2022, PreQC No. ACP-22-64942(PQ); **Reviewed:** 18-Jul-2022, QC No. ACP-22-64942; **Revised:** 23-Jul-2022, Manuscript No. ACP-22-64942(R); **Published:** 30-Jul-2022; DOI: 10.4172/2169-0170.1000139

Citation: Mewawalla P (2022) A Systematic Review towards Carried out Cancer Screening. Adv Cancer Prev 6: 139.

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offer screening for some of these cancers even though they are not providing organized and high-quality screening for cervical, breast and colorectal cancer to most of their population. This does not represent best use of limited resources. Cancers that fall into this category are:

- liver cancer, skin cancer, lung cancer, stomach cancer, oral cancer for general population thyroid cancer, ovarian cancer, prostate cancer, whole-body CT scans. Some screening, such as thyroid screening or whole-body scans for detection of cancers, are offered in some sectors even though the harms of such interventions are very significant. These practices should be actively discouraged or even prohibited. Cancer sites not under consideration for screening Screening is not under consideration as an appropriate strategy for some cancer sites because the balance of benefits and harms is not expected to be positive [6]. It is hoped that this guide will support policy-makers to decide whether cancer screening programmes are an appropriate strategy to reduce incidence and mortality from cancer in their country. It encourages policy-makers to think of the harms associated with screening as well as the benefits and, in the specific context of their country, whether benefits outweigh harms sufficiently to justify starting a screening programme [7].

Recommendations

The guide focuses on key messages for policy-makers, including the importance of investing in primary prevention and early diagnosis before diverting resources to screening programmes. It shows that starting a screening programme is complex and demands many resources. For this reason, policy-makers are encouraged to take advice from independent experts in screening and clinicians [8]. It is hoped that this guide will enable policy makers to make the best use of their country's limited resources to tackle cancer and that, where appropriate, cancer screening is used to improve the lives of their populations. The WHO tackling non-communicable diseases best buys guidance recommends screening for cervical, breast and colorectal cancers with organized and high-quality programmes that are linked to timely treatment. WHO recommends starting regular cervical cancer screening at the age of 30 years among the general population of women. Detailed recommendations, including appropriate use of HPV DNA based tests and cytology, use of screen-and-treat strategies and recommendations for women living with HIV, are available in the WHO guideline for screening and treatment of cervical pre-cancer lesions for cervical cancer prevention, second edition. WHO recommends breast cancer screening using mammography in women aged 50–69 years only in countries with strong health systems [9]. In limited resource settings with weak health systems and where most women are diagnosed in late stages, it is preferable first to implement

early diagnosis programmes. Slovenia established its national cancer registry in the 1960s, which enabled Slovenian health authorities to track cancer incidence [10]. A notable increase in cervical cancer rates in the 1990s sounded the alarm among experts and led to the establishment of ZORA, Slovenia's national cervical cancer screening programme.

Conclusion

Through ZORA, the practice of opportunistic screening – offering ad hoc screening tests to women visiting health centres for other reasons was abandoned. Opportunistic screening has proven to have very limited impact on cervical cancer incidence. Instead, ZORA started screening women once every three years. Slovenia managed to invite and screen more women, monitor results more efficiently, report back better to screening providers and women, and achieve better overall results through initiation of the ZORA programme.

Acknowledgement

None

Conflict of Interest

None

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