guideline for Costa Rica. This inclusive and innovative method involved a peer review process using tools such as AGREE II, Lenzer’s Red Flags and the Institute of Medicine (IOM) criteria. This gave international credibility and up-to-date best practices to the first line professionals in health centres across the Kingdom, in relation to breast cancer diagnosis, screening and treatment. It was also designed to be readily accessible to the community in the format of patient pathways and algorithms.

Results We established the first interactive patient-centered, multidisciplinary approach to guideline development for breast cancer treatment, screening and diagnosis in Bahrain. This locally flavoured, evidenced based guideline not only used sharing of resources but was developed with little direct cost. Over 18 months the multidisciplinary team supported the development of 35 clinical scenarios relevant to the gamut of breast cancer treatment, screening and diagnosis in Bahrain the innovation is the identification of some of the challenges. Whilst the guidelines provide an underpinning for future policy making and management of clinical excellence strategy. This structure must encompass the clinician and patient focus, whilst recognising that the keys to success, adoption, implementation and sustainability lies with the government itself. Moving forward, the NGO is supporting the development of three of the eight shared decision-making aids the backing of international publishers of evidence-based clinical references (EBSCO).

Conclusions This hands-on initiative at grass roots level addressed pertinent issues related across a multidisciplinary team, when supporting a patient through their treatment pathway is key. Singing all from the same ‘lymn sheet’ is vital to better support and optimise and improve health outcomes. Reducing the confusion of what evidence based best practice is, whilst producing a locally flavoured document, showed that NGOs can be used as a resource in relation to Public Private Partnerships (PPP). This international peer reviewed guideline for Bahrain will ensure that there will be a joint clinician and patient focus, whilst recognising that the keys to success, adoption, implementation and sustainability lies with the government itself. Moving forward, the NGO is supporting the development of three of the eight shared decision-making aids the backing of international publishers of evidence-based clinical references (EBSCO).

It is vital that we deliver high quality evidence-based healthcare to our patients, as a large group of connected healthcare providers we are potentially better placed to do this than independent small practices.

Method A process has been established to ensure common clinical uncertainties are identified from the clinical teams within the business through several routes. Groups of employees with skills, expertise, experience and interest in certain clinical areas have been formed. These groups supported by 3 strategic species-based clinical boards prioritise the uncertainties and develop evidence-based decision-making resources e.g. guidance, protocols, checklists. Where evidence is lacking, the opinion and experience of the clinical workforce are gathered using evidence-based techniques and the ability to undertake our own research is being established. As well as clinically relevant quality improvement cycles we intend to measure the effect of the activities of the vetPartners clinical board on outcomes for our patients, business and clinicians.

Conclusions The principles behind the EBM manifesto to provide better evidence for better healthcare apply to all clinical settings whatever the species involved. Sharing experiences across the professions provides new opportunities to learn from each other and apply new methods of undertaking evidence-based practice to benefit our patients.

Objects Caring for a patient’s spiritual needs is well recognised as an important facet of patient care, particularly in the provision of end of life care. Understanding patient perceptions of their spiritual needs when approaching the end of life is essential to support the delivery of patient-centred care. The aim of this study was to conduct a systematic review of qualitative literature on spirituality and spiritual care needs at the end of life from the patients’ perspective to inform the development of a National Clinical Effectiveness Committee (NCEC) national clinical guideline for care of the dying adult in the Republic of Ireland.

Method A systematic search of five databases (including Medline and Applied Social Science Index and Abstracts) was conducted from inception until January 2019 using a comprehensive search strategy. Studies were included where they were primary qualitative studies exploring spirituality (defined as a search for meaning and purpose, which may or may not include reference to the divine) in patients with a life expectancy of 12 months or less in any setting. Two
DESIGN, METHODS, AND REPORTING OF STUDIES

ADDING CAPACITY: GETTING EBP INTO THE EBM

registered on PROSPERO, CRD42019122062

about these needs. Greater access to chaplains for participants
ness through listening, connecting, and engaging in discussions
the development of a national clinical guideline for care of
and adjusting to dying. These findings will be used to inform
findings from this systematic review highlight the importance
the provision of healthcare that is more patient-centred. The
experiences of healthcare services and ill-health and support
development of evidence-based health care and clinical guide-
pharmacologic intervention.

CPR involves three steps: derivation, validation, and impact
symptoms, signs, and test results of a patient. Developing a
clinicians address diagnostic or prognostic uncertainties using
such methodologies provide deeper insights into patient
experiences of healthcare services and ill-health and support
the provision of healthcare that is more patient-centred. The
findings from this systematic review highlight the importance
of spirituality for patients at the end of life as means of finding
hope, meaning and certainty, living remaining life well
and adjusting to dying. Considering the broad sense of spiritu-
ality expressed by participants, practice improvements may
include healthcare providers acknowledging and supporting
patients’ desires for creating meaning, purpose and connected-
ness through listening, connecting, and engaging in discussions
about these needs. Greater access to chaplains for participants
who expressed spirituality through religion may also be of
benefit.

Conclusions Qualitative research is increasingly used in the
development of evidence-based health care and clinical guide-
lines. Such methodologies provide deeper insights into patient
experiences of healthcare services and ill-health and support
the provision of healthcare that is more patient-centred. The
findings from this systematic review highlight the importance
of spirituality for patients at the end of life as means of finding
hope, meaning and certainty, living remaining life well
and adjusting to dying. These findings will be used to inform
the development of a national clinical guideline for care of
the dying adult in the Republic of Ireland.

PROSPERO: The protocol for this systematic review was
registered on PROSPERO, CRD42019122062

DESIGN, METHODS, AND REPORTING OF STUDIES

EVALUATING IMPACT OF CARDIOVASCULAR CLINICAL
PREDICTION RULES: A SYSTEMATIC REVIEW

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Objectives Clinical prediction rules (CPRs) are tools that help clinicians address diagnostic or prognostic uncertainties using symptoms, signs, and test results of a patient. Developing a CPR involves three steps: derivation, validation, and impact study. Poor design, methods, or reporting in these steps can lead to research waste. No study has evaluated whether impact studies are conducted with appropriate design, meth-

ods, and reporting. Therefore, we conducted a systematic review to summarize design, methods, and reporting of impact studies of cardiovascular CPRs. We also compared quality of methods and reporting of appropriately designed impact studies with that of control studies evaluating other types of non-

pharmacologic intervention.

Method We reviewed studies evaluating the impact of cardio-

vascular CPRs included in the International Register of CPRs. We identified impact studies by conducting forward citation searches of these CPRs. For some cardiovascular CPRs never published in a journal, we searched electronic databases to identify their impact studies. We categorized the design of impact studies as ideal (randomized experiment), alternative (randomized experiment excluding uncontrolled before-

after study), and inappropriate (all other study designs). For impact studies with appropriate study design, we assessed their methods using the Cochrane risk of bias and ROBINS-I tools. We assessed their report using the CONSORT statement, rele-

vant extensions to the CONSORT statement, and TREND

statement. For each impact study with appropriate design, we
identified a contemporaneous control study with matching
design published in the same journal and compared their
methods and reporting.

Results We screened a total of 42769 references, 40644 from
forward citation searches of 194 CPRs and 2125 from elec-

tronic database searches of 4 CPRs. Of 110 of impact studies
of cardiovascular CPRs found, 59.1% used inappropriate
designs (40 uncontrolled before-after studies, 7 cohort studies,
and 18 non-comparative studies), 9.1% used alternative
designs (2 non-randomized trials, 4 interrupted time series
studies, and 4 repeated measures studies), and 31.8% used
ideal designs (12 cluster randomized trials and 23 randomized
controlled trials). Overall risk of bias was substantial in 80%
(31 of 45) of impact studies. Mean proportion of domains from
reporting guidelines that impact studies adhered to was only
44.1% (9.3 of 21). There was no clear difference between impact and matched control studies in the proportion
of studies with substantial risk of bias and the mean propor-
tion of reporting domains studies did not comply with.

Conclusions We conducted the first systematic review that
evaluated design, methods, and reporting of impact studies.
We found the vast majority of impact studies either used
study designs inappropriate for assessing the effect of using
CPRs, applied methods carrying substantial risk of bias, or did
not comply with reporting guidelines. All stakeholders of CPR
development should take concerted actions to increase the
value of research.

ADDING CAPACITY: GETTING EBP INTO THE EBM

EDUCATION AND TRAINING OF HEALTHCARE PROFESSIONALS

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Objectives Evidence Based Practice (EBP) is a cornerstone of
delivering clinically effective care. An EBP capacity-building
project commenced in Ireland in 2016, to build capability and
leadership for EBP, with the ultimate goal of improving
patient outcomes. A key part of this project was the develop-
ment of a competency framework for education in evidence-
based practice, to ensure responsiveness of education standards
and curricula of healthcare professionals in this area.