# Health Policy and Management, Religion, and Spirituality

**Doug Oman and Timothy T. Brown**

**Abstract** This chapter reviews theories and empirical evidence on relations between religion and spirituality (R/S) and variables of interest to health policy and management, a public health subfield of concentration for about one-fifth of public health students nationwide. R/S factors may affect health through pathways including health behaviors, social support, psychological states, and religious/spiritual coping, either favorably or adversely.

Spiritual care is an emerging topic in many national healthcare systems including the UK, Australia, and the US, where a capacity for spiritual assessment is mandatory for many healthcare organizations. Overall, access to healthcare is often enhanced by R/S-healthcare partnerships, although inclusion of some services remains contested. Apart from some distinctive religious or cultural groups, R/S is most commonly linked to higher rates of immunization, screening, and adherence to treatment for many diseases. Mixed associations have been observed between R/S factors and utilization of reproductive health services, dementia care, mental health care for schizophrenia, and treatment for sickle cell disease. Several studies suggest that engaging in meditation may be cost-effective for enhancing quality of life, reducing overall medical expenses, and treating medically acute respiratory infections. Published resources, including self-study materials, support professional training in R/S-health issues, skills, and related legal and ethical issues. Studied outcomes from faith-based social services include criminal recidivism, substance abuse, education, employment, wages, and psychosocial skills, with most relationships being favorable.

This chapter is one of thirteen reviews in this volume providing a public health perspective on the empirical evidence relating R/S to physical and mental health.

**Keywords** Religion · Spirituality · Public health · Ethics · Health services · Healthcare access · Healthcare utilization · Cost-effectiveness analysis · Immunization · Treatment adherence

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About one-fifth of US-based public health students are enrolled in a group of programs related to health policy or to the management of health services, collectively sometimes called "health services administration" (see Table 1, chapter "Reviewing Religion/Spirituality Evidence from a Public Health Perspective: Introduction," this volume). Programs of this type may also focus on related tasks such as hospital administration, health services research, health law, and evaluation research. The relevance of R/S factors to health policy and management – the focus of a small emerging literature – is a natural corollary from the relevance of R/S factors to healthcare *practice*, as reviewed elsewhere in this volume (e.g., chapters "Public Health Education, Promotion, and Intervention: Relevance of Religion and Spirituality", and "Clinical Practice, Religion, and Spirituality").

There are many pathways through which R/S factors might affect outcomes of interest to health managers and policy-makers. The generic mediation model described elsewhere in this volume identifies several pathways through which R/S factors may affect mental and physical health status outcomes (e.g., pathways including health behaviors, social support, psychological states, and coping – see chapter "Model of Individual Health Effects from Religion/Spirituality: Supporting Evidence", this volume). Such pathways and outcomes are closely related to variables of major interest to healthcare policy-makers and managers, such as utilization of screening tests and other preventive measures, as well as average annual healthcare costs per patient. The generic model suggests that R/S may often be related to these variables in favorable ways on both individual and community levels – for example, R/S teachings about stewardship of the body may enhance motivation to utilize health services.

However, R/S may also at times impede these generic salutary processes or cause other negative effects on conventionally measured health policy outcomes, such as utilization and access. For example, on the individual level, various R/S traditions may encourage interpretations of modesty that impede female patients from receiving some types of services from male healthcare providers. On the community level, R/S groups may advocate for conceptions of healthcare that result in restrictions on access to certain services, such as contraception and abortion. Phenomena of negative R/S effects have also been noted elsewhere in this volume, where it has been suggested that religious traditions may at times be in a state of *dynamic adjustment* to changing sociocultural and technological conditions (e.g., see chapters "Social and Community-Level Factors in Health Effects from Religion/Spirituality", "Environmental Health Sciences, Religion, and Spirituality", and "Questions on Assessing the Evidence Linking Religion/Spirituality to Health", this volume).

The following review is structured into two major sections, the first focusing on health system policy, and the second on healthcare management. Such a division is partly arbitrary and reflects perceived degree of prima facie relevance rather than an airtight division, because policy-making and management are interrelated areas of expertise (Remme et al. 2010). Most topics reviewed here possess relevance to both fields of work.

# 1 Policy

Health policy may be understood as referring to "decisions, plans, and actions that are undertaken to achieve specific healthcare goals within a society" (WHO 2013). Around the world, common goals of health policy-making include attempts to expand a national population's access to high-quality healthcare, to ensure effective utilization, and to manage and reduce cost. Underlying all efforts to attain such goals is a society's understanding of what constitutes legitimate and worthwhile healthcare – what might be called the scope and content of healthcare, which is sometimes a source of disagreement *within* societies. R/S factors are relevant to all four of these concerns: Scope, access, utilization, and cost, which we now examine in turn.

## *1.1 Policy: Scope and Content of Healthcare*

Religious/spiritual communities and modern secularly-organized healthcare systems are often not fully aligned on their views of the legitimate scope of healthcare. R/S influences have operated both to expand and restrict the scope of what is recognized as healthcare. In this subsection we examine the recently heightened sensitivity towards and acknowledgement of R/S factors in healthcare systems, as well as the continued contestation of whether healthcare systems should include specific types of controversial services, such as contraception and abortion.

**National Healthcare Policies and Systemic Provision of Spiritual Care** Most if not all premodern approaches to healthcare affirmed a close connection between spiritual factors and physical and mental health. In contrast – and in the words of three medical educators –for much of its history, modern medicine has been "shorn of every vestige of mystery, faith, or moral portent, [leaving it] actually an aberration in the world scene" (Barnard et al. 1995, p. 807). In certain limited respects, however, modern healthcare systems in the past two decades have made major progress in re-incorporating an awareness of R/S factors, especially with regard to their subjective importance for patients. These changes have occurred in slightly different ways in different national healthcare systems, and several relevant reviews have been published (e.g., Pearce 2013; Rumbold et al. 2012).

Rumbold et al. (2012) have described and compared the role of R/S in healthcare systems in the US, the UK, and Australia. They note that in all three systems, initial interest in spiritual care emerged in palliative care, now supported by networks of practitioners and academics, and a much broader "groundswell of interest" (p. 387). Each national system has its distinctive features (e.g., centralized in the UK, market-driven in the US). These features have different strengths and weaknesses, and the different systems and networks of interested professionals are beginning to learn from each other. Rumbold et al. suggest that spiritual care holds wider implications for healthcare systems, concluding that

> Spiritual care.… provides specific strategies for grounding the aspirational values expressed in current health policy (person-centered care etc) that as yet lack consistent implementation. It compensates for the contracting [manager-centered] approaches that translated the scientific discourse of the health professions into actions that marginalized or neglected the art of care. It re-establishes values at the centre of care. In all these respects it can be seen to make a constructive contribution to contemporary health policy. (Rumbold et al. 2012, p. 388)

Similarly, a recent US-based review by Pearce (2013) described a variety of roles of R/S that are inevitable, necessary or appropriate. These include R/S as a coping factor, its role in medical decision-making and adherence, expectations by patients that physicians will address R/S issues, and the existence of R/S needs among both patients and providers. Pearce reviews best practices for spiritual history-taking, R/S interventions for patients, and R/S interventions for providers. Last but not least, integrating R/S and healthcare

> is relevant and important because numerous medical guidelines, regulations, codes of ethics, and criteria for institutional accreditation… now require health care providers to address patients' spirituality and spiritual needs. (Pearce 2013, p. 530)

Pearce cites codes or guidelines that include those of the Institute of Medicine, National Hospice and Palliative Care Organization, International Council of Nurses; and the Joint Commission on Accreditation of Healthcare Organizations (see also chapter on "Clinical Practice, Religion, and Spirituality", this volume).

**Debates on Legitimate Scope of Healthcare** Increased incorporation of spiritual care into healthcare systems represents a noteworthy step towards greater alignment between R/S and health system views of healthcare. However, as noted above, various types of philosophical non-alignment continue to exist. Perhaps most notable are substantial and persisting differences with regard to the ethical legitimacy of various services related to human reproduction or its control, such as the provision of contraceptives and abortion. Views have also differed with regard to procedures such as euthanasia. We will consider these issues in greater detail below in the subsection entitled "Access." It should be remembered that views differ regarding whether these are primarily issues of access to legitimate healthcare procedures, or primarily issues of resistance to activities deemed immoral.

## *1.2 Policy: Access to Healthcare*

Although access to healthcare may be viewed dichotomously as either available or unavailable, few barriers to care are absolute, and the professional literature often conceives access to healthcare as a matter of degree that may be affected by numerous potential impediments and facilitators (e.g., Levesque et al. 2013). Access to healthcare that makes possible healthcare utilization is sometimes characterized as "realized access" (Levesque et al. 2013, p. 19). Literature on these two interrelated topics is examined in the present subsection focused on access, and the following subsection focused on utilization.

**Healthcare Partnerships with Religious Organizations** Recent decades have seen a steady increase in recognition by health policymakers of the value of partnerships with religious organizations. Such recognition is gaining both in the United States and internationally, including in the developing world. Such partnerships can facilitate access by populations that otherwise might be unaware of how to access modern healthcare systems, and can also guide policy-makers in understanding the perceptions and needs of such populations.

In the US, increasingly sophisticated partnering models, involving carefully structured divisions of responsibility at various stages of illness and care trajectories, have been implemented in North Carolina and in Memphis, Tennessee (see Cutts 2011; Cutts and King 2016; for further information see Cutts and Gunderson in this volume, chapter "Implications for Public Health Systems and Clinical Practitioners: Strengths of Congregations, Religious Health Assets and Leading Causes of Life").

In many parts of the world, religious organizations may be responsible for delivering large fractions of healthcare – estimated nearly two decades ago to be between 40% and 50% in many parts of sub-Saharan Africa (Green et al. 2002). Healthcare activities by religious communities may be highly localized and poorly understood by outsiders, and African health professionals have recently developed techniques for conceptualizing and systematically mapping even highly localized "religious health assets," finding evidence for an unsuspected pervasiveness indicating that such religious health assets "could and should be more effectively mobilized and linked for scale up to universal access" (ARHAP 2006, October, p. 2). Sub-Saharan African evidence reveals that faith-based healthcare providers help expand the reach of healthcare systems by disproportionately serving the poorest population sectors (Olivier et al. 2015). Further discussion of both US and African work in is available elsewhere in this volume (see chapter on "International and Global Perspectives on Spirituality, Religion, and Public Health").

**Religious Resistance to Specific Services** Religion and spirituality may also affect access to healthcare through resistance to the delivery of particular services, such as contraception, abortion or (where legal) euthanasia. Such resistance may occur at individual, organizational, and political/systemic levels. On the individual level, varying proportions of health professionals in the US and elsewhere do not want to administer some of the contested procedures. Some professionals also want to avoid giving referrals to where such procedures can be obtained. Provider refusals to participate in such procedures are often called "conscientious objection," which may arise from a variety of religious and non-religious motivations (Chavkin et al. 2013). Religious views, even regarding controversial issues such as abortion, are more diverse than is commonly supposed (e.g., Maguire 2001). Nonetheless, surveys in the US and Europe have found links between religion and higher support for various types of conscientious objection among samples of healthcare providers that include general practitioners in the UK, OB/GYNs and midwives in Sweden and Denmark, OB/GYNs in New York, nurses in Idaho, pharmacists in Texas, and medical students in Norway (see Chavkin et al. 2013; Nordstrand et al. 2014; see also Peragallo and Thorp 2017). Especially when common in a local community,

such conscientious refusals may generate “institutional-level implications” that adversely affect access, such as scheduling problems and delays for patients, or failure to offer certain procedures such as abortion (Chavkin et al. 2013, p. S44).

Organizations may also resist provision of certain procedures, adversely affecting access, even when providers are willing to offer them. This has occurred in hospitals in Poland and Slovakia (Chavkin et al. 2013, p. S44). More broadly, many religiously affiliated hospitals worldwide, most prominently Roman Catholic hospitals, may refuse to offer certain reproductive health services. Objection by *non-healthcare organizations* to specific services is also an important phenomenon in the United States, because many people obtain health insurance through their employers. More specifically, the US Supreme Court’s 2014 *Hobby Lobby* ruling, by a 5–4 split decision, upheld the right of employers to receive a religious exemption from their obligation under the Affordable Care Act to offer their employees insurance that covers contraceptive services (Cohen et al. 2014). Of course, religion may also affect the legal environment itself in ways that affect access to services – for example, evidence suggests that a stronger presence of Roman Catholicism in a country is associated with less availability of abortion services (Minkenberg 2002), although political opposition to various types of reproductive services has historically been present in a wide range of religious traditions (Gaydos and Page 2014).

Such organizational stances regarding access restrictions cannot be interpreted as necessarily representing the views of the rank and file members of these religious groups, however, as was documented in a recent nationally representative survey of US women. The survey reported that women who were religiously affiliated or more frequently attended religious services were indeed more likely to oppose provision of contraception and abortion services, and more likely to support employer exemptions from paying for such services. However, support for contraceptive services and employer non-exemption was high even among women who were religiously affiliated (e.g., 45%–63% support for contraceptive services among members of all major denominational categories) (Patton et al. 2015).

### *1.3 Policy: Utilization of Health Services*

**Health Service Utilization: Immunization, Screening and Disease Detection** Koenig et al. (2012) have identified studies reporting associations between R/S and various dimensions of health service utilization related to disease prevention and adherence to treatment. Evidence reviewed elsewhere suggests that apart from certain exceptional religious groups, R/S factors are positively associated with obtaining immunizations (see chapter on “Infectious Diseases, Religion, and Spirituality”, this volume). In addition, Koenig et al. (2012, pp. 562–567, 906–911), identified 44 studies that had examined relations between R/S factors and screening, of which 28 (64%) reported positive relationships and 8 (18%) reported negative relationships (p. 564). Several studies reporting positive relationships employed US nationally representative samples and multiple adjustments. For example, Benjamins and Brown

(2004) prospectively studied a nationally representative sample of older US adults (n = 6055). After controlling for demographics, socioeconomic status, and physical and mental health, respondents who indicated at baseline that religion was very important to them were significantly more likely in the next 2 years to obtain cholesterol screening (odds ratio [OR] = 1.76), PAP smear (OR = 2.04), and prostate screening (OR = 1.76), compared to those indicating that religion was not important.

In another study, Benjamins (2007) examined a random sample of community-dwelling adults in Mexico (n = 9890). In analyses adjusted for demographics, health status, and access to healthcare, she found that respondents who said that religion was very important were significantly more likely after 2 years to have had blood pressure screening (OR = 1.60, 95%CI = 1.28–2.00) and cholesterol screening (OR = 1.35, 95%CI = 1.08–1.70), although there was no difference in diabetes screening. In contrast, in an unfavorable finding, Azaiza and Cohen (2006) examined a random sample of Arab women in Israel (n = 528), finding that secular women were significantly more likely (OR = 1.98, 95%CI = 1.29–2.14) to obtain breast cancer screenings, but not mammograms (OR = 0.64, 95%CI = 0.28–1.46), than religious women. The authors noted that clinical breast examination "involves an invasion of a woman's privacy and is usually performed by a male physician (unlike mammography, usually administered by female technicians) [and] thus causes greater feelings of embarrassment, which might explain why religious women avoid it more than mammography" (p. 527). Somewhat similarly, Hall et al.'s (2012, p. 745) analysis of a US nationally representative sample of young women aged 15–24 (n = 4421) reported that frequent attenders at religious services were less likely to use "routine gynecologic services (Pap smear screening, pelvic examinations)," although the explanation for this difference was unclear. Some possible explanations may involve perceptions that such examinations are not needed when women are not sexually active.

**Health Service Utilization: Adherence to Treatment** Koenig et al. (2012, pp. 569–572, 913–916), found that degree of R/S and treatment adherence was examined in 22 post-2000 studies, of which 11 (50%) reported favorable associations, and three (14%) reported unfavorable associations (p. 570; others were nonsignificant or mixed). Some of these studies examined links with substance abuse, where evidence reveals primarily favorable associations (5 studies; see also chapter entitled "Model of Individual Health Effects from Religion/Spirituality: Supporting Evidence", this volume). Several studies have also examined links between R/S and adherence to treatment for infections, revealing primarily favorable associations (8 studies, see chapter "Infectious Diseases, Religion, and Spirituality", this volume). A recent systematic review of US-based HIV studies (k = 33) revealed largely favorable associations, supported by findings from at least a half-dozen separate studies, linking the R/S dimensions of private religious practices, positive R/S coping, and spiritual meaning, with better HIV treatment adherence and/or outcomes (Kendrick 2017, Table 2).

Other types of adherence, such as to cardiovascular disease treatment regimens, have also been studied, revealing mixed but primarily favorable patterns of association with degree of R/S. For example, among favorable findings, Park et al. (2008)

studied adherence to medical advice by congestive heart failure (CHF) patients in Ohio (n = 202). Significant favorable cross-sectional associations were observed between several R/S dimensions and adherence to treatment recommendations pertaining to diet, smoking and alcohol avoidance, and CHF-related behaviors including reporting new symptoms, exercising, taking medication, and managing stress. After controlling for age, gender, race, baseline adherence, and other religious measures, baseline religious commitment predicted better adherence 2 years later to CHF-specific treatment recommendations. Similarly, Koenig et al. (1998) studied older adults diagnosed with high blood pressure (n = 747), finding significantly higher rates of taking prescribed medications by those who attended worship services frequently (85% versus 80%, $p < 0.05$), after adjusting for demographics, physical functioning, and health behaviors. In another example, Harris et al. (1995) studied heart transplant patients (n = 40), finding less reported difficulty in adhering to medical regimens among those who engaged in prayer or had a collaborative R/S coping style.

However, unfavorable associations have also emerged, as in a study of hypertensive patients in Ghana (n = 400, 90% Christian, 5% Muslim). In this study, Kretchy et al. (2013) reported that high adherence to medication was infrequent overall (27/400 or 7%), and was predicted by *lower* levels of spirituality (OR = 2.68, $p < 0.05$). Also on the unfavorable side, Sivan et al. (2004) studied adherence by Jewish parents of newborn infants in Israel (n = 608) to medical recommendations on how to avoid Sudden Infant Death Syndrome (SIDS), finding significantly less likelihood of adherence among parents who were orthodox or ultra-orthodox (e.g., at 2 months of age, 20% non-adherence among nonreligious and traditional versus 44% non-adherence among ultra-orthodox). The authors suggested that “the explanation should be looked for in the way more religious people accept and trust information that comes from non-religious services” (p. 537).

Psychological mediators of adherence have occasionally been probed. In an Ohio-based study, Grossoehme et al. (2012) studied parents (n = 28) of children with cystic fibrosis. They found that perceived sanctification of the body and collaborative religious coping styles were significantly associated with predictors of adherence that included self-efficacy for adherence and belief in the utility of treatment. Religious tradition and denomination were not reported.

Finally, a systematic review by Gearing et al. (2011) examined 70 studies of R/S and schizophrenia, finding a small but somewhat inconsistent body of studies (n = 4) linking R/S factors to equal or increased adherence to psychiatric treatment and medications (see also chapter on “Mental Health, Religion, and Spirituality”, this volume).

**Health Service Utilization: Other Services** R/S factors are sometimes associated in positive or negative ways with other types of utilization of health services. For example, by 2010, the “emerging field” of R/S and reproductive health had produced nearly 400 publications in refereed journals (Gaydos et al. 2010; see chapter on “Maternal/Child Health, Religion, and Spirituality”, this volume). Of these, a small fraction has focused on R/S and reproductive health service utilization. An example is Greil et al.’s (2010) study of 2183 infertile women in the United States, which reported an “indirect and complex relationship” – no direct relationship, but religiosity was associated with greater belief in the importance of motherhood,

which in turn was associated with increased likelihood of helpseeking for infertility. Religiosity was also associated with greater ethical concerns about infertility treatment, which were associated with decreased likelihood of helpseeking (see also more recent research by Burdette et al. 2014). The aforementioned US national study by Hall et al. (2012) found less utilization of sexual and reproductive health services, such as contraception and testing/treatment of sexually transmitted infections, among women with frequent religious participation, regardless of sexual experience. In a developing country, Gyimah et al. (2006) reported that Muslim women were less likely than Christian women to use reproductive health services, even after demographic adjustments.

R/S-utilization relationships have also been investigated in relation to mental health (see chapter "Mental Health, Religion, and Spirituality", this volume). A systematic review by Smolak et al. (2013) identified 10 studies that investigated perceptions by family, community, or professionals of useful sources of help for individuals suffering from schizophrenia. It reported that "individuals often sought the help of traditional/spiritual healers before seeking help of mental health professionals" (p. 447). A systematic review of the impact of religion on dementia care by Regan et al. (2013) reported that while religion can assist with the coping process, it was also associated with reluctance to seek professional dementia care, partly due to fear of cultural insensitivity towards religious behavior.

R/S relations with utilization of other types of conditions have also been reported. An example is a study by Bediako et al. (2011) of US adults with sickle cell disease ($n = 95$). Participants who used higher levels of positive religious coping reported nearly 3 fewer hospital admissions per year ($M = 1.29$ versus 4.23, $p < 0.05$ in multiple regressions).

## *1.4 Policy: Cost of Health Services*

**R/S-Related Costs and Savings** Health-related policy and management choices often imply a complex set of costs and benefits for a variety of actors, including patient groups, the general public, and healthcare professionals and organizations. Many health-related choice alternatives have been evaluated for their economic impacts. Consolidated reporting standards for such health economic analyses have been published (e.g., Husereau et al. 2013), and health economic evaluations have been applied to a wide range of mental health care interventions and complementary and alternative therapies, as reflected in systematic reviews (e.g., Hamberg-van Reenen et al. 2012; Ostermann et al. 2011; Zechmeister et al. 2008).

Health economic evaluations could potentially be applied to many R/S-oriented interventions that have been developed – in this volume see chapters "Public Health Education, Promotion, and Intervention: Relevance of Religion and Spirituality", "Mental Health, Religion, and Spirituality", and "Clinical Practice, Religion, and Spirituality". However, few health economic evaluations appear to have examined

either R/S interventions or interventions reflecting other dimensions of cultural tailoring. An empirical case for the added value of R/S components in psychotherapy is still only emergent (see Worthington et al. 2011). Perhaps for this reason, health economic evaluations of R/S factors and interventions are rare. In what follows, we describe an analysis by Hall (2006) that suggests the potential magnitude of benefits and cost-savings from R/S factors, as well as several cost-effectiveness studies of meditation, and a review of research on multi-disciplinary care teams.

In what he intended as a provocative "thought experiment," Hall (2006, p. 104) offered an analysis comparing the cost-effectiveness of religious attendance with statin-type lipid-lowering agents commonly prescribed to heart disease patients. Using actuarial tables and published odds ratios for worship attendance and mortality, Hall estimated costs per additional life-year of $4000–$14,000 for statin-type agents and $3000–$10,000 for regular religious attendance, suggesting that "religious attendance may be more cost-effective than statins" (p. 103). Hall acknowledged theological and ethical nonequivalence, remarking that "it is not at all clear that 'instrumental faith' is sufficiently genuine to accrue the observed reduction in mortality" (p. 107), but argued that the comparability of this R/S factor with a widely accepted therapy underscored that it would be "fruitful to invest the necessary resources to better understand the nature and relevance of the associations between religious attendance and health" (p. 108).

Some studies have also investigated the cost-effectiveness of meditation. The earliest studies used quasi-experimental designs to evaluate impacts on healthcare expenditures from practicing Transcendental Meditation. Three contributions to this literature are from Robert Herron and colleagues, with each publication relying on the same sample of meditators and demographically matched non-meditators, both residing in the Canadian province of Quebec ($n = 2836$). The government supplied medical expense data from 1981 to 1994. In the most recent publication that analyzed these data, Herron (2011) compared annual healthcare expenditures in the highest-spending 10% of each group. Expenses were similar between meditators and non-meditators before the meditators began meditating. Control group expenses were essentially unchanged 5 years later, but the meditators' costs had been reduced by 28% ($p < 0.05$). Similarly favorable findings were reported in earlier comparisons that included the lower-expenditure 90% of the groups, and that focused on individuals of age 65 or older (Herron and Hillis 2000; Herron and Cavanaugh 2005).

Several studies, including at least three randomized trials, have also evaluated the economic effects of modernized mindfulness-based interventions, which are of uncertain spiritual classification (e.g., whether R/S versus secular classification – see chapter entitled "Model of Individual Health Effects from Religion/Spirituality: Supporting Evidence", this volume, section on "Borderline Spiritual Constructs"). Addressing a widely prevalent illness in society, the potential economic savings related to acute respiratory infection (ARI, e.g., common colds and influenza) were investigated by Rakel et al. (2013), based on a randomized trial of mindfulness meditation among adults over 50 years old ($n = 154$). Conservative estimates of ARI-related costs were based on medications, clinic visits, and missed work days, but did not take into account additional savings from reduced losses in productivity. Mean

annual ARI-related costs were lower in the meditation group ($65, 95% CI: $34–$104) than the controls ($214, 95% CI $105–$358), which would correspond to a US nationwide general-population savings of approximately $28 billion annually. The authors note that the $450 per individual cost of the meditation intervention "would negate the initial [conservatively estimated] cost savings for ARI but not the potential long-term benefits that would accrue… these interventions would be undervalued if we limited their benefit to just one ARI season. The challenge is knowing where education fades and when there is a need to reinvest to encourage these behaviours" (p. 395).

Based on another randomized trial, Lengacher et al (2015) estimated costs per additional quality-adjusted life year (QALY) from a mindfulness intervention with breast cancer patients (n = 96). Compared to usual care, an additional expense of less than $1300 ($666 for providers and $592 for patients out of pocket) resulted in an estimated lifetime increase of 1.95 QALYs, a relatively low expense in comparison to other published breast cancer interventions.

A third randomized trial by van Ravesteijn et al. (2013) estimated the cost-savings from using mindfulness-based cognitive therapy to treat medically unexplained symptoms (MUS), which account for approximately one-sixth (16%) of the US healthcare budget. Compared to enhanced usual care, the total costs were not significantly different, but the mindfulness intervention brought about "a shift in the use of healthcare resources as mental health care costs were higher and hospital care costs lower" (p. 197). In addition, a pre/post study by Singh et al. (2008) computed cost-savings from a mindfulness-based intervention for physical aggression in offenders with mild intellectual disabilities (n = 6). Comparing the 12 months prior to and following the intervention revealed a 95.7% reduction, from $51,508 to $2244, in staff absenteeism and medical costs attributable to incidents of offender physical aggression. Another pre-post study by Singh et al. (2014) studied a 7-day intensive Mindfulness-Based Positive Behavior Support training for professional staff (n = 9) working with the developmentally disabled. Compared to a 40-week pre-training period, the 40-week post-training period yielded an 87% cost reduction (from $152 K to $18.6 K) in expenses for staff injuries and resulting lost days of work, medical costs, accident compensation costs, and cost of temporary or replacement staff. Finally, a pre/post study by Roth and Stanley (2002) found reduced healthcare utilization by inner-city medical patients (n = 47) in the year following training in mindfulness meditation, compared to the year before.

For generations, chaplains have provided spiritual care at hospitals, and the work and effects of chaplaincy has been the focus of increasing empirical research (e.g., Candy et al. 2012; Iler et al. 2001; see also chapter on "Clinical Practice, Religion, and Spirituality", this volume). Studies that attempt to quantify the impact of chaplains' work in terms of costs and benefits are exceedingly rare, perhaps in part because of the difficulties of applying economic rationalism (e.g., Newell and Carey 2000). However, at least two studies have evaluated the cost-efficiency of multidisciplinary care teams that included chaplains, finding mixed results (Ke et al. 2013). Recently, Swift et al. (2012) provided an overview of chaplaincy services across the US, UK, and Australia. They noted a variety of functions performed by

chaplains, including being "tasked with discerning spiritual needs as they are encountered and shaping with the patient a response that may not sit within a single tradition," being "frequently required to teach the spiritual care elements of training for a host of other health professions" (p. 188), and engaging in a "wide-ranging presence throughout the organization, including attendance during the night and on holidays, leading to a potentially impressive level of awareness about how the hospital is functioning [that] supplies an important narrative to accompany performance data and broaden the management's understanding of the organization as a whole" (p. 188).

## 2 Management

R/S factors may affect the day-to-day operations of healthcare organizations in a variety of ways. In this section, we review major types of available information in the categories of (i) acquiring and (ii) providing R/S-related professional training, dealing with R/S-related ethical and legal issues. Finally, because these represent a large part of the service provision sector in most countries, we examine (iii) information on best practices for managing faith-based health and social service organizations.

**Professional Training in R/S-Health** The growing recognition of the importance of R/S factors in health and healthcare has been accompanied by increased interest in how to provide adequate training. Various published resources are available. One systematic review by Paal et al. (2015) identified 46 studies of spiritual care training across diverse professional settings, including multi-professional settings (k = 9), nursing (k = 21), pastoral care (k = 6), and medical professionals and students (k = 10), Most studies were pre/post, with outcomes demonstrating training benefits for integrating spirituality in clinical practice and patient communication, and some evidence also suggesting that "without attending to one's own beliefs and needs, addressing spirituality in patients will not be forthcoming" (p. 28).The authors argue that on an organizational level, "a successful integration process needs role models and clearly identified mentors who accompany the integration process" (p. 28).

Other reviews have often focused on specific professions, with Koenig et al. (2012, p. 942) listing nine publications from 2000 to 2007 on R/S in medical or psychiatric education. Some investigators have examined the efficacy of self-study programs for clinicians to learn about R/S (Taylor et al. 2009), or have conducted reviews of R/S in education of clinicians (e.g., nursing undergraduates, Cooper et al. 2013). Sorsdahl et al. (2009) reported a Cochrane Collaboration systematic review of interventions for educating traditional healers about STDs and HIV medicine. Finding only two published reviews, they concluded that more research, using higher quality designs, was needed. A systematic review by Lewinson et al. (2015) identified 28 studies relevant to training for nurses in R/S-health issues, finding examples of innovation and major themes of spiritual awareness, spiritual assessment, and spiritual competence. One study of 250 baccalaureate nursing education programs found that most (82%) integrated spirituality throughout the curriculum,

with some (16%) offering an elective spiritual care course (Lemmer 2002). A systematic review by Jafari (2016, p. 264) identified six empirical studies of R/S training in accredited clinical/counselling psychology programs, finding that training was predominantly occurring in supervisory settings, "outside of curriculum-based contexts."

**Ethical and Legal Issues** Addressing R/S in healthcare requires attending to both ethical and legal issues. For example, healthcare administrators must ensure that their organizations comply with relevant laws and offer appropriate training to support ethical conduct by clinicians and others responsible for patient care. Furthermore, at both the organizational and societal levels, policies that support skillful integration of R/S into healthcare can be developed by health policy professionals.

Legal and ethical issues are closely interrelated, and ethical issues are mentioned, sometimes briefly, in many of the reviews in this volume (see overview in this volume's chapter "Questions on Assessing the Evidence Linking Religion/Spirituality to Health", section on "Q7: What about Ethics?"). Compared to ethical issues, legal issues related to R/S and healthcare are the focus of a comparatively smaller number of publications. Examples of publications that emphasize legal issues, R/S, and healthcare include a practitioner-focused review of legal issues by Taylor (2012), emphasizing concerns affecting nurses. She reviewes relevant laws (e.g., First Amendment, Title VII of the 1964 Civil Rights Act, Religious Freedom Restoration Act) and their application to several common issues (e.g., "Can a nurse ask patients about their religiosity?", "Can a nurse wear religious clothing while caring for patients?", pp. 66, 67). Many issues of managing employee R/S expression, including employee R/S diversity, were recently discussed by Benefiel et al. (2014). They contrast a "legalistic approach" deemed less effective, with a "non-interventionist approach" that includes such elements as providing organizational space and employing a "personal days" policy to accommodate R/S activities and needs (p. 182).

Warnock (2009) also discusses legal issues related to R/S tailoring of healthcare. She suggests that there may be "a new ethical dilemma [that] stems from a conflict between the First Amendment to the United States Constitution, commonly known as requiring separation of church and state, and the [need for] provision of spiritual care within public healthcare facilities by staff paid with public funds" (p. 470). She describes how this ethical issue or dilemma generated a 2006 lawsuit against the Veterans Administration (VA). While noting that the judge had ruled in favor of the VA, Warnock proposed a "resolution" that involves "allowing patients to define religion and spirituality for themselves and using culture and religion neutral terminology" for spiritual assessments (p. 477).

**Managing Faith-Based Service Organizations** A literature review by Hong described best practices for managing faith based health and social service organizations (Hong 2012). Best practices were identified in four areas: appropriate staffing, humanized leadership, diversity of funding, and utilization of faith. Hong also offered policy recommendations intended to better serve and protect clients. Several systematic reviews have also examined outcomes from faith-based social services

(see chapter on "Public Health Education, Promotion, and Intervention: Relevance of Religion and Spirituality", this volume). Studied outcomes from faith-based social services include criminal recidivism, substance abuse, education, employment, wages, and psychosocial skills, with most relationships favorable (DeHaven et al. 2004; Ferguson et al. 2007; Hankerson and Weissman 2012; Williams et al. 2011).

## 3 Summary: Health Policy and Management

Several ideas for application to public health practice are provided in Box 1. In summary, published literature relevant to R/S and health policy and management suggests that

- R/S and national healthcare policies and systems: Spiritual care is an emerging topic in many national healthcare systems in the English-speaking world (US, UK, Australia), and the capacity for spiritual assessment is mandatory for many healthcare organizations in the US (Rumbold et al. 2012);

**Box 1: Ideas for Application to Public Health Practice: Health Policy and Management**

The theories and evidence reviewed in this chapter suggest diverse practical activities by both health policy-makers and healthcare managers, such as:

✓ Be aware of evidence linking R/S with rates of adherence to treatment that are largely but not entirely higher, including better adherence to treatments for infectious diseases, cardiovascular disease, and substance abuse;

✓ Health policymakers at different levels of government can design and advocate for policies that foster collaborative partnerships between health systems and religious organizations in ways that maximize access, maximize utilization, and minimize cost.

✓ Healthcare managers can seek to ensure that R/S factors are properly and effectively addressed in organizational procedures for intake and interaction with patients, and that their staff is well-educated about the importance of addressing R/S factors.

✓ Healthcare managers can also promote and encourage increased attention to R/S-infused interventions (see chapters "Public Health Education, Promotion, and Intervention: Relevance of Religion and Spirituality", "Mental Health, Religion, and Spirituality", and "Clinical Practice, Religion, and Spirituality", this volume).

Please see chapters in Part II of this volume for in-depth discussion of the relevance of religion and spirituality to applied public health work. See Part I's first chapter for an overview of major application themes.

- Partnerships between healthcare systems and religious organizations are important in both the US and internationally, and can facilitate access and reach of healthcare systems (see chapters "Implications for Public Health Systems and Clinical Practitioners: Strengths of Congregations, Religious Health Assets and Leading Causes of Life", "International and Global Perspectives on Spirituality, Religion, and Public Health");
- Individuals and organizations may differ in their views of the legitimate scope of healthcare on issues such as contraception and abortion, and such views are often associated with R/S engagement, although diverse views often also exist within R/S communities. Such differences may result in restrictive policies or professional "conscientious objection" that affect access to contested services;
- Immunization and screening: R/S tends most commonly to be associated with higher rates of immunization and screening, although unfavorable associations are sometimes found in distinctive religious or cultural groups (Benjamins and Brown 2004; Koenig et al. 2012, pp. 562–567, 906–911);
- Adherence to treatment: Although findings are mixed, R/S is most often favorably associated with better adherence to treatment for conditions that include infectious diseases, cardiovascular disease, schizophrenia, and substance abuse (Koenig et al. 2012, pp. 569–572, 913–916; Park et al. 2008);
- Utilization of other health services: R/S factors may also be associated with higher or lower rates of utilization of other health services, including reproductive health services, dementia care, mental health care for schizophrenia, and treatment for sickle cell disease;
- R/S-related costs and savings: Cost-effectiveness studies of R/S are rare, although several studies suggest that engaging in meditation reduces an individual's overall medical expenses and may be cost-effective for enhancing quality of life, reducing overall medical expenses, and treating medically acute respiratory infections and unexplained symptoms (e.g., Rakel et al. 2013). It has also been argued that attendance at religious services is more cost-effective for preventing heart disease than are statin-type agents (Hall 2006);
- Professional training in R/S-health: A small body of published resources is available, including self-study materials (Koenig et al. 2012, p. 942; Taylor et al. 2009);
- R/S and ethical and legal issues: Legal and ethical issues of addressing R/S in healthcare are intertwined; a few resources focus especially on legal issues (Taylor 2012; Warnock 2009);
- Managing faith-based organizations: Studied outcomes from faith-based social services include criminal recidivism, substance abuse, education, employment, wages, and psychosocial skills, with most relationships favorable (e.g., DeHaven et al. 2004); best practices for managing faith based organizations have been identified (Hong 2012).

## References


ARHAP. (2006, October). *Appreciating assets: The contribution of religion to universal access in Africa*. Cape Town: The African Religious Health Assets Program (ARHAP).

Azaiza, F., & Cohen, M. (2006). Health beliefs and rates of breast cancer screening among Arab women. *Journal of Women's Health, 15*(5), 520–530. https://doi.org/10.1089/jwh.2006.15.520.

Barnard, D., Dayringer, R., & Cassel, C. K. (1995). Toward a person-centered medicine: Religious studies in the medical curriculum. *Academic Medicine, 70*(9), 806–813.

Bediako, S. M., Lattimer, L., Haywood, C., Jr., Ratanawongsa, N., Lanzkron, S., & Beach, M. C. (2011). Religious coping and hospital admissions among adults with sickle cell disease. *Journal of Behavioral Medicine, 34*(2), 120–127. https://doi.org/10.1007/s10865-010-9290-8.

Benefiel, M., Fry, L. W., & Geigle, D. (2014). Spirituality and religion in the workplace: History, theory, and research. *Psychology of Religion and Spirituality, 6*(3), 175–187. https://doi.org/10.1037/a0036597.

Benjamins, M. R. (2007). Predictors of preventive health care use among middle-aged and older adults in Mexico: The role of religion. *Journal of Cross-Cultural Gerontology, 22*(2), 221–234. https://doi.org/10.1007/s10823-007-9036-4.

Benjamins, M. R., & Brown, C. (2004). Religion and preventative health care utilization among the elderly. *Social Science and Medicine, 58*(1), 109–118. https://doi.org/10.1016/S0277-9536(03)00152-7.

Burdette, A. M., Haynes, S. H., Hill, T. D., & Bartkowski, J. P. (2014). Religious variations in perceived infertility and inconsistent contraceptive use among unmarried young adults in the United States. *Journal of Adolescent Health, 54*(6), 704–709. https://doi.org/10.1016/j.jadohealth.2013.11.002.

Candy, B., Jones, L., Varagunam, M., Speck, P., Tookman, A., & King, M. (2012). Spiritual and religious interventions for well-being of adults in the terminal phase of disease. *Cochrane Database of Systematic Reviews, 2012*(5), 1–53. https://doi.org/10.1002/14651858.CD007544.pub2.

Chavkin, W., Leitman, L., Polin, K., & for Global Doctors for, C. (2013). Conscientious objection and refusal to provide reproductive healthcare: A white paper examining prevalence, health consequences, and policy responses. *International Journal of Gynecology & Obstetrics, 123*(December Suppl), S41–S56. https://doi.org/10.1016/S0020-7292(13)60002-8.

Cohen, I. G., Lynch, H. F., & Curfman, G. D. (2014). When religious freedom clashes with access to care. *New England Journal of Medicine, 371*(7), 596–599. https://doi.org/10.1056/NEJMp1407965.

Cooper, K. L., Chang, E., Sheehan, A., & Johnson, A. (2013). The impact of spiritual care education upon preparing undergraduate nursing students to provide spiritual care. *Nurse Education Today, 33*(9), 1057–1061. https://doi.org/10.1016/j.nedt.2012.04.005.

Cutts, T. (2011). The Memphis model: ARHAP theory comes to ground in the congregational health network. In J. R. Cochrane, B. Schmid, & T. Cutts (Eds.), *When religion and health align: Mobilizing religious health assets for transformation* (pp. 193–209). Pietermaritzburg: Cluster Publications.

Cutts, T., & King, R. (2016). Community asset mapping: Integrating and engaging community and health systems. In T. F. Cutts & J. R. Cochrane (Eds.), *Stakeholder health: Insights from new systems of health* (pp. 73–95). USA: Stakeholder Health.

DeHaven, M., Hunter, I. B., Wilder, L., Walton, J. W., & Berry, J. (2004). Health programs in faith-based organizations: Are they effective? *American Journal of Public Health, 94*(6), 1030–1036. https://doi.org/10.2105/AJPH.94.6.1030.

Ferguson, K. M., Wu, Q., Spruijt-Metz, D., & Dyrness, G. (2007). Outcomes evaluation in faith-based social services: Are we evaluating faith accurately? *Research on Social Work Practice, 17*(2), 264–276. https://doi.org/10.1177/1049731505283698.

Gaydos, L. M., & Page, P. Z. (2014). Religion and reproductive health. In E. L. Idler (Ed.), *Religion as a social determinant of public health* (pp. 179–202). New York: Oxford University Press.

Gaydos, L. M., Smith, A., Hogue, C. J. R., & Blevins, J. (2010). An emerging field in religion and reproductive health. *Journal of Religion and Health, 49*(4), 473–484. https://doi.org/10.1007/s10943-010-9323-1.

Gearing, R. E., Alonzo, D., Smolak, A., McHugh, K., Harmon, S., & Baldwin, S. (2011). Association of religion with delusions and hallucinations in the context of schizophrenia: Implications for engagement and adherence. *Schizophrenia Research, 126*(1–3), 150–163. https://doi.org/10.1016/j.schres.2010.11.005.

Green, A., Shaw, J., Dimmock, F., & Conn, C. (2002). A shared mission? Changing relationships between government and church health services in Africa. *The International Journal of Health Planning and Management, 17*(4), 333–353. https://doi.org/10.1002/hpm.685.

Greil, A., McQuillan, J., Benjamins, M., Johnson, D. R., Johnson, K. M., & Heinz, C. R. (2010). Specifying the effects of religion on medical helpseeking: The case of infertility. *Social Science and Medicine, 71*(4), 734–742. https://doi.org/10.1016/j.socscimed.2010.04.033.

Grossoehme, D. H., Opipari-Arrigan, L., VanDyke, R., Thurmond, S., & Seid, M. (2012). Relationship of adherence determinants and parental spirituality in cystic fibrosis. *Pediatric Pulmonology, 47*(6), 558–566. https://doi.org/10.1002/ppul.21614.

Gyimah, S. O., Takyi, B. K., & Addai, I. (2006). Challenges to the reproductive-health needs of African women: On religion and maternal health utilization in Ghana. *Social Science and Medicine, 62*(12), 2930–2944. https://doi.org/10.1016/j.socscimed.2005.11.034.

Hall, D. E. (2006). Religious attendance: More cost-effective than lipitor? *Journal of the American Board of Family Medicine, 19*(2), 103–109. https://doi.org/10.3122/jabfm.19.2.103.

Hall, K. S., Moreau, C., & Trussell, J. (2012). Lower use of sexual and reproductive health services among women with frequent religious participation, regardless of sexual experience. *Journal of Women's Health, 21*(7), 739–747. https://doi.org/10.1089/jwh.2011.3356.

Hamberg-van Reenen, H. H., Proper, K. I., & van den Berg, M. (2012). Worksite mental health interventions: A systematic review of economic evaluations. *Occupational and Environmental Medicine, 69*(11), 837–845. https://doi.org/10.1136/oemed-2012-100668.

Hankerson, S. H., & Weissman, M. M. (2012). Church-based health programs for mental disorders among African Americans: A review. *Psychiatric Services, 63*(3), 243–249. https://doi.org/10.1176/appi.ps.201100216.

Harris, R. C., Dew, M. A., Lee, A., Amaya, M., Buches, L., Reetz, D., et al. (1995). The role of religion in heart-transplant recipients' long-term health and well-being. *Journal of Religion and Health, 34*(1), 17–32. https://doi.org/10.1007/BF02248635.

Herron, R. E. (2011). Changes in physician costs among high-cost transcendental meditation practitioners compared with high-cost nonpractitioners over 5 years. *American Journal of Health Promotion, 26*(1), 56–60. https://doi.org/10.4278/ajhp.100729-ARB-258.

Herron, R. E., & Cavanaugh, K. L. (2005). Can the transcendental meditation program reduce the medical expenditures of older people? A longitudinal cost-reduction study in Canada. *Journal of Social Behavior and Personality, 17*(1), 415–442, 591.

Herron, R. E., & Hillis, S. L. (2000). The impact of the transcendental meditation program on government payments to physicians in Quebec: An update. *American Journal of Health Promotion, 14*(5), 284–291. https://doi.org/10.4278/0890-1171-14.5.284.

Hong, Y. J. (2012). Best practices in managing faith-based organizations through charitable choice and faith-based initiatives. *Journal of Social Service Research, 38*(2), 130–143. https://doi.org/10.1080/01488376.2011.615268.

Husereau, D., Drummond, M., Petrou, S., Carswell, C., Moher, D., Greenberg, D., et al. (2013). Consolidated health economic evaluation reporting standards (CHEERS) statement. *BMC Medicine, 11*, 80. https://doi.org/10.1186/1741-7015-11-80.

Iler, W. L., Obenshain, D., & Camac, M. (2001). The impact of daily visits from chaplains on patients with chronic obstructive pulmonary disease (COPD): A pilot study. *Chaplaincy Today, 17*(1), 5–11. https://doi.org/10.1080/10999183.2001.10767153.

Jafari, S. (2016). Religion and spirituality within counselling/clinical psychology training programmes: A systematic review. *British Journal of Guidance & Counselling, 44*(3), 257–267. https://doi.org/10.1080/03069885.2016.1153038.

Ke, K. M., Blazeby, J. M., Strong, S., Carroll, F. E., Ness, A. R., & Hollingworth, W. (2013). Are multidisciplinary teams in secondary care cost-effective? A systematic review of the literature. *Cost Effectiveness and Resource Allocation, 11*(1), 1–13. https://doi.org/10.1186/1478-7547-11-7.

Kendrick, H. M. (2017). Are religion and spirituality barriers or facilitators to treatment for HIV: A systematic review of the literature. *AIDS Care, 29*(1), 1–13. https://doi.org/10.1080/09540121.2016.1201196.

Koenig, H. G., George, L. K., Hays, J. C., Larson, D. B., Cohen, H. J., & Blazer, D. G. (1998). The relationship between religious activities and blood pressure in older adults. *International Journal of Psychiatry in Medicine, 28*(2), 189–213. https://doi.org/10.2190/75JM-J234-5JKN-4DQD.

Koenig, H. G., King, D. E., & Carson, V. B. (2012). *Handbook of religion and health* (2nd ed.). Oxford/New York: Oxford University Press.

Kretchy, I., Owusu-Daaku, F., & Danquah, S. (2013). Spiritual and religious beliefs: Do they matter in the medication adherence behaviour of hypertensive patients? *BioPsychoSocial Medicine, 7*(1), 1–7. https://doi.org/10.1186/1751-0759-7-15.

Lemmer, C. (2002). Teaching the spiritual dimension of nursing care: A survey of U.S. baccalaureate nursing programs. *Journal of Nursing Education, 41*(11), 482–490.

Lengacher, C., Kip, K. E., Reich, R. R., Craig, B. M., Mogos, M., Ramesar, S., et al. (2015). A cost-effective mindfulness stress reduction program: A randomized control trial for breast cancer survivors. *Nursing Economics, 33*(4), 210–218. 232.

Levesque, J.-F., Harris, M. F., & Russell, G. (2013). Patient-centred access to health care: Conceptualising access at the interface of health systems and populations. *International Journal for Equity in Health, 12*(1), 18–26. https://doi.org/10.1186/1475-9276-12-18.

Lewinson, L. P., McSherry, W., & Kevern, P. (2015). Spirituality in pre-registration nurse education and practice: A review of the literature. *Nurse Education Today, 35*(6), 806–814. https://doi.org/10.1016/j.nedt.2015.01.011.

Maguire, D. C. (2001). *Sacred choices: The right to contraception and abortion in ten world religions*. Minneapolis: Fortress Press.

Minkenberg, M. (2002). Religion and public policy. *Comparative Political Studies, 35*(2), 221–247. https://doi.org/10.1177/0010414002035002004.

Newell, C., & Carey, L. B. (2000). Economic rationalism and the cost efficiency of hospital chaplaincy: An Australian study. *Journal of Health Care Chaplaincy, 10*(1), 37–52. https://doi.org/10.1300/J080v10n01_04.

Nordstrand, S. J., Nordstrand, M. A., Nortvedt, P., & Magelssen, M. (2014). Medical students' attitudes towards conscientious objection: A survey. *Journal of Medical Ethics, 40*(9), 609–612. https://doi.org/10.1136/medethics-2013-101482.

Olivier, J., Tsimpo, C., Gemignani, R., Shojo, M., Coulombe, H., Dimmock, F., et al. (2015). Understanding the roles of faith-based health-care providers in Africa: Review of the evidence with a focus on magnitude, reach, cost, and satisfaction. *The Lancet, 386*(10005), 1765–1775. https://doi.org/10.1016/S0140-6736(15)60251-3.

Ostermann, T., Krummenauer, F., Heusser, P., & Boehm, K. (2011). Health economic evaluation in complementary medicine. *Complementary Therapies in Medicine, 19*(6), 289–302. https://doi.org/10.1016/j.ctim.2011.09.002.

Paal, P., Helo, Y., & Frick, E. (2015). Spiritual care training provided to healthcare professionals: A systematic review. *Journal of Pastoral Care & Counseling, 69*(1), 19–30. https://doi.org/10.1177/1542305015572955.

Park, C. L., Moehl, B., Fenster, J. R., Suresh, D. P., & Bliss, D. (2008). Religiousness and treatment adherence in congestive heart failure patients. *Journal of Religion, Spirituality & Aging, 20*(4), 249–266. https://doi.org/10.1080/15528030802232270.

Patton, E. W., Hall, K. S., & Dalton, V. K. (2015). How does religious affiliation affect women's attitudes toward reproductive health policy? Implications for the Affordable Care Act. *Contraception, 91*(6), 513–519. https://doi.org/10.1016/j.contraception.2015.02.012.

Pearce, M. J. (2013). Addressing religion and spirituality in health care systems. In K. I. Pargament, A. Mahoney, & E. P. Shafranske (Eds.), *APA handbook of psychology, religion, and spiritual-*

*ity (vol 2): An applied psychology of religion and spirituality* (pp. 527–541). Washington, DC: American Psychological Association. https://doi.org/10.1037/14046-027.

Peragallo, R., & Thorp, J. (2017). Religion and spirituality in OBGYN. In M. J. Balboni & J. R. Peteet (Eds.), *Spirituality and religion within the culture of medicine: From evidence to practice* (pp. 15–34). New York: Oxford University Press.

Rakel, D., Mundt, M., Ewers, T., Fortney, L., Zgierska, A., Gassman, M., et al. (2013). Value associated with mindfulness meditation and moderate exercise intervention in acute respiratory infection: The MEPARI study. *Family Practice, 30*(4), 390–397. https://doi.org/10.1093/fampra/cmt008.

Regan, J. L., Bhattacharyya, S., Kevern, P., & Rana, T. (2013). A systematic review of religion and dementia care pathways in black and minority ethnic populations. *Mental Health, Religion & Culture, 16*(1), 1–15. https://doi.org/10.1080/13674676.2011.639751.

Remme, J. H. F., Adam, T., Becerra-Posada, F., D'Arcangues, C., Devlin, M., Gardner, C., et al. (2010). Defining research to improve health systems. *PLoS Medicine, 7*(11), e1001000. https://doi.org/10.1371/journal.pmed.1001000.

Roth, B., & Stanley, T.-W. (2002). Mindfulness-based stress reduction and healthcare utilization in the Inner City: Preliminary findings. *Alternative Therapies in Health and Medicine, 8*(1), 60–66.

Rumbold, B., Cobb, M., & Puchalski, C. M. (2012). Policy. In M. Cobb, C. M. Puchalski, & B. Rumbold (Eds.), *Oxford textbook of spirituality in healthcare* (pp. 383–389). New York: Oxford University Press.

Singh, N. N., Lancioni, G. E., Karazsia, B. T., Myers, R. E., Winton, A. S. W., Latham, L. L., et al. (2014). Effects of training staff in MBPBS on the use of physical restraints, staff stress and turnover, staff and peer injuries, and cost effectiveness in developmental disabilities. *Mindfulness, 6*, 1–12. https://doi.org/10.1007/s12671-014-0369-0.

Singh, N. N., Lancioni, G. E., Winton, A. S. W., Singh, A. N., Adkins, A. D., & Singh, J. (2008). Clinical and benefit-cost outcomes of teaching a mindfulness-based procedure to adult offenders with intellectual disabilities. *Behavior Modification, 32*(5), 622–637. https://doi.org/10.1177/0145445508315854.

Sivan, Y., Reisner, S., Amitai, Y., Wasser, J., Nehama, H., & Tauman, R. (2004). Effect of religious observance on infants' sleep position in the Jewish population. *Journal of Paediatrics and Child Health, 40*(9–10), 534–539. https://doi.org/10.1111/j.1440-1754.2004.00458.x.

Smolak, A., Gearing, R. E., Alonzo, D., Baldwin, S., Harmon, S., & McHugh, K. (2013). Social support and religion: Mental health service use and treatment of schizophrenia. *Community Mental Health Journal, 49*(4), 444–450. https://doi.org/10.1007/s10597-012-9536-8.

Sorsdahl, K., Ipser, J. C., & Stein, D. J. (2009). Interventions for educating traditional healers about STD and HIV medicine. *Cochrane Database of Systematic Reviews*, CD007190, https://doi.org/10.1002/14651858.CD007190.pub2.

Swift, C., Handzo, G., & Cohen, J. (2012). Healthcare chaplaincy. In M. Cobb, C. M. Puchalski, & B. Rumbold (Eds.), *Oxford textbook of spirituality in healthcare* (pp. 185–190). New York: Oxford University Press.

Taylor, E. J. (2012). Legal perspectives. In E. J. Taylor (Ed.), *Religion: A clinical guide for nurses* (pp. 59–73). New York: Springer.

Taylor, E. J., Mamier, I., Bahjri, K., Anton, T., & Petersen, F. (2009). Efficacy of a self-study programme to teach spiritual care. *Journal of Clinical Nursing, 18*(8), 1131–1140. https://doi.org/10.1111/j.1365-2702.2008.02526.x.

van Ravesteijn, H., Grutters, J., olde Hartman, T., Lucassen, P., Bor, H., van Weel, C., et al. (2013). Mindfulness-based cognitive therapy for patients with medically unexplained symptoms: A cost-effectiveness study. *Journal of Psychosomatic Research, 74*(3), 197–205. https://doi.org/10.1016/j.jpsychores.2013.01.001.

Warnock, C. J. P. (2009). Who pays for providing spiritual care in healthcare settings? The ethical dilemma of taxpayers funding holistic healthcare and the first amendment requirement for separation of church and state. *Journal of Religion and Health, 48*(4), 468–481. https://doi.org/10.1007/s10943-008-9208-8.

WHO. (2013, May 10). *Health policy*. http://www.who.int/topics/health_policy/en/. Accessed 25 Sept 2017.

Williams, M. V., Palar, K., & Derose, K. P. (2011). Congregation-based programs to address HIV/AIDS: Elements of successful implementation. *Journal of Urban Health, 88*(3), 517–532. https://doi.org/10.1007/s11524-010-9526-5.

Worthington, E. L., Hook, J. N., Davis, D. E., & McDaniel, M. A. (2011). Religion and spirituality. *Journal of Clinical Psychology, 67*(2), 204–214. https://doi.org/10.1002/jclp.20760.

Zechmeister, I., Kilian, R., & McDaid, D. (2008). Is it worth investing in mental health promotion and prevention of mental illness? A systematic review of the evidence from economic evaluations. *BMC Public Health, 8*, 20. https://doi.org/10.1186/1471-2458-8-20.