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Short Commentary

The Drivers of Evidence-based Practice at Inception: Implications for Low- and Medium-income Countries

Odunayo Kolawole Omolade[1*]

[1]School of Health, Science and Wellbeing, Centre for Health Innovation, Staffordshire University, Staffordshire, UK

[*]**Correspondence to: Odunayo Kolawole Omolade,** MSc, Lecturer, School of Health, Science and Wellbeing, Centre for Health Innovation, Staffordshire University, College Road, Staffordshire ST4 2DE, UK; Email: odunayokolawole.omolade@staffs.ac.uk

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Abstract

Low- and medium-income countries (LMICs) desire the multiple benefits of evidence-based practice (EBP) but have achieved minimal success so far. Moreover, frameworks for implementing EBP fail to acknowledge the external socio-political factors as core component of uptake and sustaining EBP in health care settings. Consequently, this paper will examine the influence of drivers of EBP and the implications for sustaining EBP diffusion into LMICs. Theoretically, EBP proposes that clinical treatment decisions be based on the most current verifiable evidence. Associated with improved quality of care, EBP is the universal standard of clinical interventions. Yet, since introducing EBP to LMICs, the integration process has been slow compared to the rapid development witnessed in the UK, US and Canada over the past 30 years. EBP proponents linked the resistance with institutional barriers in the LMICs. However, this paper argues that the external socio-political context is a proven barrier-breaking force but presently underestimated in LMICs. Central to this review, the socio-political dynamics in the UK, US and Canada were discussed to mirror the powerful influence that propelled EBP at its successful inception. The implication is that breaking the institutional barriers against sustainable EBP implementation in the LMICs requires synergy of influential forces outside the hospital settings. Unfortunately, most implementation studies from LMICs are limited to institutional barriers. Finally, hospital settings in LMICs face unique problems integrating EBP with daily care and to overcome the barriers, closer attention must be paid to the influence of the surrounding factors; political, technological, managerial and globalization forces.

Keywords: evidence-based practice, drivers, implementation models, low- and medium-income countries

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1 INTRODUCTION

In contemporaneous healthcare, if a treatment administered by a professional clinician is adjudged as not evidence-based, a range of outcomes may result

including failure to achieve the treatment objective, waste of medical resources, patients may suffer avoidable harm and consequently, a case of professional negligence and litigation may ensue. This background makes evidence-based practice (EBP) a powerful scientific and legal rationale for determining treatment regimens in modern clinical practice. The founding fathers of EBP including David Sackett's department at McMaster University Ontario Canada clarified the concept of EBP in a definition that has widely become a reference philosophy of EBP for all medical disciplines and social sciences. According to Sackett et al.[1], EBP is the conscientious and judicious use of the most current research evidence in treating patients to achieve clinical effectiveness and efficiency in daily practice. Building on the earlier work by Sackett et al.[1], Cochrane[2] proposed the five steps of developing treatment evidence from research findings to clarify the essential steps towards achieving conscientiousness and judiciousness in applying research information during routine practice. Combining the strong scientific premise of this conceptualization with the two major measurable advantages (improved patient outcomes and prudent administration of medical resources), EBP is most welcome among healthcare providers and policymakers.

Meanwhile, EBP has not achieved all its ambition because low- and medium-income countries (LMICs) and many areas of clinical practices still lag in implementing the model despite various investments into EBP over the past two decades[3]. Including facing resistance from organizational barriers, EBP faces several other criticisms. Firstly, Sheridan et al.[4] criticized the model as placing too much value on quantitative clinical outcomes at the expense of subjective patients' feelings and professional intuition which may provide the moral impetus and emotional sensibility for some clinical treatments. The model also drew criticisms from qualitative researchers because, in the proposition of the hierarchy of evidence for EBP, quantitative research outcomes grade higher than conclusions drawn from results of qualitative research studies hence reigniting the tension between the two approaches to investigating a research problem[5]. From a hospital economy perspective, antagonists of EBP argued that the model serves the cost-cutting political austerity measure better than the claim of economic prudency often touted by the advocates of EBP[6]. Some clinicians are equally discontented with the use of treatment guidelines, algorithms, or checklists because the treatment flowchart stifles clinicians' creativity while some rare illnesses having no known cure or treatment algorithm require professional intuition and creative interventions[7]. The implication is that EBP, presented as the best approach to clinical decisions, possesses some degree of limitations that may have hindered the uptake and sustenance of the initiative in some areas of health or medical disciplines.

Nonetheless, despite the resistance posed by the institutional barriers, EBP convincingly excels as the most successful model in mainstream healthcare services especially in the UK, US and Canada where EBP started. Numerous achievements of the EBP movement include named EBP journal publications, EBP conferences / workshops, EBP implementation theories / models and the evolution of the Cochrane (the acclaimed largest healthcare electronic platform for synthesis of treatment information). Ironically, the multidimensional benefits of EBP reported in the UK, US and Canada are yet to significantly improve the quality of care associated with patient outcomes in the LMICs. The growing concerns about the disadvantaged position of LMICs within the EBP investment are replete in literature. Hoyiso et al.[8] argued that EBP arrived late at the LMICs' healthcare services because of institutional hindrances and the dearth of high-quality evidence addressing health problems peculiar to the population. From the primary studies on EBP implementation, Lizarondo et al.[9] examined 20 published and unpublished literature on EBP implementation in Africa and reported that even though clinicians' attributes influence EBP, the most significant factor associated with EBP implementation is the dysfunctional institutional management or leadership factor. In line and deliberately focused on nurses in LMICs, another systematic review of 16 publications by Shayan et al.[10] described the barriers as nurses' personal factors, interdisciplinary factors and institutional-based factors. Further, a systematic literature review by Leonard et al.[11] involving 79 published research studies on the barriers and facilitators to EBP in the LIMCS presented the barriers and facilitators to include knowledge, EBP champions or mentors, characteristics of the evidence, resources, local context, hospital management and social relationships. The common theme among all the reviews so far is the repetition of internal circumstances of health institutions in the LMICs as hindering EBP. Nonetheless, there is no adequate coverage of the external context of the health institution in relation to implementing EBP.

While this paper shares the same vision of integrating EBP in the LMICs, the argument here differs from the usual propositions on personal and institutional barriers to EBP in the LMICs. On the background that major development within the healthcare institutions is frequently connected and influenced by the advances in the external technological and socio-political dynamics[12,13], this article provides a retrospective analysis of the integration of EBP in places where EBP successfully began. Integral to this review is that the influence of the external factors is not just described but examined the trends of events by giving examples suggesting the EBP drivers projected the EBP movement to global recognition. On this premise, this paper will

present the meaning of EBP drivers, outline some of the drivers, discuss the events that exemplify the influence of the drivers and highlight the implications of integrating EBP with health institutions in the LMICs.

2 EBP DRIVERS: WHAT ARE THEY?

The drivers of EBP are considerations, broadly classified in this review as internal and external factors, which contributed to the introduction and sustenance of EBP in the UK, Canada, the USA, and by extension, LMICs. While the internal factor focuses on the prevailing issues within the healthcare organization, the external factors consist of political, technological, economic and global circumstances at the time EBP emerged. Critically analyzing the drivers of EBP is consistent with Nilsen[14]'s views that practice change in a (healthcare) organization cannot happen independently of the complex relationships among the multiple factors within and outside the healthcare organization. The influence of the drivers is vital because, in combination, the factors mirror the conducive atmosphere that allows EBP to thrive, flourish and assume the core philosophy of clinical treatment internationally.

There is no lack of literature in health and social care contextualizing EBP within the influence of socio-economic and political factors that facilitated the growth and internationalization of the model[6,7,15,16]. Classic examples, outside the nursing field, include Munro[7]'s and Parton[16]'s publications that linked EBP with the social pressure for good decision-making procedures in child protection in Britain. In nursing and medicine, Rycroft-Malone[17], Starr et al.[18] examined the political influence and information communication technology (ICT) as drivers of EBP respectively. Although the authors did not categorize the socio-political and technological influence as EBP drivers, here, the term driver is used to suggest the factors which advanced and propelled EBP to becoming a gold standard for decision-making among nurses and allied healthcare providers. One key consideration for examining the EBP drivers is that the application of the model rapidly grew where the external socio-political environment is robust, but in the LMICs, EBP is inconsistent and socio-political apathy to the model is dominant in spite of the desire for improved healthcare internationally.

Foremost, it is vital to reiterate that EBP drivers do not mean causes of EBP in this review, and both terms cannot be used interchangeably. Munro[7]'s caution, though originated from a review of best practices in child protection systems in England, is both relevant and instructive in this regard. According to Munro[7], "It is important to remember that causation is complex. The factors identified here push but do not compel organizations to move in a particular direction". In other words, the central argument is the supporting influence wielded by the five drivers of EBP outlined (philosophical merit of EBP, the publicity provided by ICT, the political and managerial motivation and globalization), but not the radical cause-effect dimension of the relationship.

The first main driver of EBP is the superiority of the philosophical argument of EBP over the tradition of expert opinion and experience-based practice prevalent in mainstream healthcare services before 1990. All illnesses, somatic or mental, cause the patient a substantial level of physical and socioeconomic devastation. However, the psychological effects on a sufferer will be exacerbated upon realizing that the best treatment is unknown or unavailable to the healthcare provider. Before EBP was integrated into healthcare, practitioners' treatment decision was, at best, strongly opinionated and mostly inconsistent. For many years before EBP, the predominant metaphor in the medical disciplines was that "the expert knows it all", while controversial treatment of illnesses and avoidable harms were widespread[19]. Cochrane[20] termed the situation "one-man medicine", thereby calling for a systematic review of all randomized controlled clinical studies to generate a critical summary of evidence for clinical decisions. The recommendation implies that high-quality research evidence abounds in literature but a lack of a standardized approach to integrating theoretical knowledge into patient care impeded the theory-practice integration. Consequently, EBP began an era of continuous questioning of the clinicians' decision-making process culminating with collaborations within medical sub-specialities and the Department of Epidemiology to synthesize an objective method for distilling the best clinical information for treating illnesses[21].

As a contemporary clinical decision-making framework, EBP advocates intervention based on generalizable evidence from randomized blinded clinical trials and patient preferences[22], thus diminishing interventions based on expert opinion and professional experience. Expert opinion, according to Sackett et al.[1], is a form of competency mostly developed because of years of routine clinical practice and experience but not subjected to the rigours of objective analysis. Lacking excellent scientific standards, Wennberg et al.[23] noted that many routine treatments (such as paediatric tonsillectomy) which were experience-based had been, sadly, found unnecessary, wasteful and sometimes harmful to the patient. In the UK for example, the strongest motivation toward EBP is associated with the criticisms of National Health Service (NHS) performances[17] and the suggestion for large collections of specific clinical trials reviewed systematically as the basis for clinical intervention[2]. "Effectiveness and Efficiency", a book authored by Cochrane[2] highlighted the three parameters for judging a care decision and found expert opinion, predominant

before the new millennium, to have failed all the tests. Firstly, experience-based clinical intervention, mostly used in the NHS before 1990, failed to cure or alter the prognosis of some diseases that would have been cured if the treatment was based on the best evidence. Secondly, the traditional eminence-based method is neither efficient nor economically prudent in the administration of medical equipment, and financial and human resources. Thirdly, within the NHS services, wide varieties of treatments for the same illness were frequent without any reasonable scientific explanation for the discrepancies. The three failures are strongly linked to avoidable and preventable misdiagnosis and unnecessary treatments resulting from the overreliance on a discretional approach to clinical practice.

Coincidentally, Cochrane[2]'s scepticism and criticism were soon confirmed by two major national reports on unethical medical practices; the UK government inquiry into Bristol Paediatric Cardiac Surgery (1984-1995) and the Belmont Report (1979) on the infamous Tuskegee Syphilis research in the USA[24]. The common features of both reports indicated that a lack of lucid and scientifically sound practice guidelines for clinicians and management was a key factor linked with unethical practices[15]. Shortly after 1992, other allied health disciplines (nursing, surgery, dentistry, pharmacology, and physiotherapy) began philosophical and epistemic investments by publishing position papers on EBP and theorizing its integration into daily practice[22]. At national and international levels, the endorsement of EBP in the nursing profession is replete as "scientific care", "closing the theory-practice gap" and "research utilisation"[25]. This line of argument suggesting EBP is more effective has become stronger today than it was when the idea just began.

Another major driver of the EBP agenda is the advancement and availability of ICT in Europe, Canada and the USA in the early 1990s. Sheridan et al.[4] argued that in the past twenty-five years, the EBP debate had set the narrative for the medical media leading to the proliferation of EBP-related publications and scientific conferences. The availability of modern computers and the internet helped the inauguration and continuity of the Cochrane collaboration since 1993 because members of the organization across over 100 countries are connected through computers[26]. Starr et al.[18] profiled the digitalisation of EBP beginning with the World Health Organization (WHO) funding of the microcomputer storage in 1982 and subsequent Oxford University ODPT floppy disc ten years later, leading to the 1993 public recognition of Cochrane Library and eventual global dissemination of Cochrane publications on the internet in 2003 through international partnerships. Continuously for more than a decade, the Cochrane Library and its main information outlet (Cochrane Database of Systematic Reviews), is the largest collection of systematic reviews with hundreds of thousands of downloads per year and more than 10,000 active participants globally[15]. Computer systems and the internet have become the central tools for the quantity and quality of each empirical study, metanalyses and systematic reviews conducted by researchers all over the world[26]. The use of electronic publication as the only publishing medium by Cochrane Library has numerous benefits to the organization because it is user-friendly, cheaper, easily accessible, editable, transferrable and of higher quality than printed journals[21]. The fact that Cochrane, the largest EBP organization, exclusively operates as online print media without a paper copy of their review reiterates the cardinal role computer and the internet play in propagating the EBP vision.

Meanwhile, there is also a political dimension of EBP which emphasizes the influence of political dynamics on the success of EBP innovation. The UK is, probably, the best place of political motivation for EBP because the predominant tailoring of English health and social services to exemplify EBP is arguably unparalleled in any other nation globally[4,6]. According to Rycroft-Malone[17], the UK Labour Government election victory in 1997 symbolised a political era where "only things that count are what can be counted". Sheridan et al.[4] agreed that the establishment, support and sponsorship of the Cochrane by the UK government since 1997 provides a legitimate argument for the political support the EBP movement received in the UK. Just as EBP emerged, the political interest, through the Department of Health, was quickly unveiled as practitioners were mandated to provide care based on individualized patient needs and most importantly, the best evidence[27]. While the American political system was reluctant to endorse EBP between 1990 and early 2000[5], the UK government's activities toward the EBP agenda are convincing through commissioning and facilitating the infrastructural development of the National Institute for Clinical Excellence (NICE) and the Health Technology Board for Scotland[17]. The NICE guidelines are, otherwise, the national scientific and multidisciplinary commitment to the EBP vision sponsored by the UK government.

Evidence-based movement may be criticized as a tool for government austerity measures in the UK public sector[1], but two major politically relevant problems affecting the NHS in the 1990s further strengthened its emergence. The first problem was ineffectiveness, defined as unnecessary diagnosis and treatment of illnesses; and the second was inefficiency, a term used to explain the waste of healthcare resources[2]. On one side, both problems remain at the doorsteps of the Department of Health and the boards of clinical governance solely responsible for the daily operation of the NHS. But the other side of the same coin reveals a

politically significant challenge as politicians providing oversight roles are cast in the shadows of profligacy and mismanagement of the NHS. For the political class, accepting responsibility for effectiveness means, firstly, reducing funding for healthcare services, and secondly, tightening the management practices by introducing the private sector management measures and service benchmarks into domains where professional judgement had dominated for years[16]. The government position suggested that there was a "culture" of waste and inefficient use of healthcare resources exclusively due to surplus budgets available to the hospitals and widespread ineffective management practices among hospital administrators[28]. Consequently, funding for the NHS was systematically reduced, hospitals were tasked to fund their budgets from external investors and care services considered too expensive were contracted to private companies. The measures are criticized by the antagonists of EBP arguing that the model is serving the political rationality of "cost-cutters" and the neo-capitalist health and social care services in the UK and USA[6]. Sheridan et al.[4] have argued that the UK government chose the "easy way", not necessarily the most effective option compared to the USA which invested more in new clinical trials whereas the UK has rationalized cost-cutting as conserving declining services and uses insufficient evidence to argue its position.

The second part of the political driver (cost-cutting) is intimately related to the fourth factor - the harmonisation of EBP, private sector management strategies and political government. According to Rycroft-Malone[17], EBP has survived, not only on the ground of the promise of effectiveness but the push from increased public awareness of risk management, development of modern management theories and better fiscal policy to prepare for an unforeseen economic downturn. Thomas et al.[6] agreed with the view, arguing that the NHS as a public service sector received a political motivation to restructure into a modern market system, where effectiveness and efficiency could serve as the justification for decreasing public health expenditures.

The attention to increased managerialism in public health is important because traditionally, democratic ideas of state welfare and profit-making business worldviews are fundamentally discordant[29]. Thomas et al.[6] conceptualised the differences between the two sectors as that of a "value dilemma" which ought to have kept the two institutions as opponents. But effectiveness, as illustrated in EBP, is value-laden because the positivist orientation accords conveniently with the private business behaviourist philosophy[30]. Webb[31] pointed out directly that "evidence-based effectiveness sits comfortably alongside the new managerialism….". Hence, the healthcare organization adopted the modern entrepreneurial strategies of customer relations, workflow charts, lean management, service benchmarks and advanced human resource management to drive EBP initiatives[32]. The merging of EBP and modern management practices has the advantage of militating against unethical practitioners' behaviour while employees face more rigorous performance appraisal and quality improvement targets[6]. Conversely, on the basis of "lack of effectiveness", nearly 300 hospitals were closed in less than twenty years compared with fewer than 100 that were expanded through private contractors in the same period[30]. Additionally, with emphasis on measurable effectiveness as proof of good performance in clinical practice, practitioners are constrained to offer only treatments that are recognized within the prescribed guidelines while stifling personal innovation[26].

Finally, globalization is a major force contributing to EBP in the new millennium by redefining the medical and non-medical landscapes across the world. Globalization appears a core value of EBP proponents from the beginning evident with the assemblage of 77 participants across eleven countries that inaugurated the Cochrane over twenty-five years ago[21]. Moreover, the Cochrane is a collaboration of influential organizations directly involving the WHO decision-making on gathering evidence for synthesizing global treatment guidelines[26]. The WHO, through its African Regional Office, is very active in presenting EBP to clinicians in LMICs through its publications and dissemination of practice clinical guidelines. An example of such guidelines is the WHO recommendations for the management of primary postpartum haemorrhage[33]. While the pattern of activities of the EBP movement corresponds with globalization[34], the current publications fail to adequately explore the influence of globalization on EBP in the LMICs. Shaibu[34] has, however, commented on the introduction of EBP to nursing in Botswana (Africa) as the ripple effect of global health programmes. A critical review of globalization and EBP is required to examine how EBP has been applied in achieving global health targets and exploration of experiences on localizing best practice guidelines derived from cross-country research in many healthcare settings.

The concept of globalization and public health are interlinked; thus, Woodward et al.[35] argued that the cross-border migration of people and goods, facilitated by political and technological drivers, brings alongside the transfer of illnesses and possible solutions. EBP is categorized as a health improvement model, but international movement can swing global health into unprecedented problems proved by the recent coronavirus pandemic.

According to Adepoju[36], globalization impacted Nigeria in the key areas of culture, economy, communication, fashion, health and transportation exemplified

by the aspirations to meet the ever-dynamic "global standards". The changes mean that for the country to operate effectively, local values, norms, culture and institutions must operate in conformity with values that are synchronous with the global vision. Unfortunately, the stratification of nations into economic subclasses based on national income generation, means that disadvantaged nations may attract less attention in the uneven global relationship[36,37]. The implication is that navigating through the complexities of the cultural, traditional, political and institutional processes to meet the "global standards" is a huge challenge[37]. For healthcare services, the struggle represents the tendency to conform rather than be original by using local remedies and diagnoses in meeting the healthcare needs[35]. The globalization of EBP termed "globalizing evidence" is exemplified in the predisposition to copy, compel and conform local or national healthcare practices to reflect the global "best practices"[34].

3 IMPLICATIONS

Compared to other forces of philosophical, political and modern market forces, globalization is the major driver of EBP in Africa and other LMICs[34]. The most visible evidence is information sharing and international networking of clinicians and healthcare organizations through the computer, internet, software and participation in overseas seminars and workshops[37]. Yet, a considerable gap still exists as LMICs have not significantly benefitted from best practice ideals and the digitalisation of health information. Shaibu[34] has outlined numerous ways nurses can expand the uptake of best practice in LMICs. The suggestions can be summarised into three key points: making nurses and midwives leaders of EBP initiatives, improving access to contemporary health information by providing computer facilities and generating the best evidence that accommodates the local context and available technology in the low-income countries.

4 CONCLUSION

Sustaining EBP in LMICs demands drawing some comparisons and differences between the external forces driving EBP in the pioneering and late adopting countries. As EBP presents a medical paradigm recognized internationally by clinicians, it is logical to expect international convergence, and perhaps some differences, in the socio-political forces acting as drivers of EBP implementation across nations. However, the paucity of information on the political, technological, philosophical and external administrative operations in the LMICs has made the goal of this review difficult. The current implementation research investigating the integration of EBP with healthcare settings in the LMICs has not sufficiently invested in the EBP drivers as to articulate informed perspectives of the influence of the political will and technological input towards EBP implementation. Notwithstanding, in the UK, US and Canada, EBP was received with a mixture of socio-political tension and enthusiasm especially outside the hospital settings. As with most changes in organization development, the emotions that forced various intellectual investment into understanding the importance of EBP were predictably inevitable. Thus, publications highlighting the influence of external forces projecting EBP in the UK, US and Canada are abundant, whereas the political, technological and philosophical surroundings in the LMICs are either unclear or inconsistent with EBP paradigm. Except for the influence of globalization, political apathy, inadequate technology, poor management behaviour and equivocal philosophical propositions feed perfectly into the external barriers to EBP in LMICs.

Meanwhile, this review is not without its limitations. For instance, a structured protocol was not synthesized in the beginning to explain the steps taken to manage the critical review methods so that the same process may be repeated. Nonetheless, the review situates within health organization behaviour and agrees with the taxonomy and analysis of the theories on context of change associated with implementing EBP. In summary, contextualizing EBP implementation within the socio-political environment of the LMICs suggests a lack of required driving forces thus, the slow pace of growth of EBP and the disadvantaged position of the health institutions. In contrast, the powerful influence of the socio-political drivers of EBP in the UK, US and Canada are undeniable. The implication for successfully implementing EBP in LMICs is that a robust implementation model must be developed inculcating the wider socio-political factors into the process of sustaining EBP. Also, the insufficient information on the key drivers of EBP in LMICs implies that implementation scientists and organization researchers ought to reimagine current research methods to focus on the wider external influential factors including the political will, technological advances, leadership and management and the influence of globalization in improving quality of care in LMICs.

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Conflicts of Interest

The author declared no conflict of interest.

Author Contribution

The author solely contributed to draft the manuscript and approved the final version.

Abbreviation List

EBP, Evidence-based practice
ICT, Information communication technology
LMICs, Low- and medium-income countries
NHS, National Health Services

NICE, National Institute for Clinical Excellence
WHO, World Health Organization

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