Evidence Based Library and Information Practice

Article

Key Performance Indicators in Irish Hospital Libraries: Developing Outcome-Based Metrics to Support Advocacy and Service Delivery

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Abstract

Objective – To develop a set of generic outcome-based performance measures for Irish hospital libraries.

Methods – Various models and frameworks of performance measurement were used as a theoretical paradigm to link the impact of library services directly with measurable healthcare objectives and outcomes. Strategic objectives were identified, mapped to performance indicators, and finally translated into response choices to a single-question online survey for distribution via email.

Results – The set of performance indicators represents an impact assessment tool which is easy to administer across a variety of healthcare settings. In using a model directly aligned with the mission and goals of the organization, and linked to core activities and operations in an accountable way, the indicators can also be used as a channel through which to implement action, change, and improvement.

Conclusion – The indicators can be adopted at a local and potentially a national level, as both a tool for advocacy and to assess and improve service delivery at a macro level. To overcome the constraints posed by necessary simplifications, substantial further research

is needed by hospital libraries to develop more sophisticated and meaningful measures of impact to further aid decision making at a micro level.

Introduction

Quantitative measures of performance are an essential management tool in any organization. Key performance indicators (KPIs) help them meet key strategic objectives, drive and deliver change, and assess the impact and effectiveness of services. Appropriate metrics not only provide a high-level snapshot of service levels at any given point in time, but also help to inform the operational activities and tasks that contribute to achieving the key strategic goals of the organization.

Within the health science library sector in Ireland, the primary performance measures are typically input-based metrics, usage statistics, and other operational measures (Harrison, Creaser, & Greenwood, 2011). These statistics typically include gate counts, borrowing totals, the number of books held per staff member, the cost per use of electronic resources, the number of reference queries answered, or the number of information literacy sessions delivered. As largely input- or usage-focused indicators, these measures capture activity levels effectively but represent extremely blunt tools for assessing real effectiveness and impact. In contrast, outcome measures capture the "impact or effects of library services on a specific individual and ultimately on the library's community" (Matthews, 2008, p. xiv). This very evidence is becoming increasingly important in order to promote, and advocate for, the value of health science libraries, and in particular hospital libraries – or as Ritchie (2010, p. 1) succinctly advises: "knowing why you exist (not simply what you do)."

In this respect hospital libraries have a unique raison d'être. They are required to support a number of mission critical goals within the institution from "saving hospitals thousands of dollars per year to saving patients' lives" (Holst et al., 2009, p. 290). The value chain within which hospital libraries must position themselves requires:

> Providing the right information at the right time to enhance medical staff effectiveness, optimize patient care, and improve patient outcomes … save clinicians time, thereby saving institutions money… provide an excellent return on investment for the hospital, playing a vital role on the health care team from a patient's diagnosis to recovery. (Holst et al., 2009, p. 290)

However, given the absence of any robust quantitative evidence regarding the value contributed by hospital libraries in Ireland, such claims remain largely unsubstantiated, and may even appear merely aspirational to some.

The use of performance indicators is now commonplace across nearly all aspects of the Irish healthcare sector, including public health services which are administered by the Health Service Executive (HSE). In recognition of the need for an effective assessment tool, the HSE designed and implemented the HealthStat system. The indicators incorporated in HealthStat provide an overview of how services are delivered using a broad range of various performance measures. Notably, however, there are currently no library-related service indicators included within the system, or indeed within any of the systematic or standardized assessment frameworks which are implemented by the HSE (Health Service Executive, 2011). Indeed, the *Report on the Status of Health Librarianship & Libraries in Ireland* (SHeLLI) articulated the pressing need for health science libraries in Ireland to establish "a body of

evidence, with performance indicators, available at the level of *individual libraries* and *nationally*, used for service promotion and advocacy" (emphasis added) (Harrison et al., 2011, p. 42). In this context, the aim of this study was to develop a potential set of performance measures sufficiently general to be applied to other libraries in broadly similar settings nationally, whilst still retaining some value at a local level (in this case, a library based within an acute hospital).

Literature Review

An Outcome Based Approach to Measurement

Effective performance measurement intrinsically requires measuring the "right" things in the "right" way. It is a complex task, however, to distill a library's core activities, functions, and goals into a narrowly defined, yet sufficiently powerful, set of indicators.

KPIs can be viewed through a variety of lenses, including:

- the goal attainment model driven by strategic objectives
- the systems resource model of input measures
- the internal systems model derived from workflows and communications processes

- the multiple constituencies model based on the extent to which different stakeholders' needs are met

(Cameron, 1986)

In the context of impact assessment, the goal attainment model offers a particularly good fit. Within this framework, the inputs (e.g., operational activities and decisions) that drive performance indicators should also impact on the organization's strategic objectives and desired outcomes (Hauser & Katz, 1998). For instance, a desired objective of a hospital may be to deliver efficient and timely patient care, and a relevant performance indicator for the library could be to save clinicians' time as a result of using library services. Corresponding inputs may include reconfiguring or streamlining workflows and staffing arrangements in order to reduce the response times for clinical information queries. These same inputs should also impact on the overarching objective of efficient patient care, which in this case is a reasonably logical hypothesis, a priori. These relationships and interdependencies also mirror Boekhorst's (1995) model of performance measurement, which emphasises the direct links between goals and objectives, and performance measurement and activities, allowing operational tasks to be consistently aligned with strategic aims.
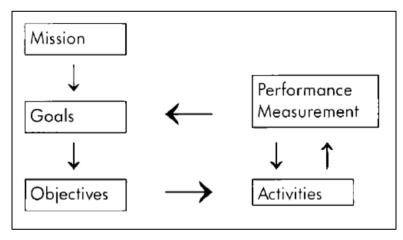

Figure 1
Boekhorst's model of performance measurement (Md Ishak & Sahak, 2011, p.5)

Matthews's (2008) balanced scorecard model adapted from Kaplan and Norton (1992) also adopts a strategic focus with respect to measurement. Performance indicators should reflect the organization's strategy across four perspectives: financial, customer, internal business processes, and learning and growth. Outcome measures that help to assess key strategic objectives can play an important role as part of this approach. Matthews breaks the concept of outcomes into immediate, intermediate, and ultimate outcomes, shifting in focus from creating value at the individual level to the overall impact on the organization. Effectively measuring these outcomes can help the organization to communicate its long-term or strategic value to users.

Donabedian's (1966) seminal work on evaluating medical care frames the concept of quality assessment within a model of structures, processes, and outcomes – in other words, the resources used by the organization, the activities carried out in healthcare delivery, and the outcomes on patient care. Appropriate performance indicators can be used within the framework to capture and measure key elements in this chain, therefore helping to assess the overall quality and performance of the healthcare system. However, libraries are perhaps guilty of an overreliance on a structural approach in this regard, by focusing on measuring the inputs and resources used to deliver desired outcomes, in spite of "the major limitation that the relationship between structure and process or structure and outcomes, is often not well established" (p. 695). This argument reinforces the need for objective outcome-based indicators in order to assess the performance of hospital libraries in a valid and meaningful way.

"Ultimately, the goal of health care is better health, but there are many intermediate measures of both process and outcome" (WHO, 2003, p. 5). Holst et al. (2009) identify three core channels through which hospital libraries can potentially add real value: patient outcomes,

time savings, and cost savings. These variables are not exogenously determined, and indeed saving the time of clinical staff will also, all other things being equal, reduce costs and improve patient outcomes as staff can treat more patients in the same amount of time. By focusing on these three channels, this study is limited to an attempt to capture and assess the value of library and information services to clinical practice and outcomes, rather than the contribution which hospital libraries also make to research output. The latter is obviously another channel through which hospital libraries add value, but constructing a suitable indicator to measure this variable is outside the scope of this study. This also largely reflects the core mission of the HSE in its focus on patient care (Health Act, 2004).

Developing Well-Designed and Actionable Indicators

Loeb contends that "the central issue in performance measurement remains the absence of agreement with respect to what should be measured" (2004, p. i7). The Health Information and Quality Authority of Ireland (HIQA) recommends that performance indicators used to measure healthcare quality should exhibit certain properties:

- Provide a comprehensive view of the service without placing an undue or excessive burden on organizations to collect data.
- Be explicitly defined and based on high-quality and accurate data.
- Measure outcomes which are relevant and attributable to the performance of the healthcare system in which they are employed.
- Not be selected based solely on the availability of data.
- Be supported by local measures in order to inform practice and operations at a local level.

(HIQA, 2010, p. 20-1)

These principles provide a baseline standard for performance measures in this study. Parmenter (2010) extends these properties further, outlining the typical attributes of effective KPIs as measures that are non-financial, frequently measured, acted on by senior management, indicating the necessary action required by staff, tying responsibility down to a team or individual, having a significant impact, and encouraging appropriate action. Here the emphasis on action is notable. Frequently data may be collected as a matter of routine or obligation but not effectively utilized or acted upon. However, in contrast with usage statistics or input-based metrics, outcome-based indicators are, by definition, directly driven by core strategic objectives, and therefore are inextricably linked with the actions supporting these goals. Consequently, outcome-derived KPIs can be channelled more easily into concrete, actionable insights, resulting in real changes in systems, processes, and services.

Supporting Good Governance through Assessment and Accountability

Quantitative performance indicators also have a role to play in providing an objective assessment of services and in both internal and external consistency in the decision-making process. External reporting, transparency, and compliance are critical dimensions of good governance. The organizational structure of hospital libraries is also changing (Harrison et al., 2011). Staffing pressures dictate that an increasing number of healthcare libraries in Ireland are likely to be run by solo librarians in the future, with a single individual having responsibility for managing all aspects of library services. This further increases the need for external and objective measures to serve as a verifiable cross-check on services.

Appropriate outcome-based KPIs stimulate action in a way which also attributes responsibility. As it must be made clear who "owns" each indicator, this increases accountability within the organization.

Achieving this buy-in successfully in practice requires building an environment centred on trust, whereby performance measures and targets are clearly communicated, understood, and accepted as fair by all staff and stakeholders. However, if KPIs are derived directly from strategic objectives and outcomes, it is often easier for the individuals concerned to see the relevance of and need for such measures, and staff are therefore more likely to view assessment in a positive way.

Evidence Based Advocacy

A significant body of literature already exists on the importance of impact assessment as a tool for advocacy in hospital libraries outside Ireland. Weightman and Williamson's systematic review of library impact (2005) appraises 28 studies which each assess at least one direct clinical outcome. Survey instruments are the most frequently used method of data collection, but in most cases the limitation of "desirability bias" (p. 6) arising from self-selection is highlighted as a weakness. Twenty different impact measures are recorded from the studies based in the traditional library setting, indicating that some level of variation exists as to which outcomes are perceived as the most critical in influencing patient care.

The landmark Rochester Study (Marshall, 1992) is included in Weightman and Williamson's (1995) review. The historical context, marked by a change to U.S. federal requirements regarding hospital library provision in 1986, sparked the need for potent advocacy tools to improve the "visibility and status of the library" by expressing value in "the bottom line," that is, the impact on clinical decision making (p. 170). The study adopted a relatively detailed approach in measuring the impact of library use specifically on physicians' practice, including aspects such as the choice of tests, drug treatment, and patient advice. As it is hoped that the indicators generated by this research can be used to demonstrate the value of services to a broader range of health and social care professionals

(including management and administrative staff) reflecting a multidisciplinary approach to healthcare, this level of detail was rejected in favour of higher level indicators to avoid causing confusion by presenting respondents with irrelevant or excessive choices. Moreover, as the SHeLLI report (2010) indicates, there is a need for a national measure, and as significant heterogeneity exists across regions and local healthcare facilities across Ireland, some simplification is unavoidable. Further qualitative research, such as structured interviews which could be tailored to a specific discipline or local context, could help to pinpoint and elucidate concrete or specific examples of impact, but this falls outside the scope of the present study.

In some healthcare institutions there has been an increased shift towards outsourcing, redeployment, and the use of "shared services" models in recent years, precipitated by the economic and political landscape (Harrison et al., 2011). Libraries have not been immune to such developments, and indeed have even been seen by some as easy targets in the potential for cost savings (Geier, 2007). However, Ritchie contends that in many cases such decisions are in fact based on clear economic arguments that stand up to valid and rigorous cost-effectiveness analysis. These evidence based financial rationales pose "very real threats to our survival, and serious challenges to our ability to develop and thrive; and we have to be able to justify our existence in their terms" (2001, p. 1). But the SHeLLI report notes that "there is currently little, if any, evidence of the impact of health information services – how the use of library services and/or resources feeds into direct patient outcomes or financial benefits" (Harrison et al., 2011, p. 7).

It is unclear why there is a lack of such measures within the Irish hospital library environment. It can perhaps be in partly attributed to the lack of data and integrated evidence base within the healthcare sector generally. Indeed Levis, Brady,

and Helfert (2008) draw attention to this problem, noting that:

> Computerised information systems have not as yet achieved the same level of penetration in healthcare as in manufacturing and retail industries. In Ireland many serious errors and adverse incidences occur in our healthcare system as a result of poor quality information. (p. 1)

However, initiating a culture of accountability and outcome-based performance assessment can and should be a positive development for libraries, and one which provides a rare and valuable opportunity to leverage evidence based advocacy. Librarians as a profession may understand the benefits that effective information services can offer to an organization, but this is not enough. Hospital libraries must articulate and verifiably demonstrate the value of their services in the language which is understood by the commercial and corporate world: that is, by expressing their services as strategic objectives, outcomes, and value for money.

Methods

The study is underpinned by a broadly positivist approach, and various models and frameworks are used as a theoretical paradigm to inform the development of a potential set of quantitative performance indicators. As the aim of this research specifically relates to the impact assessment of library services on measurable healthcare outcomes and objectives, Cameron's (1986) goal attainment model was selected as the most appropriate framework within which to place the analysis. Boekhorst's (1995) model of performance measurement was used as a lens through which to identify and analyze the relationships and links between the HSE's mission and strategic objectives, and library performance and activities. This reflected the need to look beyond the mission and goals of the library itself towards those of the parent

organization. For the purpose of this study, the model was simplified slightly by combining the goals and objectives into a single element.

In order to construct outcome-based indicators, a clear picture was needed of the organization's mission, and the strategic objectives and desired outcomes of the acute hospital sector in Ireland.

Organizational Mission

The HSE was established under the Health Act 2004 as the single body with statutory responsibility for the management and delivery of health and personal social services in the Republic of Ireland. As outlined in the act, "the objective of the Executive is to use the resources available to it in the most beneficial, effective and efficient manner to improve, promote and protect the health and welfare of the public" (2004, pt. 2, s.7). This statement was selected as the overall organizational mission for the model.

Strategic Objectives and Outcomes

Given the aim of developing a set of performance indicators which are sufficiently broad to be applied across multiple hospital settings, the key strategic objectives were identified from the *Report of the National Acute Medicine Programme* (2010), a framework document for the delivery of acute medical services to improve patient care. The report highlights eight overarching aims of the programme as follows:

1. Safe, quality care.
2. Expedited diagnosis.
3. The correct treatment.
4. An appropriate environment.
5. Respect of their [patients'] autonomy and privacy.
6. Timely care from a senior medical doctor working within a dedicated-multidisciplinary team.
7. Improved communication.
8. A better patient experience.

(Health Service Executive & Royal College of Surgeons Ireland, 2010, p. 1)

These objectives clearly do not operate exogenously, and there is likely to be some correlation between them. Therefore, in view of the need to develop a set of pragmatic, measurable and high-level indicators, these eight individual objectives were assessed and grouped together based on commonality. From this process, three primary objectives emerged: quality of patient care, safety of patient care, and efficiency/speed of patient care.

These objectives are also congruent with Holst et al.'s (2009) analysis of the channels through which hospital libraries can deliver value: improved patient outcomes, saving clinician's time, and reducing costs. Furthermore, they also directly mirror three of the five core domains of healthcare quality which are identified by HIQA (2010). The two remaining dimensions, equality of care and person-centredness, were not included, as library services were viewed to have limited, if any, influence over these aspects.

Key Performance Indicators

The final stage required mapping these conceptual objectives into a set of explicit indicators. As well as being directly linked to the organizational mission and objectives, it was critical that the indicators should also be consistent with the recommendations outlined in HIQA's *Guidance on Developing Key Performance Indicators and Minimum Data Sets to Monitor Healthcare Quality* (2010).

A comprehensive literature review was undertaken to identify the primary operational factors that influence the quality, safety, and efficiency/cost of healthcare, which library services can also support. However, these three concepts are broad and complex variables that can be measured and assessed through myriad

different indicators. Even 50 years on, Klein's (1961, p. 144) conclusion that "there will never be a single comprehensive criterion by which to measure the quality of patient care" still holds some degree of weight. For this reason, broad indicators relating to improvement in patient care or practice were chosen as proxies, rather than drilling down into more specific diagnostic or therapeutic outcomes – reflective of Donabedian's general "yardstick" of specificity rather than a "watertight, logic-system" (1966, p. 703). Whilst this may represent a somewhat vague and normative standard open to an element of ambiguity as to what constitutes improvement or reduction, it was viewed as a necessary compromise, given the need to apply the indicators across disparate health and social care contexts to reflect a multidisciplinary approach, and indeed varying hospital environments.

Data Collection and Administration of Survey

A survey questionnaire was selected as the data collection instrument to measure the indicators due to the simplicity and cost of administration. One of the key aims of the questionnaire design process was to ensure that the burden on respondents was minimized. This is particularly germane to the healthcare setting, as doctors typically exhibit a low to moderate response rate to survey questionnaires (Olmsted, Murphy, McFarlane, & Hill, 2005). Indeed, poor response rates to previous surveys required an innovative approach as to how the instrument could be packaged effectively to busy clinical and management staff to best encourage response. For this reason, the survey was deliberately branded as "one question" rather than as a survey, to highlight the simplicity and minimal time commitment involved on the part of the respondent.

To produce the final survey, the five performance indicators were incorporated as possible responses to the question: "How did the information provided by the Library help?" Hospital staff are also free to indicate that the

information provided had no impact or effect. In phrasing both the question and responses, the *Plain Language Style Guide for Documents* (HSE & NALA, 2009) was consulted to ensure clarity of expression. The survey was also piloted with a number of clinical and library staff to ensure that it was easy to interpret and understand.

The online survey tool SurveyMonkey was used to administer the question, and a survey link was included with the responses to any clinical information or reference queries of substance. It is difficult to classify "substance" in an objective way across all local contexts, however it is generally assumed to refer to strategy- or consultation-based queries, as clarified by Warner (2001). In practice, this refers to complex mediated literature searches, where a full search report and supporting documentation are returned to the user. Such queries are received from healthcare (physicians, nurses, and allied health professionals) and health management staff, and thus the potential survey population is relatively disparate. This in turn necessitates the need for the survey responses to be phrased using terminology sufficiently general to be applicable across a range of hospital contexts. As the link is included in response to a specific, individual query or transaction, it is clear to the user that the survey relates explicitly to this particular interaction rather than to library or information services in a more general sense. No explicit incentive is offered to encourage completion of the survey, but as it is included within personalized correspondence and search results, rather than as a generic promotional email, this may in itself prompt users to respond after they have assessed the information. All responses received are anonymous and subjects are made aware of this. The survey instrument has been designed to be replicated in other similar hospital libraries, so that data can be pooled in order to generate significant sample sizes for future analysis and interpretation. We plan to analyze and report survey results every six months, with the provision that sample sizes are sufficient to generate meaningful insight.

Results

Informed by the organizational mission and three core strategic objectives listed above, the final performance indicators selected were:

1. Influence on patient care or guiding of clinical practice/policy.
2. Length of hospital stay.
3. Referral to another department.
4. Staff time.
5. Risk/error reduction.

At the local level, these indicators can subsequently be mapped to a corresponding set of core library activities and tasks that influence each measure, that is, library-specific inputs such as staff workflows, resources, and local systems to help support decision making.

When translated into survey responses, these indicators were presented to staff through the SurveyMonkey interface as illustrated in Figure 3.

Results from the responses received during the six-month period since the survey was initially introduced are illustrated below. A total of 93% of staff stated that the information provided by the library had saved them time, and 86% claimed it had influenced their decision on patient care, clinical practice, or policy – a broadly similar proportion to that estimated in the Rochester Study with significantly larger sample sizes (Marshall, 1992). With over half of respondents indicating that risk or errors had also been reduced, these results suggest at least some positive impact of library services on key strategic objectives. No respondents indicated
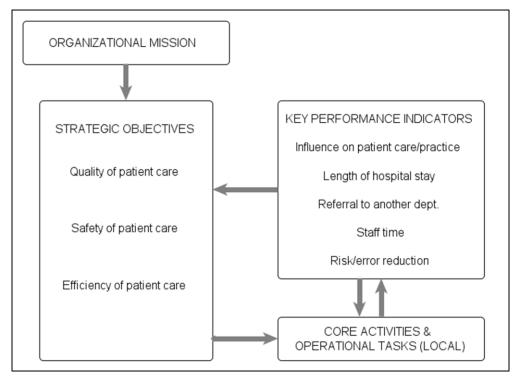

Figure 2
Flowchart of strategic objectives and indicators (Adapted from Boekhorst, 1995)

Figure 3
Presentation of online survey question to users

that the information failed to have any effect or impact; however it is likely that this is in part due to self-selection bias from the nature of the survey – a common limitation, as highlighted by Weightman and Williamson (2005). Further research would be needed to estimate the extent to which this factor influences the overall results. As a tool for advocacy, a single snapshot of data offers some value, but as performance indicators, survey results are only really meaningful when compared over time or in a cross-sectional context, and so these initial results are of limited value in assessing library services in relative terms. To date the survey has been rolled out in only one regional area. Thus, while of value at a local level, the real potential for a national-level indicator remains untapped.

Discussion

Application as a Tool in Practice

The need for objective and quantitative performance measures in hospital library settings is clear (Harrison et al., 2011; Ritchie, 2010). Outcome-based measures that reflect critical outputs and outcomes are invariably more visible than demand-derived metrics, which offer little or nothing from a marketing and advocacy point of view (Chan & Chan,

2004). If an instrument such as this survey could be applied in a standardized way to produce a national measure of performance, benefits would likely accrue, not only in fostering a culture of objective and continuous assessment to drive local service improvements, but also as a valuable tool for evidence based advocacy. Furthermore, extending the survey more widely would also offer the potential to obtain larger sample sizes for increased reliability, precision, and statistical power. More sophisticated analysis may also be possible. Data could be used to identify any statistically significant differences across hospitals or regions. In addition, results could be used to estimate the correlation, if any, between the outcomes achieved and levels of inputs (for example, library budgets or staff numbers) either on a cross-sectional or time series basis.

Notwithstanding these advantages, there is no guarantee that using these performance indicators will deliver a real change in hospital or clinical practice. Improvement requires more than tracking and monitoring data and identifying problems. It must be accompanied by real action, buy-in, and commitment from stakeholders in a visible and accountable way. In essence, "providing managers and staff with accurate, intuitive, and easily interpretable data
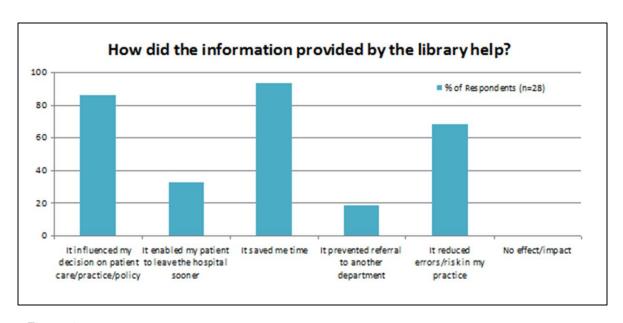
Figure 4
Responses received from online survey

is one third of the recipe for improvement. The other ingredients are alignment with strategic objectives and a system for accountability" (Wadsworth, 2009, p. 69). In view of this, it is hoped that by developing the indicators using a model directly aligned with the strategic mission and goals of the organization and linked to core activities and operations in an accountable way, the performance measures documented above will also facilitate real and meaningful follow-through on change.

Limitations

The questionnaire developed for this article represents a substantial simplification in assessing the efficiency and quality of patient care, and intrinsically represents a self-assessment by the user. Firstly, positive self-selection (or desirability bias as discussed in Weightman & Williamson (1995)), whereby those who find the service of greater value are more motivated to respond to the survey question, may introduce bias into the results. Indeed it is a more-than-plausible hypothesis that those who do not value the library's services will simply not respond to the

questionnaire. It is likely that this is in part responsible for the fact that no respondents indicated that the information provided to them had no effect or impact. As the survey is directly linked to a specific transaction, it also excludes non-users by definition – a further limitation. Moreover, whilst staff may claim that the research and information support provided by the library saved them time or reduced the risk of errors in their practice, this assessment may be subject to bias or variance in interpretation among the respondents. There is something of a Catch-22 at play in this respect. The need for widely applicable indicators for the reasons outlined above necessitates a significant degree of generality in specification. However, this same generality leads to an increased dependence on "the interpretations and norms of the person entrusted with the actual assessment" (Donabedian, 1966, p. 704). Striking the right balance between both needs is a challenge.

The value of the results generated by the survey could be significantly enriched by additional qualitative data obtained through interviews or focus groups. A mixed methods approach such

as this would help to capture the story behind the quantitative headlines, and also yield greater insight into why, when, and how hospital staff use the library. As survey responses are anonymous, a separate recruitment process would have to be undertaken to identify potential interviewees, and to include non-users also to help address the aforementioned limitations.

Conclusion

In spite of the limitations outlined above, the absence of any real outcome-based measure within the Irish hospital library sector is simply too pervasive to ignore. Whilst the indicators and data collection framework proposed in this study may be formative and incipient at best, there is a clear need for evidence of impact to help fill the gap which exists at present between library services and hospital outputs, outcomes, and objectives. Perhaps it is time for Irish hospital librarians to redirect some of their time and effort away from collecting solely input and usage focused metrics, and towards developing meaningful outcome-based measures? Given that efficacy is such a key driver in healthcare, the former are of limited insight, whilst "the validity of outcome as a dimension of quality is seldom questioned" (Donabedian, 1966, p. 693). Instead of focusing on measuring activities and inputs in isolation as libraries have often done in the past, adopting an outcome-based model allows key objectives and the need for accountability to drive service delivery, ultimately ensuring that library services remain relevant to, consistent with, and of direct value to the organization. Traditional measures of activity can still tell a valuable story, but an alternative narrative is also required.

Given the aim of creating broadly generic indicators which are measureable in practice and transferable across a variety of contexts (internal and external), simplification is a pragmatic and necessary constraint, but as Tukey argues: "Far better an approximate answer to the right question, which is often

vague, than an exact answer to the wrong question, which can always be made precise" (1962, p. 13). It is hoped, therefore, that this initial framework can provide a platform for Irish hospital libraries to assess performance at a macro level. Performance indicators should allow us to answer two critical questions: "Are we still relevant to the organization? And if not, why not?" Until we can answer these questions objectively, we must continue the search for valid and meaningful measures of performance.

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