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Review Article

The DNP EBP Project: The Importance of Project Valuation

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Abstract

Thousands of quality improvement (QI) and evidence-based practice (EBP) projects are implemented annually in healthcare facilities nationwide. Doctorate of Nursing Practice (DNP) students are guided in EBP project development, implementation, and evaluation in academic settings. A first-ever nationwide survey of graduate faculty, hospital Chief Nursing Officers (CNOs), and Chief Executive Officers (CEOs) revealed interest in better understanding costs associated with QI and EBP innovations. However, few of these projects include a financial valuation of project costs, benefits, or effectiveness to the served population. The American Association of Colleges of Nursing (AACN) accreditation criteria for DNP programs include specific references to analyzing the cost-benefits or cost-effectiveness of population-based interventions and the need for students to consider the socioeconomic impact of care delivery. Including valuation analyses such as cost-benefit or cost-effectiveness in student-developed EBP projects adds rigor to the project experience and, importantly, equips DNP-prepared graduates with financial knowledge and experience transferable to all practice venues and future QI and EBP project innovations.

Keywords: DNP EBP Project; Valuation; Cost-Benefit Analysis; Cost-Effectiveness Analysis; QALYs; DNP Finance Proficiency

Introduction

Over 30,000 DNP students enrolled in DNP programs today must design an evidence-based practice (EBP) project and detail project attributes, implementation strategies, and impact in a scholarly paper. No evidence exists that these programs required students to utilize their newfound financial knowledge to quantify the benefits or effectiveness of their project. Likewise, the literature fails to acknowledge academia's inclusion of project *valuation* as a part of the DNP student's EBP experience. Valuation, in the form of a cost-benefit or a cost-effectiveness analysis, enables students to determine and compare the costs and benefits or effectiveness of their project intervention. Valuation proficiency acquired in academic DNP programs readily transfers to practice settings contributing to the overall financial health of the organization and the served population.

Materials and Methods

The article includes a literature review and analysis of selected valuation methods, cost-benefit analysis (CBA), cost-effectiveness analysis (CEA), and quality-adjusted life-years (QALYs). Results from an online national survey of graduate nursing faculty and healthcare leaders offer new insights regarding the need and preference for enhanced financial education in DNP academic programs. The survey focused specifically on the importance of conducting cost-benefit or cost-effectiveness analyses as part of EBP or quality improvement (QI) projects. Content includes a

sample DNP EBP project cost-effectiveness analysis.

Results

Findings from the national survey revealed that only 25% (n = 11) of the Chief Nursing Officers' (CNOs) organizations require a financial analysis of projects. In comparison, 64% (n =28) stated that they typically include effectiveness analysis in research proposals. With DNP projects, only 27% (n = 12) of the CNOs require Chief Executive Officers (CEO) to be included in the proposal. In the group of 180 nurse faculty who responded to the survey, the majority of the faculty (n = 149) stated that they believe requiring students to valuate innovative projects by conducting a CBA and a CEA demonstrates a key proficiency necessary for successful practice in today's cost-conscious industry climate. However, only 24% of the faculty indicated that a financial analysis was required only for DNP scholarly projects.

Conclusion

Preparing DNP graduates to valuate EBP project costs and benefits or effectiveness contributes to the future financial success of the healthcare sector regardless of the setting or venue. As academicians prepare thousands of DNP graduates to lead in healthcare facilities, they must equip students with the knowledge and expertise necessary to enter the business arena. Practical valuation techniques such as CBA and CEA enable the DNP-prepared nurse to demonstrate financial business proficiency when developing innovative and cost-effective EBP and QI projects.

The DNP EBP Project: The Importance of Project Valuation

Twenty years ago, the Institute of Medicine (IOM) issued its landmark report on the health of the U.S. healthcare system, describing it as "floundering" in its effort to provide quality patient care [1]. The report cited the need for more nurses with advanced expertise and education and generated the tsunami of nurses now enrolled in DNP academic programs. The American Association of Colleges of Nursing (AACN) expeditiously developed accreditation criteria for these programs, including developing and implementing an EBP project as a requirement for degree completion [2]. Notably, the AACN included the provision that DNP students be familiarized with healthcare finance and justified its inclusion in the curriculum as a necessary proficiency for DNP-prepared nurses in clinical practice today.

With more than 300 DNP programs in the United States and over 30,000 enrolled DNP students today, the opportunity for innovation implementation abounds [2]. Academic DNP programs require students to complete various core courses that focus on the financial aspects of healthcare and business. As part of degree requirements, students must design and implement an evidence-based project (EBP), then detail its attributes in a scholarly paper. But how many of these programs required students to utilize their newfound financial knowledge to quantify the benefits or effectiveness of their project? No evidence in the literature acknowledges academia's inclusion of project valuation as a part of the DNP student's EBP experience. Valuation, in the form of a cost-benefit or a cost-effectiveness analysis, enables the comparison of an innovation's cost versus its benefit or effectiveness [3]. Importantly, valuation proficiency readily transfers to organizational practice settings as DNP nurse providers develop and implement innovations designed to improve clinical care and outcomes [4,5].

ANCC accreditation requires that DNP programs include healthcare finance as part of the program curriculum. Schools can readily meet this requirement by providing a core healthcare finance course geared toward nurses with little finance background. Once completed, students' financial knowledge fades with time, especially if the academic program fails to integrate the use of economic concepts into program courses that prepare the student to develop and implement their required DNP EBP scholarly project.

Further, the *revised* ANCC curriculum essentials [6] stipulate in 3.3 that those students consider the "*socioeconomic impact of the delivery of health care"*. In Essentials 3.3c, students are expected to "*analyze cost-benefits of selected population-based interventions"*, and in 3.3e, they should prepare to "*advocate for interventions that maximize cost-effective, accessible and equitable resources for populations".* Valuation provides evidence that students meet these curriculum essentials.

Valuation

Valuation is essential to estimate a service's cost, effectiveness, initiative, or innovation [7]. For instance, a nurse prepared with an advanced degree may develop an evidence-based practice project designed to address process shortfalls in ambulatory medical practice. The project likely requires an interruption in the existing workflow, but the anticipated process improvement may outweigh the initial flow disruption. However, the disruption may reduce the number of patients the practice can service daily until the new workflow process proves effective. Comparing the anticipated cost of workflow disruption with the effectiveness or benefits of new workflow processes enables the practice to understand the impact of an EBP project and guide practice leaders in decision-making.

While many valuation methods exist, commonly used techniques are available to compute the costs and impacts associated with healthcare technologies, services, and programs. Two widely used methods include cost-benefit (CBA) and cost-effectiveness analyses (CEA) [8]. However, measuring different

types of outcomes may warrant the use of additional measurement strategies. For instance, a result of increased quality of life with the benefit of additional quality years of life, referred to as quality-adjusted life-years (QALYs), requires measurement that differs from quantifying a program, service, or innovation outcome [9].

Two traditional valuation methods, the CBA and CEA, can easily apply to quality improvement QI or EBP projects whether developed in the practice setting or by a student in an academic DNP degree program. Determining if a project innovation can add additional quality years of life, referred to as Quality Adjusted Life Years or QALYs [10], for the affected patient population can significantly enhance the worth of an innovative effort regardless of its QI or EBP project focus and process.

Cost-Benefit Analysis

The cost-benefit analysis (CBA) traditionally compares program/initiative costs with program/initiative benefits [11,12]. Total expenses (direct, indirect, capital operational, etc.) related to an EBP intervention are compared to the total dollar value of derived benefits in a ratio of costs to quantify benefits that represent overall gains or losses. CBA can focus on the present value of costs and benefits or project envisioned initiative results over time and enable break-even point projects in financial modeling. Geographical indices, consumer price index (CPI), inflation rates, and the like provide reasonably accurate calculations and financial projections [13]. The cost-benefit analysis places a monetary value on "inputs" or costs as well as outcomes, enabling the comparison of projects or innovations [4,12]. CBA allows for intrinsic value assessment of innovation even if project benefits exceed costs and can indicate the desirability of a project without any comparison. However, the practical difficulty in conducting a healthcare CBA is placing a dollar value on human life or other health-related outcomes [14].

Cost-Effectiveness Analysis

The cost-effectiveness analysis (CEA), also referred to as cost-utility analysis (CUA), measures the likely costs and health benefits of disparate medical treatments, procedures, or therapies [9]. The metric combines the length of life and quality-adjusted life-years (QALY) [14]. A CEA assists in determining if one intervention trumps another as the most cost-effective alternative [11,12]. While the cost portion calculation mirrors that conducted in a CBA, the effectiveness portion is derived based on an incremental cost per unit of effects, such as an innovation that nets an additional year of quality life with improved health, or QALY or the number of QALYs gained. For instance, does the cost of an annual mammogram (approximately $150) outweigh the benefit of finding a cancerous lesion before metastasis when treatment is most effective?

Cost-Benefit Analysis (CBA)	**Cost-Effectiveness Analysis (CEA)**
Benefits measured in dollars.	Benefits measured in life years gained or saved.
Benefits = total benefits minus total costs.	CE ratio = intervention cost/intervention effect.
Based *only* on money.	Based on both qualitative and quantitative evaluation.
Selected intervention undertaken if benefits outweigh costs.	Intervention selected promises higher years of life gained or saved.
Used to evaluate programs that generate different public outcomes.	Used to compare the value of disparate clinical strategies intended to result in similar outcomes.
Results represented as a ratio of benefit to cost and return-on-investment (ROI).	Results presented as cost per unit of effectiveness resulting from the intervention.
Outcomes of CBA are known.	CE depends on unknown long-term outcomes.
Helps to determine the best ways to secure intended outcome.	CEA helps to determine how to redirect efforts to achieve long-term results.
More complex as it requires monetary quantification.	Easier to calculate as all intervention aspects need not be monetarily quantified.
Limitation: complex cost data collection.	Limitation: Cannot make intervention comparisons that produce different outcomes.

Table 1: Attributes of Cost-Benefit Analysis and Cost-Effectiveness Analysis [12].

Both the CBA and CEA center on the monetary measurement of costs; however, the outcome dimension differs. The CEA measures *effectiveness*, such as a QALY; the CBA uses only economic or dollar values [11,12]. Methodologies used to calculate these analyses range from a simple, high-level assessment to complex calculations used by researchers who expand their research to a study of the cost-effectiveness associated with medical or surgical interventions, clinical technologies, preventive health practices, and other health care programs [15]. Table 1 compares selected attributes of the CBA and the CEA.

Quality-Adjusted life years (QALYs)

A QALY, considered a health value measures health improvement caused by an intervention, a product, or a service – a helpful perspective when determining if an innovation promotes additional years of "quality" life [9]. Quality-adjusted life-years gained due to a program intervention can easily sway the assessed strength of the initiative compared to the loss of QALYs that may result from not implementing the intervention [4]. Assessing QALYs also enables appreciation of disability loss which carries negative economic and social impacts. Although theoretical controversies and measurement issues exist in determining health utility, QALYs offer a reasonable and practical measure of innovation utility [4].

Quality Improvement (QI) and Evidence-Based Practice (EBP) Projects

Designing and developing QI and EBP projects are not new in practice venues. The IOM report (2010) described many hospital deaths caused by medical errors - as significant as 98,000 per year [1]. A similar problem in other care settings was unknown but suspected to be great. Once issued, the pursuit to correct the problem unfolded with Congressional hearings. Government agencies, professional associations, accrediting agencies, insurers, and others quickly responded with plans to define events and develop reporting systems. The upshot of IOM medical error data functions as a catalyst for healthcare organizations. Facilities nationwide were immediately placed on the defensive and imposed reporting requirements combined with holding people or organizations accountable. As a result, healthcare institutions, assisted by the Joint Commission and CMS, set about enriching quality improvement initiatives by identifying outcome improvement achievement targets to measure QI project success.

Lost throughout this process and the subsequent emergence of EBP and related projects was a concerted effort to *quantify* the impact of these QI and EBP projects in financial terms. Rarely can one find any economic assessment of projects regarding cost-benefit or cost-effectiveness. No literature verifies that healthcare facility QI or facility-based DNP graduate program EBP projects require the completion of even a high-level CBA or CEA. Given the significant resource requirement to develop and implement these projects, determining if the cost is worth the outcome emerges as a reasonable and standard expectation. By educating the thousands of DNP-enrolled students to conduct these analyses as part of their required DNP evidence-based practice project, we create a cadre of DNP-prepared nurses able to quantify the costs, benefits, and/or effectiveness of EBP projects regardless of practice setting.

Additionally, the importance of conducting these analyses relates to the project's sustainability over time. Sustainability refers to an organization's ability to continue a program, project, or initiative far into the future. While all projects have an end date, the project's impact should continue, mainly if the effect is considered worthy and deemed successful. Organizational, financial, and community sustainability are essential for any QI or EBP project intervention. Conducting a CBA or a CEA can enable project directors and corporate leaders to determine a project's long-term viability.

Understanding Valuation

An understanding of *economic valuation* enables decision-makers to determine the cost and impact of intervention choices [16]. The valuation process systematically identifies relevant alternatives, diminishing the possibility of missing an important option. Importantly, it invites evaluation from disparate viewpoints in an institution, patient, or government [16].

A review of both professional and lay literature provides an array of testimony to support further inquiry into the use of valuation methods, cost-benefit analysis (CBA), and cost-effectiveness analysis (CEA) as an essential part of quality improvement (QI) and evidence-based practice (EBP) [14,16-18]. While CBA and CEA include health outcomes, CBA emphasizes a monetary value on health outcomes, which requires calculating costs and benefits in dollars or similar monetary units [12,14]. Costs include all expenditures associated with implementing an intervention or innovation, while benefits that result from the intervention/innovation are translated into a dollar/monetary value(s) [14, 12]. Literature provides CBA monetary valuation examples that may prove helpful to the novice project director aiming to valuate clinical interventions or innovations.

On the other hand, monetary valuation in the cost-effectiveness model centers on the effectiveness of clinical interventions or innovations. Extension of life, the quality of extended life measured in years of life, readily applies in the healthcare setting, focusing on the "natural" effect of an intervention, such as years of life gained and the number of accurate diagnoses [18].

Researchers and financial experts offer evidence of significant benefits from conducting CBA and CEA in the healthcare setting [18]. Data suggests better accuracy in conducting CBA because monetary values remain definitive over time, absent inflationary adjustments and the like [16-17]. On the other hand, cost-effectiveness analysis is more challenging as it aims to capture the "value" of intervention and assumes the desirability of the intended outcome [19]. However, efficacy for CEA in the healthcare industry rests in uniform application in the healthcare industry. Because a consistent application does not exist, cost-effectiveness data may be misinterpreted or uninterpretable [16]. For instance, quality improvement decision-makers often implement new treatments, interventions, and innovations without knowing their cost-effectiveness. Even when CEAs are completed,

decision-makers may fail to interpret data correctly, or they may disagree with the findings. Despite this limitation, CEAs often inform healthcare project managers and facility decision-makers [17-18].

Nursing Academia

Responding to the urgent recommendations from the IOM and the American Association of Colleges of Nursing (AACN) for more nurses with advanced degrees and expertise, academic enrollment in the two types of doctoral programs in nursing, the Ph.D. and the Doctor of Nursing Practice (DNP), has increased exponentially in the last twenty years. According to the AACN (2017), in 2010, 1,814 American students earned their nursing doctoral degree with 1,282 DNPs (71%) and 532 PhDs (29%). In six short years, DNP enrollment widened significantly, with 6,090 DNP (88%) and 793 Ph.D. (12%) awarded degrees [20-21]. In 2018, the AACN counted more than 300 DNP programs in the United States, with an enrollment of almost 30,000 DNP students [21].

According to Anderson et al. (2019), the focus of each program's culminating project differs. The DNP scholarly project often translates new best-evidence knowledge generated by Ph.D. dissertation research [22]. Further, most DNP projects focus on quality improvement initiatives and evidence-based, innovative projects to enhance point-of-service processes and outcomes [22]. The final DNP program product demonstrates student expertise, wherein the student develops, implements, and evaluates an EBP project. Components of these projects include sections traditionally contained in Ph.D. dissertations but offer the student an opportunity to critically assess their intervention from a financial perspective [23]. This is most important because, in the practice setting, clinical projects and innovations come with a price; for the DNP graduate to secure needed funding, they must possess a keen understanding and a working proficiency in financial analysis development [23-25].

Interestingly, DNP program accreditation requires that academia address a series of "Essentials," which portend to prepare nurses at the graduate level to innovate and lead in the transformation of healthcare [6]. These "Essentials" outline the core competencies that academia must teach to enable uniformity in DNP preparation. One core competency focuses on financial proficiency in DNP practice to equip graduates with a basic knowledge of healthcare finance. Integrating project valuation into the final DNP project via CBA or CEA calculation fulfills the demonstration of student financial proficiency. It easily transfers as a necessary and useable skill set to all practice setting venues.

In 2018, Vipond developed an EBP project to improve nurse practitioner financial literacy [26]. Vipond cited the American healthcare system as the most significant "pay-for-performance initiative in history" (p.1), with value-based patient care and cost containment now substituting for fee-for-service reimbursement [27-28]. McClenathan and Rickert (2013) bolstered that perspective, citing that industry executives base their decisions on service volumes and cost analysis of care quality [29]. Regardless, few nurse leaders and advanced practitioners have evidence of literacy in finance [30].

To make matters worse, traditional graduate-level healthcare education programs often lack good business and healthcare financial content [31]. This creates the potential for economic instability and negatively impacts nursing's ability to provide patient care, develop outcome improvement interventions, and the like [31]. As a result, nurse providers, such as advanced practice nurses and DNP graduates, often struggle to secure a proficient understanding of the financial analysis of healthcare interventions and budding outcome improvement efforts [32]. Few appreciate the importance of financial performance from a cost-benefit or cost-effectiveness perspective [29]. Scant data and limited research evidence guide nurse providers in acquiring literacy in healthcare financial matters [31]. Requiring the inclusion of a CBA or CEA in DNP student projects enables students to gain experience and develop modest proficiency in determining the net impact of project interventions and innovations.

Practice Setting Expectations

The remarkable rate of healthcare industry transformation, further fueled by the COVID-19 pandemic, raises concerns regarding the massive expenditures [29,33]. The Quadruple Aim initiative, provider incentive payment systems initiatives, and COVID-related funding snafus challenge healthcare professionals at all levels to carefully analyze the economic impact of healthcare operational expenses [29]. In this complex environment, administrative and clinical nurse leaders, more than ever, need to develop financial proficiencies to attain success in their leadership roles. Still, deficiencies continue to exist and jeopardize the success of the nurse and the organization [30,34-35].

Many organizations recognize the need to enhance financial literacy in clinical and leadership personnel and provide on-site education to improve financial proficiencies. For instance, Strickler et al. (2016) describe a four-tiered clinical ladder in place at the University of North Carolina Medical Center (UNCMC), which prepares nurses for leadership roles by improving their understanding of the healthcare industry financial terms and specific calculations that generate key operational statistics [36]. The leadership courses increased staff satisfaction, retention, and commitment to the hospital facility [36].

A similar effort by Children's National Medical Center in Washington, DC, provided a business and budget boot camp for nurse leaders, emphasizing patient safety, outcome quality,

and financial literacy to enhance organizational growth and success [37]. MSN and DNP academic programs prepare nurse graduates to develop programs and interventions to improve care outcomes [6]. However, these programs are scrutinized in the practice setting, which functions mainly as a business. Evaluating project or program innovations can quickly become a barrier to any envisioned project if the financial aspects of the effort receive little to no attention in the proposal development phase [24]. Nurse project directors who lack proficiency in meeting the financial analyst expectations of the practice setting likely will fail institutional project approval processes [23].

The Quadruple Aim Initiative intends to measure hospital performance by achieving four components: cost reduction, population health improvement, care experience improvement, and work-life improvement for healthcare providers [38]. With quality indicators increasingly connected to healthcare costs [39], healthcare providers now better understand their role in maximizing reimbursement in a rapidly-transforming industry [27-28].

The two measures of industry performance – cost and quality – consistently take center stage in any programmatic analysis [40]. While the purpose of the Quadruple Aims may appear to be based on "trickle-down" patient benefits, financial benefits to the organization also play an essential role in leadership decision-making and the selection of programmatic innovations, including EBP project proposal approval. Therefore, understanding financial implications as a healthcare leader becomes critically important - consider the billions of dollars wasted annually on excessive testing and treatment [41].

Finally, governmental regulators now recognize the need to carefully track the dramatic increase of nurse practitioners (NP) in healthcare transformation as nurse practice acts emerge with "full-practice" laws in states nationwide [42]. With endorsement to practice to the fullest extent of licensure, NPs and other advanced practice nurses are expected to function as competent leaders in an industry intently focused on monetary valuation [1,23].

In 2015, Noh and Lim identified twenty-four needs of nurses enrolled in graduate programs through the nominal group technique [43]. This included hospital accounting basics, financial statements, and financial management basics – all of which suggest that the practice setting would benefit significantly if nurses could better engage in institutions' economic challenges.

Financial Education for DNP-prepared nurses: National survey results

What is the status of financial education for graduate nurses? There are textbooks dedicated to financial management for nurses [44-46]. There are classes in financial management offered by professional organizations such as the American Nurses Association and the American Organization for Nurse Leaders, as well as previously noted practice settings.

We also know that schools of nursing have increased financial education in the advanced graduate nursing curriculum, although statistics are scant. Interestingly, a number of graduate programs have developed dual degree doctoral programs that focus on both advanced nursing practice preparation (the DNP degree) and business skill development (the Masters in Business Administration (MBA) degree. The hybrid DNP-MBA program usually spans three years of full-time study, including summer sessions, and nets the graduate with a powerful academic pedigree and business-based skill portfolio [47-50]. These programs offer significant exposure to administrative attributes and enable the graduate nursing student to better understand the "big picture" of business [51]. To gain new insights into the beliefs of nurse leaders about the need for more financial education in nursing schools, we conducted a first national online survey of hospital CEOs and CNOs, as well as nursing faculty. Our interest centered on first determining the importance of conducting cost-benefit or cost-effectiveness analyses as part of EBP or QI projects. Our second area of focus aimed to assess the degree of CEO, CNO, and graduate nursing faculty interest in integrating valuation as part of EBP and QI projects. What we learned is not surprising, even with the limited participant response. Given the cost conundrum present in the healthcare industry [33], the results suggest that healthcare business leaders lack interest in determining the costs and benefits/effectiveness of practice interventions and innovations – information that could assist in effective cost-quality management. Few graduate nursing faculty recognize the importance of teaching DNP students how to construct CBAs and CEAs, although they recognize the advantages of doing so.

A total of 17 (94%) of the 18 CEOs who responded indicated that they believed CBA and CEA should be included in EBP projects. Yet, only 58% (n = 11) required EBP proposals in their hospitals to include a CBA, and only 50% (n = 9) required effectiveness analysis in quality improvement proposals. Responses from the 44 CNOs showed that 89% (n = 39) agreed that a major shortcoming of health care is quantifying the financial impact of quality improvement or EBP projects. However, only 25% (n = 11) of the CNOs' organizations require a financial analysis of projects, while 64% (n = 28) stated that they typically include effectiveness analysis in research proposals. With DNP projects, only 27% (n = 12) of the CNOs require CEAs to be included in the proposal. Finally, in the group of 180 nurse faculty who responded to the survey, the majority of the faculty (n = 149) stated that they believe requiring students to valuate innovative projects by conducting a CBA and a CEA demonstrates a key proficiency necessary for successful practice in today's cost-conscious industry climate.

However, only 24% of the faculty indicated that a financial analysis was required only for DNP scholarly projects, while only 10% (n = 17) reported that a financial analysis was required for DNP academic projects and Ph.D. dissertations.

Even with this small sample, healthcare leaders and academia fall short in recognizing the importance of projecting QI and EBP project costs and potential benefits before and after project completion [52-53]. In the academic environment, a DNP EBP valuation exercise enables the student to gain experience in identifying project costs and determining both short- and long-term benefits. The following high-level example of a cost-effectiveness analysis provides insight into one student's projection associated with implementing an Inflammatory Bowel Disease (IBD) electronic medical record (EMR) template that requires providers to offer more preventative services to their patients during provider-patient visits [54].

Example: DNP EBP Project Valuation

(Used with permission from Dr. Julia Dinnen, 2021 [54])

Vaccination (V)	Cost/per V	# of Required Vs	Total Estimated Cost	QALY	Cost/QALY
Pneumonia	$99.08 [a]	Two average	$198.16	24 QALY	$8.26
Influenza	$35.97 [a]	1	$863.28	1 QALY	$35.97
Hepatitis A	$32.86 [a]	2	$65.72	24 QALY	$2.59
Hepatitis B	$61.54 [a]	3	$184.62	24 QALY	$7.69
Herpes Zoster	$226 [a]	2	$452	24 QALY	$18.83
HPV	$187.0 [a]	3	$561.03	24 QALY	$23.38
Tetanus	$18.78 [a]	1	$37.56	10 QALY	$1.57
Preventative Referrals	Cost/ Screening	# of Required Screenings	Total Estimated Cost	QALY	Cost/QALY
Dexa-Bone Scan	$200 [b]	Q6 yrs.	$800	6 QALY	$33.33
Cervical Ca Screen	$182.50 [b]	annual	$4,380.00	24 QALY	$182.50
Skin Ca Screen	$107.50 [b]	annual	$2,580.00	1 QALY	$107.50
Notes: QALY – Quality-adjusted life-year, HPV – human papillomavirus; Ca- cancer. [a] CDC Vaccine Price List from the Centers for Disease Control and Prevention, last updated March 4, 2021 (CDC, 2021). [b] Preventative Screening Costs updated by the CDC and USPSTF (CDC Purchaser's Guide, 2021).					

Table 2: Cost-Effectiveness of IBD Preventative Care Services.

Table 2 reveals the following CEA associated with implementing the IBD EMR template intervention.

Gender	Cost-Effectiveness
Males	V + PRs – CCS = V + PRs – CCS (Maximum) QALYs $5,738.16 = 24 life-years
Females	V + PRs = V + PRs (Maximum) QALYs $10,118.16 = 24 life-years
V: Vaccine; PR: Preventative Referral; CCS: Cervical Cancer Screening, QALY: Quality-adjusted life year	

Table 3: Cost-Effectiveness Analysis by Gender.

As mentioned, the net cost of implementing all the EMR template recommendations is estimated at $5,738.18 for males and $10,118.16 for females. The question that providers and patients must answer is: Is it worth spending $5,738.16 to potentially gain 24 additional quality life years for a male? For a female, is it worth $10,118.16 to potentially gain 24 other quality life years? The answer is simple: Yes, it is!

Conclusion

In this article, we noted the importance of conducting QI and EBP projects in practice settings and emphasized the significance of analyzing the associated costs, benefits, or effectiveness of these novel innovations and interventions. In underscoring the importance of healthcare finance, we justified its inclusion in DNP graduate programs and utilization of gained knowledge when developing the terminal degree EBP project and scholarly paper. Preparing DNP graduates to valuate future project costs and benefits contributes to the future financial success of the healthcare sector regardless of the setting or venue. As academicians prepare thousands of DNP graduates to lead in healthcare facilities, they must equip students with the knowledge and expertise necessary to enter the business arena. Practical valuation techniques such as CBA and CEA enable the DNP-prepared nurse to demonstrate financial business proficiency when developing innovative and cost-effective EBP and QI projects.

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