



# Demonstrating Value, Improving Education and Doing Right by Patients: The Role of Patient-Reported Outcomes in Student-Run Free Clinics and Recommendations for Implementation

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## Abstract

Emphasis has been placed on patient-reported outcomes as a means to improve quality in healthcare. Likewise, patient-reported outcomes have the potential to benefit student-run free clinics in several important ways. Unfortunately, student-run free clinics infrequently incorporate patient-reported outcomes into the care process. This perspective article highlights the need for routine collection of patient-reported outcomes in student run free clinics and recommends resources and future directions to promote widespread use of patient-reported outcomes in student-run free clinics.

## Introduction

The Institute of Medicine has promoted patient-centered care as a means to close the ‘quality chasm’ in healthcare since two-thousand and one.<sup>1</sup> Twenty years later, the term ‘quality chasm’ continues to be an apt term to describe the apparent chasm between where healthcare quality is, and where it could be. Measures of healthcare quality generally reflect performance in six main areas: safety, effectiveness, patient-centeredness, timeliness, efficiency, and equitability. Quality measures may also fall under structural, process, and outcome measurement categories since performance in each of these categories impact the quality of patient care.

Patient-reported outcomes (PROs) can be measures of both the care process or outcome and have been promoted by researchers and policymakers as a means to demonstrate value and improve quality throughout healthcare.<sup>2,3</sup> The National Quality forum defines PROs as “any report of the status of a patient’s (or person’s) health condition, health behavior, or experience with healthcare that comes directly from the patient, without interpretation of the patient’s

response by a clinician or anyone else.”<sup>4</sup> As noted in this definition, PROs promote communication from patients about the status of their health condition and health behaviors (informing effectiveness of interventions) and the patient experience (patient-centeredness, timeliness, efficiency, equitability, and safety). PROs are dynamic tools that inherently improve quality and promote patient-centered care by incorporating the patient’s perspective and facilitating a shared decision-making environment.<sup>5-7</sup>

Despite ample evidence supporting the use of PROs in clinical care and research, current Student-Run Free Clinic (SRFC) models do not adequately incorporate PROs into the care process, and few reports have described their use in SRFCs.<sup>8,9</sup> It is worrying that PROs are not included routinely, since the standards of care in SRFCs are variable and have been questioned.<sup>10,11</sup>

In this perspective article we discuss the role of PROs in providing quality patient care, improving student education, and demonstrating value in SRFCs. We will then provide a review of pertinent resources for PRO implementation and make recommendations for future PRO collaborations among SRFCs.

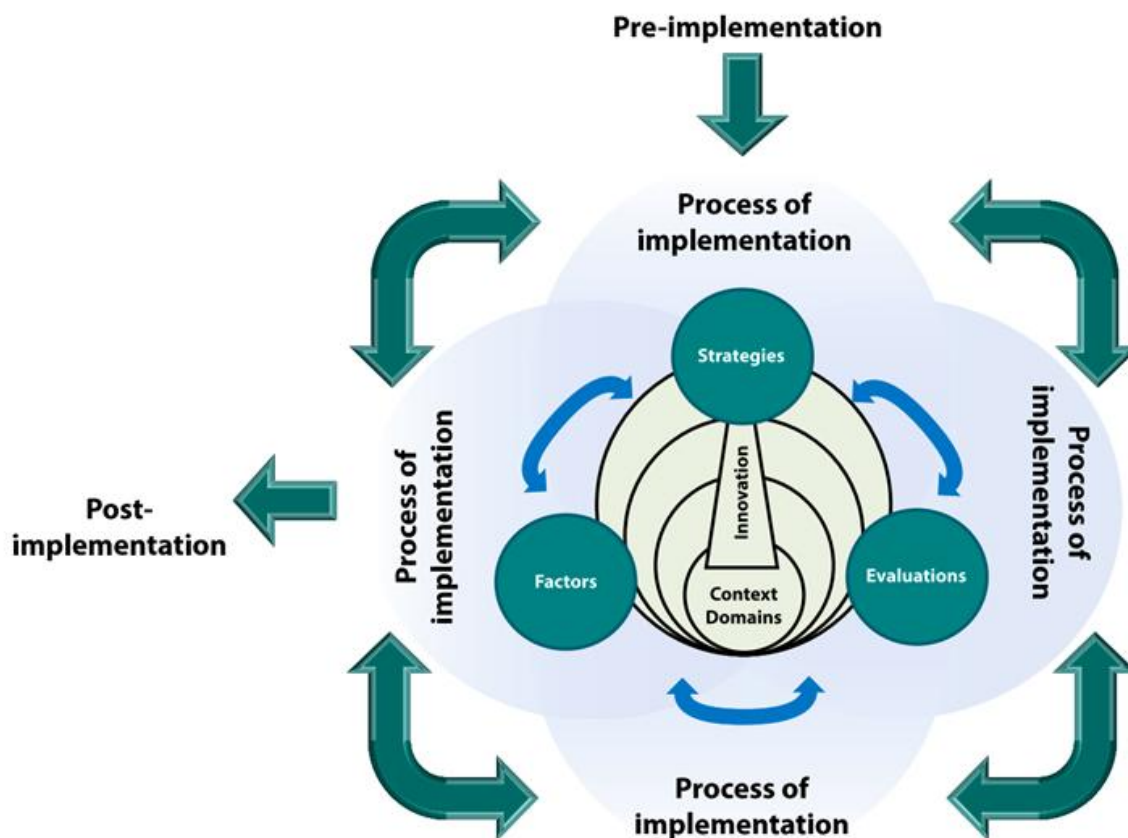
### Ensuring Quality Patient Care

As SRFCs make greater impacts on the healthcare landscape, it has become increasingly important that they demonstrate their ability to provide high-quality care.<sup>12</sup> Recent reports suggest that some SRFCs successfully adhere to standards for diabetes and preventive care, and are able to achieve clinically significant improvement in mental health and quality of life.<sup>8,13-16</sup> However, several factors may adversely impact quality of care in SRFCs including limited access to appropriate pharmaceutical agents,<sup>17</sup> inadequate equipment and privacy,<sup>10</sup> insufficient supervision,<sup>10,11</sup> or student education superseding patient care.<sup>10</sup> Likewise, variability in care not explained by illness or patient preference is ubiquitous throughout healthcare and can result in patients receiving inappropriate care.<sup>18</sup> In the absence of appropriate quality measures, such as PROs, factors which reduce the safety, patient-

centeredness, timeliness, efficiency or equitability of care may go unidentified and adversely impact patients.

Questions of quality are likely to continue until SRFCs can consistently demonstrate their ability to provide safe, patient-centered, effective, and equitable care.<sup>11</sup> Incorporating PROs into the care process provides SRFCs with a patient-centric tool for measuring the quality of care provided by novice clinicians. Using the patient perspective as an outcome metric can reduce variability, limit the inadvertent prioritization of students' education, and inform student clinicians of important changes in patient health status when treating patients. Establishing routine collection and use of PROs to service quality and effectiveness is in line with the vision of the Society of Student Run Free Clinics which includes promoting resources that benefits patients.<sup>19</sup> In order to move forward as a reputable player in healthcare, it is critical that SRFCs incorporate PROs to ensure vulnera-

Figure 1. Generic Implementation Framework reproduced from Moullin and Colleagues 2015.<sup>28</sup>



ble patients are receiving a high standard of care.

### **Facilitating Student Education**

Student education is a significant focus of SRFCs because they are an ideal environment for context learning within medical education.<sup>20</sup> Early experiences in a clinical context are important for optimal learning and engagement and have a tangible impact on learning outcomes.<sup>20,21</sup> However, previous authors have noted that insufficient faculty involvement may inadvertently result in reduced care quality at SRFCs.<sup>10</sup> In these scenarios, measures like PROs, provide information about the patient's health status and experience which allows for student clinicians and preceptors to prevent, or rapidly correct, unintended changes in care quality provided to patients.<sup>9</sup> Although evidence continues to be limited in this area, learning to use data from PROs to inform care may bolster student education by providing information to optimize care.

One previous example highlights the potential for PROs to improve student education within an SRFC. At the Crimson Care Collaborative associated with Harvard Medical School, PROs were implemented in an effort to improve student education and patient care. PRO use facilitated student education by increasing student clinicians' awareness of social determinants of health, fostering difficult conversations between student clinicians and patients, and exposing student clinicians to systems-based practice and quality improvement.<sup>9</sup> Although this is a single report, their findings highlight the potential for PROs to improve student education in several meaningful ways.

### **Demonstrating Value & Facilitating Research**

Value in healthcare, most simply defined as the quality of care divided by the cost of the care, is being highlighted as care models in the United States shift to become more value-centric. SRFCs are in a unique position to demonstrate a particularly high value of their care, which is provided at little or no cost to patients. However, SRFCs often miss out on opportunities to highlight this value by not collecting data, or performing research.

Demonstrating the value of SRFC care is critical step if they are to be seen as a reputable source of healthcare. In order to demonstrate the value of SRFCs in the healthcare system, care quality must be understood. Several barriers such as limited funding, underdeveloped research infrastructure, or administrative burden contribute to the limited research being performed in SRFCs. Likewise, research in SRFCs often is limited by small sample sizes, and generalizability. In previous work, we have highlighted that many of these barriers could be addressed through SRFC collaboration.<sup>22</sup> One method could be the establishment a central database and universal PRO collection platform. Through this platform, a standard set of PROs could be collected and used to perform research on a larger scale.<sup>23</sup> Future research should investigate methods of standardizing PROs and optimizing implementation for clinical care and research.

### **Identifying and Implementing Patient-Reported Outcomes**

Designing an effective implementation process is a challenging, but important step to overcoming barriers to sustainable PRO use in SRFCs. Due to the significant number of PROs, and the vast number of settings in which they can be applied, identifying and implementing PROs is a nuanced process which can be challenging. Technical, social, cultural, and logistic barriers must be identified and specifically addressed for successful integration of PROs into clinical care.<sup>24</sup> Likewise, identifying a PRO that is best suited to the clinical environment and patient population is important. This process is likely foregone in many SRFCs where training, resources, and time are limited, but should become a routine part of clinic improvement efforts. We present resources that can facilitate SRFCs in identifying and implementing PROs with maximal efficacy and ensure sustainability of these measures.

#### *Resource 1:*

*The User's Guide to Implementing Patient-Reported Outcomes Assessment in Clinical Practice* produced by the International Society for Quality of Life Research is a helpful and comprehensive resource when considering which PRO is

appropriate in your clinical setting.<sup>25</sup> Specifically, this guide can help SRFCs to identify:

1. What are the goals for collecting PROs?
2. Which key barriers require attention?
3. How will the PRO questionnaires be selected?
4. How will PROs be administered and scored? and at what frequency?
5. How will results be presented and used?
6. How will PROs be used to evaluate value?

*The User's Guide* serves to assist all clinicians, including SRFCs to better utilize PROs. We believe this resource can optimize the use of PROs in SRFCs.

#### Resource 2:

*The International Consortium for Health Outcome Measurement (ICHOM)*<sup>26</sup> recommends standard sets of PROs for a significant number of health conditions which can be used in SRFCs. Recommendations exist for many common conditions including, but not limited to:

- Diabetes
- Hypertension
- Heart Failure
- Low Back Pain
- Osteoarthritis
- Stroke

These standard sets established by ICHOM can guide SRFCs as they select measures appropriate for their clinical setting and patient population.

#### Resource 3:

*The Generic Implementation Framework.* Inclusion of a framework in the implementation process ensures that factors which might adversely affect the success of PROs are identified and addressed. We recommend that SRFCs incorporate a framework to assist with consideration of all factors influencing the implementation of PROs in SRFCs. Using a framework allows SRFCs to address barriers early in the implementation process and avoid unnecessary challenges.

Moullin and colleagues have proposed ten steps for using implementation frameworks in research and clinical practice.<sup>27</sup> These steps are:

1. Select a suitable framework

2. Establish or maintain community stakeholder engagement and partnerships
3. Define the issue and develop research or evaluation questions or hypotheses
4. Develop an implementation process model or logic model
5. Select research and evaluation methods
6. Determine implementation factors/determinates
7. Select and tailor, or develop, implementation strategy
8. Specify implementation outcome, and evaluate implementation
9. Use framework at a micro level to conduct and tailor implementation
10. Write a proposal and report

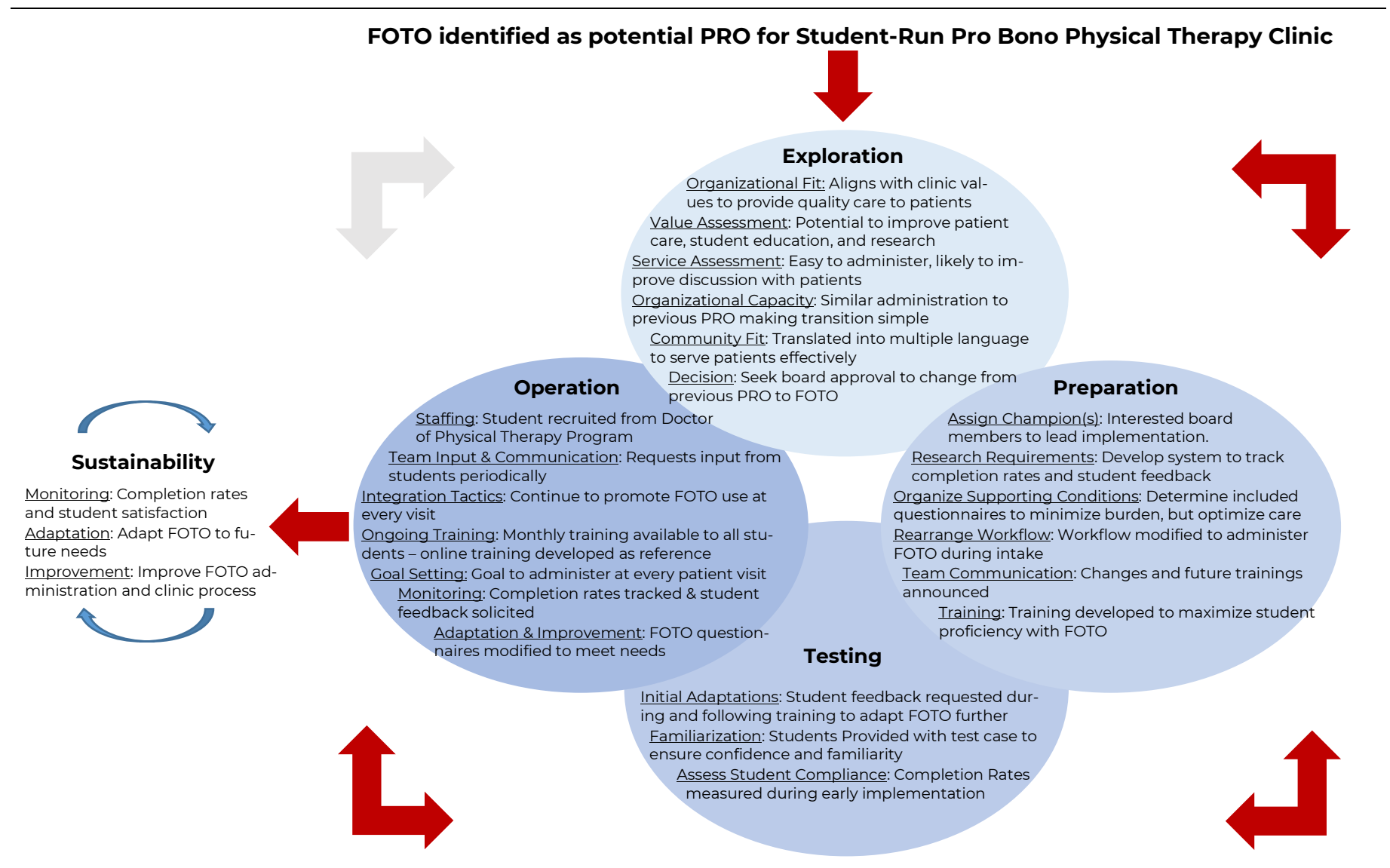
In a recent systematic review Moullin and colleagues presented a Generic Implementation Framework as a composite framework to depict the core concepts of implementation<sup>28</sup> (Figure 1). This framework provides a simple, yet informative context within which SRFCs can develop an effective PRO implementation process. As highlighted in the framework, is important that SRFCs consider that implementation is recursive, follows several steps, and can be influenced by factors, strategies, and evaluations at each step.

In order to illustrate how the Generic Implementation Framework can inform the implementation process in a SRFC, we have generated an example using information from our previous implementation of Focus on Therapeutic Outcomes (FOTO)<sup>29</sup> at the University of Utah Student-Run Pro Bono Physical Therapy Clinic (Figure 2). FOTO is a privately developed, computer adaptive PRO, with an innovative score reporting system. FOTO allows users to compare patients' self-reported physical function scores to normative data for individuals of similar demographics and diagnosis. In order to effectively implement FOTO we used the Generic Implementation Framework. Our implementation process followed several steps, considered several contextual factors, and included evaluations and strategies at each step to address anticipated barriers.

## Moving Forward Together

It is important that SRFCs come together to identify barriers to PRO use and develop pro-

**Figure 2.** Information from FOTO implementation at the University of Utah Student-Run Pro Bono Physical Therapy Clinic within the Generic Implementation Framework.<sup>28</sup>



Gray arrow indicates to repeat as necessary.  
 FOTO: Focus on Therapeutic Outcomes; PRO: patient-reported outcomes

cesses that will encourage widespread PRO implementation. After identifying barriers with PRO access at the University of Utah Student-Run Pro Bono Physical Therapy Clinic and other SRFCs within the Pro Bono Network, our team at the University of Utah explored several options and ultimately approached FOTO to discuss a partnership. Following discussions between students and faculty at the University of Utah and executives at FOTO, an agreement was reached to provide PRO access to all members of the Pro Bono Network at no cost. Although it should be noted that implementation of a PRO to a national organization includes its own unique barriers and considerations beyond the scope of this paper. This initiative has ultimately reduced barriers and promoted PRO use in free rehabilitation clinics nationwide by providing an infrastructure through which data can be collected and collated for research in SRFCs. Through collaboration and problem solving, SRFCs can identify barriers and develop solutions which will allow SRFCs with limited resources to access PROs.

Moving forward, we encourage SRFCs to advocate for organizations like the Society of Student Run Free Clinics to pursue partnerships with outcome management companies in order to facilitate widespread access to PROs. Alternatively, SRFCs might explore the use of widely available free platforms such as REDCap<sup>30</sup> through which the National Institutes of Health Patient-Reported Outcomes Measurement Information System<sup>31</sup> and other versatile PROs can be accessed and administered.

### Summary

SRFCs must demonstrate their ability to provide high-quality care to patients in order to be seen as a reputable source of healthcare for the underserved. PROs are a valuable tool that would empower SRFCs to improve patient care, facilitate student education, and optimize research. We have recommended several resources to help students and faculty to select PROs and design effective implementation processes in SRFCs. Likewise, we encourage SRFCs to work together to address common barriers, and identify creative strategies to promote widespread PRO use.

### Key Points

- PROs can benefit patient care, education, and research in SRFCs
- Materials and frameworks developed by experts should be used to inform implementation of PROs in SRFCs
- SRFCs should explore partnerships that will promote widespread PRO use

### Disclosures

The authors have no conflicts of interest to disclose.

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