



Incorporation of Standard Operating Procedures for Leadership and Volunteer Transitions in a Student-Run Free Clinic

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Abstract

At the Saint Louis University Health Resource Center, all student leadership roles transition yearly, requiring a robust method to maintain institutional knowledge. Standard operating procedures (SOPs) are written documents containing detailed instructions for the completion of functions within a greater organization. SOPs are utilized in clinical settings and may be useful for student-run free clinics (SRFCs). This project sought to formally establish clinic procedures into centralized documents and assess the utility of these documents. We created SOPs for all leader and volunteer positions which were then assembled into Leadership and Volunteer Handbooks for increased accessibility. Two surveys, one for leaders and one for volunteers, were distributed after the 2020-2021 leadership transition period to investigate the utility of the SOPs. Although the response rates were insufficient, results suggest that leader and volunteer respondents found confidence in utilizing the SOPs during the transition period and beyond. SOPs allow our volunteers and leaders to enhance the performance of their roles despite frequent turnover of positions. Per constructive feedback from survey respondents, we plan to improve awareness of SOPs and increase the frequency of updating SOPs to reflect current clinic operations. Future research should evaluate the utility and efficacy of SOPs in other SRFCs through multiple transition cycles of active leaders and volunteers.

Introduction

Student-run free clinics (SRFCs) seek to maintain and improve free healthcare for underserved populations. These clinics must communicate relevant information to continue and improve their legacies. SRFCs likely administer at least one required training session annually for student volunteers and student leaders. Students tend to need retraining during clinic sessions which decreases the overall efficiency of operations. Time spent on retraining students during clinic hours can increase patient wait times and decrease patient satisfaction. Thus, student volunteers and leaders need access to the latest instructions to limit confusion and delays in workflow while performing their duties at the clinic.

Student volunteers at SRFCs likely transition

every four years as medical and undergraduate students move from matriculation to graduation. Meanwhile, SRFCs may have variations in requirements and transitions for those who serve as student leaders. For example, the Saint Louis University (SLU) Health Resource Center (HRC) leadership board, composed of medical and undergraduate students, transitions yearly to allow students of various graduating classes to participate as leaders. Clinic maintenance thus requires preservation of institutional knowledge for continuity despite expected turnovers in participating student bodies. As instructions on clinic operations for volunteers and leaders evolve over time, maintaining this information in cloud storage will improve accessibility. SRFCs are also expected to change over time to fit the needs of patient populations; hence any documentation and relevant

reasoning should be written annually and revised at least biannually.

The concept of standardization has been emphasized in multiple industries since the Industrial Revolution.¹ Standardization within the health care field refers to standards of care that providers are expected to follow to improve the quality of patients' lives through safe, efficacious, and realistic means.² A previous study found that introducing explicit clinical guidelines significantly improved the processes of patient care.³ Standard operating procedures (SOPs), defined as "detailed, written instructions to achieve uniformity of the performance of a specific function," have been utilized in various laboratory and clinical settings (e.g. clinical trials).^{1,4}

SOPs, by definition, are to be written per task. In the past 20 years, SOPs were introduced into everyday clinical practice.⁵ From patient encounters to facility maintenance, an SOP documents the details of all procedures necessary for consistent organization in an easily accessible format, while tracking changes in roles and eliminating duplication of documents. Importantly, SOPs are not universally applied to all units within an industry, but rather SOPs are unique to the operations of individual institutions.⁵ Thus, all stakeholders in the institution are expected to adhere to protocols outlined in the SOPs for regular tasks.⁶ To mitigate loss of information over time, we propose that SRFCs incorporate SOPs, with the expectation that the collection will be maintained for future generations of students.

Intervention Background

Clinic Background

The SLU HRC is an SRFC that has provided primary and select specialty care for the underinsured and/or socioeconomically disadvantaged populations in North Saint Louis, Missouri. A challenge for the ongoing management of the HRC is the dissemination of accessible information to incoming volunteers and leaders to ensure understanding and quality performance of established duties. At the HRC, we make several changes to operations every year which can affect volunteers, leaders, or both. Our leadership structure with descriptions of all leader positions is available in Online Appendix A.

Clinic Volunteers

The SLU HRC medical and undergraduate volunteers are enlisted to serve in various roles. We host a medical student-led clinic every week for adult primary care services. Online Appendix B lists all volunteer positions with corresponding descriptions. Each volunteer position requires one or more training sessions. Students may choose to receive training for multiple volunteering positions based on their interests. After completing the training requirements, student volunteers may enter their names into an online lottery system for the clinic positions they would like to serve in each week. This system randomly selects volunteers for participation at clinics, as there are more eligible student volunteers than the number of available clinic positions.

Clinic Leadership

The leadership board, consisting of student leaders, must uphold structural and financial operations of the HRC by performing established duties, evaluating clinic performance, and training and directing volunteers to serve in their specific roles. Around 50 first-year medical students are elected to serve as clinic leaders for the duration of a calendar year, including the second half of their first academic year and the first half of their second academic year. Approximately 15 undergraduate students from SLU are elected each academic year to serve as leaders for front desk or social work services.

Clinic Transitions

Prior to the implementation of SOPs, all clinic transitions involved predominantly verbal dissemination of knowledge from outgoing leaders to both incoming leaders and volunteers. This led to unorganized, unstandardized, and decentralized documents which may have contributed to undesired variations in protocols and outcomes over the years. We also have seen a need to retrain leaders and volunteer during clinic which hampers overall efficiency at the expense of time and resources. Hence, it is important for all leaders and volunteers involved in the clinic to participate in multiple hands-on training sessions. This process will allow students to practice protocols and improve recall of information while volunteering.

Due to these challenges, we delineated all positional duties and procedures of each volunteer and leadership position into a Volunteer Handbook (VHB) and a Leadership Handbook (LHB), respectively, which serve as centralized and comprehensive documents. Before this intervention, we did not have a VHB and our LHB did not contain SOPs. For this project, the handbooks were structured to include SOPs that provided students with detailed job descriptions, offered extensive direction on how to perform each duty within the role, and provided easy access to all relevant resources required to perform the role. We anticipated that this large-scale project would improve transitions and enhance the confidence of leaders and volunteers in performing their duties.

Designing SOPs and Handbooks

SOPs were created for all leadership and volunteer positions held by medical and undergraduate students and incorporated into LHB and VHB handbooks. All clinic SOPs were formulated using a standardized SOP template (Figure 1).

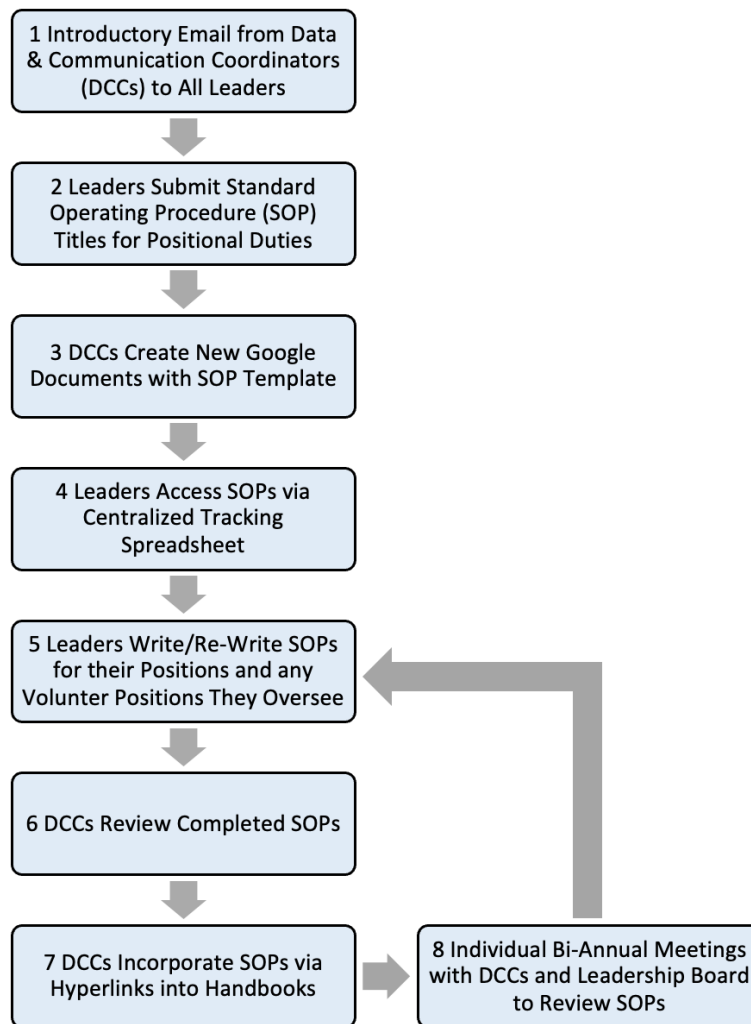
Coordinated steps were taken to ensure the leadership team organizes and maintains SOPs across all clinic duties (Figure 2). Initially, Data & Communications Coordinators (DCCs) sent emails to all leaders detailing the purpose of SOPs, the project timeline, and a link to a Google Form (2020, Google, Menlo Park, CA) used to submit the titles of the SOPs for their assigned positions' duties and all volunteer positions they oversee. Next, DCCs created new Google Documents (2020,

Figure 1. Standard operating procedure template

TITLE	Writing an SOP (Standard Operating Procedure)
Date of Last Edit/Review:	Insert date here
Document Owner:	Insert name(s) of current student leader(s)
Contact:	Insert email address(es) of current student leader(s)
Document Area:	Insert section name within Volunteer/Leadership Handbook
<p>Background: [why this SOP is important-- how it fixes previously encountered problems]</p> <p>Objective: [what this SOP will teach you]</p> <p>Stakeholders: [who should use this SOP]</p> <p>Steps: [what are the steps to achieve the objective]</p> <p>Best Practices: [recommended tips to follow]</p>	

All volunteer and leadership SOPs are formulated using this template. The table header allows a clinic member to view who last updated the SOP and where the SOP is in the Volunteer Handbook or Leadership Handbook. The template body outlines the background, objective, list of stakeholders who will use the SOP, and detailed steps to complete the task at hand. In the "Best Practices" section, authors of SOPs include advice on managing issues that could arise during scheduled clinics.

Figure 2. Flowchart of steps to establish and review standard operating procedures (SOPs)



Steps five to eight reflect the ongoing review and evolution of the positional duties at the Health Resource Center.

Google, Menlo Park, CA) containing the standardized SOP templates with the titles provided by the leaders. Having DCCs create and format all new SOP documents served to centralize the location of all SOPs in the HRC Google Drive (2020, Google, Menlo Park, CA) for easy access and mobility.

Links to the new SOP documents were listed and grouped by position on a centralized tracking spreadsheet sent to leaders for accountability of completing SOPs (Figure 3). Leaders were tasked with using the new documents created by DCCs to write their SOPs. New tabs were created within the spreadsheet file to organize SOPs by the calendar year of creation. Thus, this tracking spreadsheet served as a historical and working

record. As SOPs were marked as completed on the tracking spreadsheet, DCCs reviewed them for any gaps or wording that was unclear.

DCCs hyperlinked the SOPs into the respective handbooks such that all procedures and related links for a specific position's duties were organized in one place. Hyperlinking promoted the readability of the LHB and VHB. The results were clear, concise handbooks (Figure 4) that provided easy access to a position's duties, how to perform them, and related information needed to improve efficiency for leader and volunteer positions. The handbooks were maintained on a secure Google Drive which was accessible by password to only SLU HRC leaders and volunteers.

Figure 3. Pending standard operating procedures for the SLU HRC leadership handbook tracking spreadsheet

<u>Leadership Position</u>	<u>Title of SOP</u>	<u>Notes</u>	<u>Status</u>	<u>URL of SOP</u>	<u>Contact Persons</u>	<u>Sub-Contacts</u>
Community Outreach Coordinator	Community Advisory Board Transition Document 2020-21	Assigned by co-directors, will be linked in the Leadership Handbook once completed.	Completed ▾		Name	
Data & Communications Coordinator	Updating Patient-Facing and Master Schedule Calendars SOP	Please complete and sign by 10/31/20	Completed ▾	Link to Individual SOP Document Here	Name	Name
	SMART Goals Tracking SOP	Please complete and sign by 10/31/20	Pending ▾	Link to Individual SOP Document Here		
	HRC Facebook Page Communications SOP	Please complete and sign by 10/31/20	Pending ▾	Link to Individual SOP Document Here		
	Reporting Feedback from Patients and Volunteers SOP	Please complete and sign by 10/31/20	Completed ▾	Link to Individual SOP Document Here	Name	
	Possible Projects for Data & Communications Intern(s)	This is a reference document for future D&C Leads	Completed ▾	Link to Individual SOP Document Here		
	Documentation of Meeting Minutes SOP	Please complete and sign by 12/31/20	In Progress ▾	Link to Individual SOP Document Here		
	Management of the SLU HRC Website SOP	Please complete and sign by 12/31/20	Completed ▾	Link to Individual SOP Document Here		
	Management of the Leadership and Volunteer Handbooks SOP	Please complete and sign by 12/31/20	In Progress ▾	Link to Individual SOP Document Here		
	Management of the HRC Universe Drive SOP	Please complete and sign by 12/31/20	Completed ▾	Link to Individual SOP Document Here		

This represents a section of the tracking spreadsheet to link SOPs for each position and completion status. The notes column includes instructions to complete the document and the deadline. The status column can be changed to reflect the SOP document's current stage as "Pending," "In Progress," or "Completed." Specific URLs of SOPs in the figure were replaced with "Link to Individual SOP Document Here" in the appropriate sections.

SLU: Saint Louis University; HRC: Health Resource Center; SOP: standard operating procedure; URL: uniform resource locator; SMART: Specific, Measurable, Achievable, Realistic, and Timely.

Figure 4. Example section of the updated leadership handbook with standard operating procedures

Primary Responsibilities:
Standard Operating Procedures & Related Documents

Data

1. Deliver SMART goal setting presentation during lead transitions and follow up on progress of goals throughout the year
2. At the end of the term, compile all SMART goal survey responses into position-specific summaries to be reviewed by outgoing / incoming leads during transitions and incorporated into the leadership handbook
 - a. [SMART Goals Tracking SOP](#)
 - b. [SMART Goal Summary Spreadsheet](#)
 - c. [SMART Goal Survey Responses](#)
3. Collect and present feedback from patients and volunteers at Operations team meetings
 - a. [Reporting Feedback from Patients and Volunteers SOP](#)
 - i. [Patient Experience Assessment Survey Responses](#)
 - ii. [Patient Experience Survey Document](#)
 - iii. [Volunteer Feedback Form](#): weekly responses from Saturday clinic volunteers
4. Work with Co-Directors and student leads to codify SOPs (Standard Operating Procedures) covering leadership duties and volunteer position duties
5. Update and categorize SOPs in their appropriate handbooks for training leads & volunteers
 - a. [Management of the Leadership and Volunteer Handbooks SOP](#)
6. Manage the Saturday morning clinic approximately once every 6-7 weeks

Communications

7. Manage patient-facing updates - website, Facebook page, clinic calendars, clinic notices
 - a. [Updating Patient-Facing and Master Schedule Calendars SOP](#)
 - i. [Lead-facing Clinic Calendar](#)
 - ii. [Patient-facing Clinic Calendar](#): must be logged in under SLU HRC gmail account to update
 - b. [HRC Facebook Page Communications SOP](#)
 - c. [Management of the SLU HRC Website SOP](#)
 - d. [Management of the New Patient-Facing HRC Website SOP](#)
8. Take meeting minutes for all Operations and Development Team meetings
 - a. [Documentation of Meeting Minutes SOP](#)
9. Establish and maintain a system of organization for the HRC Universe Google Drive
 - a. [Management of the HRC Universe Drive SOP](#)

SOPs are created for each task that must be performed by each position. In the current handbook (example above), SOPs are hyperlinked under the related duty. One duty may have multiple tasks. Hyperlinks are used to improve the utility and concision of the handbook. This organization is to ensure easy access and proper completion of the duties and tasks. SOP: standard operating procedure; HRC: Health Resource Center; SMART: Specific, Measurable, Achievable, Realistic, and Timely.

Though all SOPs were reviewed before adding them to the respective handbook, positional duties change over time due to the evolving nature of the HRC. DCCs work with respective leaders to review the SOPs as needed (at least twice each year), for accuracy and completeness. Within the SOP template, leaders must indicate the date of most recent edits and/or most recent review. All

SOPs should be reviewed at least biannually. If certain SOPs are in disuse because of defunct procedures, they are moved to an archive folder in the clinic's Google Drive and links to such SOPs will be removed from the handbooks. If new SOPs must be written, the same procedures will follow as described above, using the same tracking spreadsheet.

Table 1. Positive feedback from the leaders and volunteer survey respondents

Positive Feedback from Leaders	Positive Feedback from Volunteers
“There were many times during my leadership term where I encountered a task that I did not know how to perform. However, having the SOP documents will really help to make sure all information is passed on to the new leaders.”	“I love the SOPs it’s really helpful and I always reference it whenever I have a question at HRC before I ask the leaders.”
“It is quite a lot to run free clinics as students, so having all procedures in some written form helps to jog the memory especially.”	“Most of the time the SOPs are able to answer my question which makes it really efficient!”
“I can’t even imagine what it would have been like before these existed.”	“I find them extremely useful to reference both before and during shifts.”
	“I think it is a great idea, though, and should continue to be edited, improved, and widely communicated to volunteers.”

*Specific wording of comments was preserved to include unique statements of positive feedback.
SOP: standard operating procedure; HRC: Health Resource Center*

Table 2. Constructive feedback from the leader and volunteer survey respondents

Constructive Feedback	Our Response to Feedback
From Leaders	
“I think there are some redundancies in the SOPs but they are very useful!”	SOPs shed light on the large number of simultaneous tasks that need to take place for clinic to run smoothly. SOPs may appear redundant due to several positions that must coordinate individual duties together for a larger goal to be completed.
From Volunteers	
“I volunteer frequently, and I don’t know if there is a print version of the Volunteer Handbook available. If there is, students should be made aware of that.”	Positional duties and details of operations are frequently modified. The online handbooks are edited twice a year and on an as needed basis making them effective, eco-friendly, and easily accessible.
“Having volunteered before the SOP, I already knew enough to minimize their helpfulness. When it comes time to volunteer, I find it easier to ask people than refer to the Handbook.”	It is encouraged for students to collaborate and ask each other questions, but in clinic practice, there tends to be a line of volunteers waiting to ask questions to leaders, thus impeding workflow. As a professional standard, volunteers are expected to be prepared prior to coming to clinic.
“Hands on experience are the best way to learn.”	While we acknowledge that hands-on experiences are paramount to developing understanding, SOPs serve the purpose of documenting steps for unexpected circumstances that may arise, learning duties, and refreshing memory prior to arriving at clinic. As a professional standard, volunteers are expected to be prepared prior to coming to clinic.
“I honestly did not know this existed until I filled out this survey.”	Links to the volunteer handbook and SOPs for specific positions will be included at the top of instructional emails sent out prior to clinic to encourage volunteers to read through the documents before arriving to clinic.
“As a volunteer, I’d probably prefer all my instructions in a single SOP than having to hunt down multiple links from the master handbook.”	SOPs are defined as a written set of step-by-step instructions for a single task. Our SOPs are written to stay consistent with this format and prevent confusion with other duties. All SOPs for each position are given descriptive titles and hyperlinked together in the handbook for ease of access.
“These SOPs do not always, in my experience, reflect what actually occurs in clinic.”	Leaders are encouraged to update SOPs as soon as changes are discussed and approved during leader meetings. At the minimum, the leaders are required to update SOPs bi-annually, but steps will be taken to ensure more frequent updates.
“As a former leader who wrote some of these SOPs, I am disappointed to see that credit has not been given to former leaders who authored documents.”	SOPs serve to benefit the HRC’s operations, so we believe including the names of the current leaders is most effective for communication and documentation purposes. This allows for current leaders to know which SOPs they are directly responsible for updating and whom volunteers should contact (i.e. the current leaders) if they have questions.

*Specific wording of comments was preserved to include unique statements of positive feedback.
SOP: standard operating procedure; HRC: Health Resource Center.*

Evaluating the Implementation of SOPs

To assess the utility of SOPs and students' confidence in performing required duties, we created one survey for leaders (Online Appendix C) and another for volunteers (Online Appendix D). Both were disseminated after the 2020-2021 leadership transition period (November 2020 to January 2021). This qualitative approach received an exemption by the SLU Institutional Review Board. The leader survey was sent to over 120 medical and undergraduate students who served as leaders and leaders-in-training. The volunteer survey was sent to over 700 medical students and at most 50 undergraduate students, who were all eligible to volunteer at the HRC. Each survey included ten Likert-style statements with six statements matched between the two surveys. Participants could also provide qualitative feedback on their experiences with SOPs. Participation was voluntary and anonymous. We were unsuccessful in acquiring sufficient sample sizes because of reduced face-to-face interactions among students and limited clinic sessions secondary to the coronavirus disease 2019 (COVID-19) pandemic.

The overall response to both surveys appeared positive (Table 1). Participants agreed that the SOPs are useful to reference before and during shifts and improving the transition period. However, constructive comments (Table 2) indicated lack of awareness of the SOPs and handbooks, preference of utilizing sources other than SOPs during shifts, the need to reduce redundancy in content of SOPs, and the need to update SOPs more frequently. To conclude the study, debriefing emails were sent to all leaders and volunteers with the survey results and our responses or action plans for all qualitative comments. Table 2 also provides information on how we plan to address the specific comments received.

Discussion

SRFCs strive to provide healthcare for underserved patients while also offering formal clinical experiences to training students. Delineating clinic roles into SOPs is critical for consistent high-quality care. However, no prior reports have described the implementation of such structure in this setting. Our intervention was limited to one

transition cycle and did not demonstrate significant improvement in clinic function due to low survey response rates. Still, other SRFCs may find SOPs useful in maintaining consistency of care by combating deficiencies in training from frequent turnover of leaders and volunteers.

SOPs have direct implications on clinic transitions. We administered surveys at the end of the transition period when leaders and volunteers could assess their capabilities in new roles, their utilization of SOPs in learning their roles, and the overall success of an annual transition. However, the COVID-19 pandemic limited our ability to fully evaluate their utilization. Limited survey comments from our participants support an external study's conclusions that SOPs enhance the transition of vital information between distinct hospital departments, allowing for improved patient care.⁷ Thus, implementation of SOPs within SRFCs has the potential to improve the clinic experience for patients, leaders, and volunteers.

Qualitative feedback from leaders and volunteers raised key insights into the strengths and weaknesses of our study that may be useful for other clinics hoping to implement similar interventions.

We acknowledge that our pilot study has several limitations. Our initiative was not validated because it was a novel intervention in an SRFC. However, steps were taken to ensure that surveys were free of ambiguity, leading questions, and double-barreled questions. Our study was limited by a single transition period at a single site, short follow-up period, and low survey response rates. Surveys were sent to all members eligible to participate in HRC activities. The number of active volunteers was not longitudinally tracked, and we recognize that this measure likely fluctuates with varying schedules. Despite the aforementioned limitations, this study is useful as the first of its kind in presenting SOPs as a possible means of maintaining and improving an SRFC.

Though, administering surveys over multiple transition periods may provide more robust data regarding efficacy of SOPs in disseminating clinic knowledge over multiple years. Validation of SOP integration into other SRFCs may also be helpful. Finally, investigations are needed to evaluate the correlation between SOP implementation and improved student performance in clinics and/or

improved patient satisfaction.

Conclusion

Our pilot study incorporating all leadership and volunteer duties into SOPs was well-received by medical student and undergraduate volunteers at the HRC. This systematic approach to clinic documentation should be considered at other SRFCs and adapted and expanded to promote volunteer confidence, improve clinic function, and ultimately provide consistent, quality healthcare experiences for the underserved. SOP implementation has the potential to improve the quality of care that a SFRC can provide for the patients they serve.

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Disclosures

The authors have no conflicts of interest to disclose.

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