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RESEARCH ARTICLE



Comparing setup time and patient preferences for SCIg therapy: a head-to-head cross-sectional evaluation of two SC pumps

Brent Rutland, Suzanne Strasters and Jasmin Bosshard 

Medical Affairs, KORU Medical Systems, Mahwah, NJ, USA

ABSTRACT

Background: This study compares the setup time and steps of two different subcutaneous infusion pumps using a 50 mL prefilled syringe (or PFS).

Methods: This cross-sectional time and motion assessment followed by a survey gathered patient setup time, number of steps, and surveyed preference for the FREEDOM60® ("Pump A"; manufactured by KORU Medical Systems, Inc.) and SCIg60™ ("Pump B"; manufactured by EMED Technologies Corporation) pump for subcutaneous immunoglobulin (SCIg) therapy. Participants were recruited from the Immune Deficiency Foundation (IDF) patient network. Participants provided informed consent, engaged in a hands-on demonstration, and completed a self-administered survey.

Results: 89% reported faster setup times with the Pump A infusion system, resulting in time efficiency improvements. Fast and easy setup, portability, and minimal steps were highly valued and influenced patient satisfaction. Challenges included pump malfunction and complex setup. Patients preferred prefilled syringes due to ease and potential error reduction. Fast setup time was important for arthritis management, reducing stress, work accommodation, and caregiver assistance.

Conclusion: A significant majority (78%) of patients preferred Pump A over Pump B. It showed advantages in load/unload setup time, resulting in time savings and increased efficiency for SCIg therapy. Incorporating Pump A may enhance treatment adherence and satisfaction, improving outcomes in primary immunodeficiency (PID) management.

ARTICLE HIGHLIGHTS BOX

- Time and motion comparison of two subcutaneous infusion systems.
- Real-world data collection with participants from the Immune Deficiency Foundation (IDF) patient network.
- Combined methodology of a hands-on demonstration, time and motion assessment, and a survey.
- The survey encompassed three sections: ease of use, speed of pump setup, and prefilled syringe vs vial-to-syringe transfer.
- The results highlight the substantial positive influence that a fast and user-friendly pump setup can have on patient satisfaction and overall treatment outcomes.

ARTICLE HISTORY

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KEYWORDS

Drug delivery; immunotherapy; subcutaneous infusion; infusion pump; patient preference

1. Introduction

Subcutaneous infusion pumps are designed to deliver medication or fluids to patients, allowing for continuous or intermittent administration of therapeutic substances. These infusion systems are used in various medical settings, including home care, hospitals, and clinics, to provide patients with convenient and effective treatment [1]. The set-up time and steps required to prepare the pump for use can vary depending on the pump model and the number of syringes used.

The aim of this study is to conduct a hypothesis forming/pilot phase to assess the feasibility and inform the design of a larger hypothesis testing phase, which will compare the time and steps required to set up two different subcutaneous infusion pumps ("Pump A" and "Pump B") using a 50 mL prefilled syringe (or PFS). The set-up time is an important part of the infusion process: The pumps need to be set up for every administration to ensure the patient's safety and adequate performance of the device. Since most pump users undergo

CONTACT Jasmin Bosshard  jbosshard@korumedical.com  Medical Affairs, KORU Medical Systems, 100 Corporate Drive, Mahwah, NJ 07430, USA.

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long-term treatment with infusions on a regular basis, time optimization in the infusion process is of high relevance for the patients but also the assisting caregivers and healthcare providers. This study simulates set-up time. No needles will be used, and no medications will be delivered. Furthermore, no invasive procedures will be used. Accordingly, the authors believe this is a non-significant risk study. This study will be conducted in two phases. Phase I of this study is a hypothesis forming/pilot phase. Phase I will provide the information needed to create hypotheses for Phase II, the testing phase of the study.

Initially, there is a general hypothesis that Pump A will require less set-up time than Pump B because fewer steps are needed to set up Pump A compared to Pump B. Information from Phase I will generate new insights used to quantify the hypotheses for Phase II by comparing the time and steps required to set up the subcutaneous infusion Pump A and Pump B. In each case, the steps and time required to use a prefilled syringe will be compared. Phase II will determine whether there is a set-up time advantage associated with either pump and examine the effects of prior experience and age on setup time outcomes, and whether there is a patient preference for either pump.

The results of Phase I have been completed and will be presented in this article.

2. Methods

This cross-sectional time and motion study aimed to gather patient setup time, steps and surveyed preferences for two different subcutaneous infusion pumps. Participants were recruited from the patient network of the Immune Deficiency Foundation (IDF) using convenience sampling. Inclusion criteria required a diagnosis of primary immunodeficiency disorder (PID) and current receipt of subcutaneous immunoglobulin (SCIg) therapy. Participants with cognitive or communication impairments that could hinder survey completion were excluded.

The study included a diverse group of patients with PID undergoing SCIg therapy with or without prior use of prefilled syringes. Nine (9) patients were included in the study. Although this relatively small sample size compared to the overall patient population, the high diversity regarding demographics (especially age and sex) implies a solid representativeness of the results. The demographic characteristics of the participants are summarized in [Table 1](#) below.

The age of the participants ranged from 19 to 61 years old, with a mean age of approximately 43 years. The majority of the patients were female (67%) while the remaining participants were male (33%). All patients reported English proficiency, indicating a common language for communication during the study. None of the participants reported any vision or hearing impairments that could potentially affect their ability to interact with the study materials or understand the instructions provided. Additionally, no significant dexterity issues were reported among the patients, indicating that they did not have any difficulties in manually handling the prefilled syringes during the setup process.

Participants provided informed consent, which outlined the study purpose, procedures, and confidentiality of their responses. Confidentiality and anonymity were maintained throughout data collection and analysis. The study adhered to ethical guidelines and regulations regarding human subjects' research.

Overall, the study included a diverse group of patients with PID, representing a range of ages and both genders. The absence of vision/hearing impairments and dexterity issues among the participants suggests that they were generally capable of effectively engaging in the study procedures and accurately completing the tasks related to the use of prefilled syringes for SCIg therapy administration.

Table 1. Patient demographics.

Patient	Age	Sex	English	Vision/hearing impairment	Dexterity issues
1	47	F	Y	N	N
2	41	M	Y	N	N
3	45	F	Y	N	N
4	39	F	Y	N	N
5	61	F	Y	N	N
6	28	M	Y	N	N
7	56	M	Y	N	N
8	52	F	Y	N	N
9	19	M	Y	N	N

Legends: M: male, F: female, Y: yes, N: no.

After the verbal explanation, participants engaged in a hands-on demonstration with a mockup needle set. A fake skin model was provided, simulating the needle insertion experience. Participants were instructed to insert the needle into the fake skin model, mimicking a subcutaneous injection. This practical activity allowed participants to evaluate needle insertion ease and overall user experience.

Following the teaching, pump setups were completed according to a checklist and timed by the authors/researchers using a stopwatch for further analysis and participants completed a self-administered survey on their experience with each pump model, consisting of 26 questions. The survey encompassed three sections: ease of use, speed of pump setup, and prefilled syringe vs vial-to-syringe transfer (see Appendix). The questionnaire included closed (YES/NO), open-ended, multiple choice and Likert-Scale response options. There was only one trial per participant conducted and the data collection occurred in one day.

Descriptive statistics, such as frequencies and percentages, summarized demographic information and survey responses. Time, steps, preference, and ease of use data were analyzed using appropriate statistical techniques, including mean scores, standard deviations, and inferential statistics when applicable. Open-ended responses were summarized and underwent thematic analysis through keyword detection to identify common themes and patterns.

Due to the pilot hypothesis forming trial design, statistical significance was not calculated.

The study utilized specific equipment and materials, including the FREEDOM60[®] syringe driver ("Pump A"; manufactured by KORU Medical Systems, Inc. [2]), the SCIg60[™] syringe driver ("Pump B"; manufactured by EMED Technologies Corporation [3]), the RMS126XX [2] and SUB-109-G27 [3] needle sets, the F2400 flow rate restrictor [2], the VersaRate Flow Controller [3], the FREEDOM60[®] Prefilled Syringe Adapter [2], a 50 mL Schott Pharma Prefilled Syringe [4] filled with a viscous surrogate, injection pads for each participant, and an Apple iPhone 13 for video recording (see Table 2).

3. Results

This section presents the results of a study evaluating patient preferences and clinical considerations related to Pump A versus Pump B for subcutaneous immunoglobulin (SCIg) therapy in patients with primary immunodeficiency (PID). The study aimed to assess factors such as pump setup time, ease of use, and portability that influence patient satisfaction and treatment outcomes. These findings provide valuable insights into the preferences and needs of PID patients, highlighting the importance of user-friendly features in pump design.

Among PID patients surveyed, 89% reported performing the prefilled syringe load/unload setup faster with the Pump A system compared to the Pump B system. For those patients who exhibited faster setup times with the Pump A system, a mean time savings of 1 minute and 11 seconds was observed. This indicates that the use of the Pump A system resulted in notable time efficiency improvements during the load/unload setup process.

Furthermore, the study revealed a 28% mean time savings in PID patients who were faster with the Pump A system compared to the Pump B system. This finding highlights the substantial reduction in setup time achieved with the Pump A system, emphasizing its potential to significantly enhance the overall efficiency of SCIg therapy administration in PID patients.

According to the data provided, Pump A requires 3 rotations to fully wind and 9 rotations to complete the given procedure. In contrast, Pump B requires 10.5 rotations to fully wind and 63 rotations to complete the same procedure. This indicates a notable difference in efficiency, with Pump A requiring approximately 70% fewer rotations compared to Pump B (see Table 3). The ratio of rotations for the procedure between the two pumps is approximately 1:7, highlighting the significant advantage of Pump A in terms of efficiency. Overall, the data shows that Pump A is more efficient while Pump B is less efficient for the given procedure.

Table 2. Materials.

Materials	Pump a system [2]	Pump B system [3]
Syringe Driver	FREEDOM60 [®]	SCIg60 [™]
Needle Set	RMS126XX	SUB-109-G27
Flow Rate Restrictor	F2400	VersaRate Flow Controller
Adapter	FREEDOM60 [®] Prefilled Syringe Adapter	N/A
Syringe	50 mL Schott Pharma Prefilled Syringe filled with viscous surrogate [4]	
Misc	Each participant will get injection pads and the respective instructions for both systems.	
Video Camera	Apple iPhone 13	

Table 3. Pump efficiency comparison.

Rotations	Pump A	Pump B
Rotations to fully wind	3	10.5
Rotations to complete procedure	9	63
Percentage fewer rotations	70%	
Efficiency comparison (procedure)	More efficient	Less efficient

The mean score for the importance placed on the speed of pump setup in the decision-making process for choosing a particular pump for therapy was 4.7 on a 5-point Likert scale. This indicates that patients consider the speed of pump setup to be highly significant when selecting a pump for their therapy. The high mean score underscores the critical role of efficient and time-saving setup processes in meeting patient expectations and enhancing their overall treatment experience.

When PID patients were asked to list the top three factors they considered important in the decision-making process for choosing a mechanical pump for therapy, a unanimous 100% of respondents prioritized fast and easy setup. This emphasizes the paramount importance patients place on a streamlined and hassle-free setup process. Additionally, 100% of patients emphasized the significance of a compact and portable design, aligning with the need for mobility and convenience in managing their therapy. Moreover, 78% of patients highlighted the value of minimal steps involved in setting up the pump, indicating a preference for simplicity and ease of use.

The mean score of the likelihood of choosing a pump with a faster setup time for therapy was 4.7 on a 5-point Likert scale. This indicates a strong inclination among patients to opt for a pump that offers a faster setup time. The high mean score suggests that a quicker setup process is a compelling factor that influences patients' decisions when selecting a pump for their SCIg therapy. Patients value the time-saving aspect of a faster setup, as it contributes to their overall convenience and efficiency in managing their treatment.

When asked about the impact of having a pump that has a fast setup and is easy to use, 100% of PID patients surveyed stated that it would "improve" their therapy experience. Furthermore, 67% of patients stated that it would "significantly improve" their therapy experience. These responses highlight the substantial positive influence that a fast and user-friendly pump setup can have on patient satisfaction and overall treatment outcomes. Patients appreciate the enhanced convenience, reduced stress, and improved adherence that come with a pump that offers a seamless setup process.

The survey revealed that the top three challenges and difficulties reported by PID patients when setting up or using a pump for SCIg therapy were as follows: 63% mentioned the malfunction or breaking of the pump, 38% experienced difficulty adjusting or programming the flow, and 38% found the setup process to be complex. These findings shed light on the areas where improvements in pump design and functionality are needed to address patient concerns and enhance the overall user experience.

A significant majority of PID patients surveyed (80%) believed that Pump A has a faster setup time compared to Pump B. This perception aligns with the strong preference for Pump A observed in the study. The perceived faster setup time further reinforces the importance of efficient pump setup processes in meeting patient expectations and improving their therapy experience.

The mean score of PID patients surveyed who would recommend their desire to have a pump with a faster setup and greater ease of use to their medical provider was 4.7 on a 5-point Likert scale. Moreover, 78% of patients stated that they are "extremely likely" to recommend a mechanical pump that offers a faster setup and greater ease of use to their medical provider. These findings emphasize the patients' desire for healthcare providers to consider their preferences for user-friendly pump features, as it can significantly impact their therapy experience and treatment outcomes.

The survey results revealed strong preferences for prefilled syringes among patients with PID for SCIg replacement therapy. Overall, 86% of PID patients surveyed stated a preference for prefilled syringes over vial-to-syringe transfer. When considering the factors influencing this preference, 89% of patients cited "ease of preparation" as an important factor in choosing prefilled syringes as their preferred medication administration method. Moreover, 67% of patients believed that prefilled syringes could help reduce potential medication errors.

In terms of patient likelihood to choose prefilled syringes, 75% of surveyed PID patients expressed that they would be either "somewhat likely" or "very likely" to choose prefilled syringes if given the option. The absence

Table 4. Manufacturer patient centric infusion system designs.

Design principles	Description
Intuitive design	The manufacturer prioritizes intuitive design principles when developing pump systems. This involves creating a user interface that is clear, logical, and easy to navigate. Controls that are intuitive in their role, and the overall layout guides users through the setup process step-by-step. By designing the interface with simplicity in mind, patients can quickly understand and follow the necessary steps for pump setup.
Clear instructions	Clear and concise instructions are essential for simplifying the setup process. This includes detailed written instructions that are easy to comprehend, preferably using plain language without excessive technical jargon. Additionally, incorporating visual aids such as diagrams, illustrations, or videos significantly enhances the clarity of instructions and helps patients visualize the setup process more effectively.
Streamlined components	The Pump A system contains simplified and streamlined components that are easy to assemble and connect. For example, using color-coded parts assists patients in identifying the correct components and their corresponding placement. Additionally, employing mechanisms like snap-fit connections or intuitive locking mechanisms can simplify the physical setup of the pump, reducing the difficulty in pump setup for all patients with or without dexterity issues.
Error resistant tubing design	The Pump A system infusion tubing design offers a simplified approach. A tubing is utilized that does not require any manipulation to set the flow rate, eliminating the need for dialing in a flow controller. This intuitive design reduces confusion, minimizes steps to start the infusion, and mitigates potential errors in flow rates, providing a user-friendly and streamlined experience for patients.
Enhanced user support	The manufacturer provides comprehensive user support to assist patients during the setup process. This can include dedicated helplines, online resources, or mobile applications with step-by-step guides and troubleshooting assistance. Offering user support in multiple formats can cater to different learning preferences and ensure patients have access to the help they need whenever they encounter difficulties.
User testing and feedback	Conducting user testing and obtaining feedback from patients during the development phase is crucial. This allows the manufacturer to identify potential pain points, areas of confusion, or any aspects of the setup process that patients find particularly challenging. Incorporating patient feedback into the design iterations can result in a more user-friendly and simplified setup process.

of the prefilled syringe option had a negative impact on 56% of patients, who reported that it worsened their overall SClg administration experience.

Respondents provided several reasons for their preference regarding the importance of fast setup time for the selected pump. These included avoiding repeated winding that exacerbates rheumatoid arthritis, reducing patient stress for better adherence and recovery, accommodating patients who are still able to work with a more compact pump, facilitating caregiver assistance with easier setup, and providing easy access to the syringe during infusion. These reasons highlight the diverse ways in which a fast setup time positively impacts patient comfort, convenience, and overall therapy experience.

4. Discussion

Respondents provided various reasons for their preference for prefilled syringes over vial-to-syringe transfer. These reasons included time-saving benefits and reduced chaos during preparation, as expressed by one respondent. Others highlighted the ease of use associated with prefilled syringes and the lower manual dexterity required, even if a transfer step was involved. One patient expressed a preference for prefilled syringes, provided that the stabilizer/preservative did not cause intensified side effects or reactions.

These survey findings underscore the strong preference for prefilled syringes among PID patients for SClg therapy. The ease of preparation, potential for reducing medication errors, and positive impact on patient experience were key factors driving this preference. These results highlight the importance of considering patient preferences and incorporating the use of prefilled syringes as an option in SClg therapy administration to improve patient satisfaction and adherence.

Simplifying the setup process of the pump is important because it directly impacts patient adherence to therapy. When the setup process is made easier and more convenient, patients are more likely to adhere to their treatment regimen. A simplified setup process enhances the overall patient experience by reducing frustration and barriers that may hinder adherence. It also saves time for patients, allowing them to spend less time on pump administration and more time on their daily activities. Additionally, a simplified setup process helps minimize errors and uncertainties that can occur during pump assembly and configuration. By reducing the potential for mistakes, patients can have more confidence in setting up the pump correctly, leading to fewer treatment interruptions and suboptimal dosing. Moreover, simplifying the setup process empowers patients to take an active role in their therapy, fostering a stronger commitment to treatment and improving patient engagement. The decreased burden associated with a simplified setup process makes therapy more

manageable and less intrusive in patients' daily lives, contributing to improved long-term adherence and better treatment outcomes. Overall, by simplifying the pump setup process, manufacturers can positively impact patient adherence, leading to enhanced disease management and improved patient well-being.

The manufacturer of Pump A has taken several measures to simplify the setup process of the pump and reduce complexity for patients. Below is a listing of strategies that they have considered with the patient's needs at the forefront (Table 4).

By implementing these strategies, manufacturers can simplify the setup process of the pump and reduce complexity for patients. This, in turn, can enhance patient satisfaction, promote better adherence to therapy, and improve overall treatment outcomes.

Potential limitations of this study include the lack of examination of further factors like cost, availability or necessary training efforts for each pump type. Also, the participants' clinical background as well as their experience with other drug delivery devices were not further assessed or considered in this study. For future studies, the authors recommend examining the impact of the results of this study on the broader SCIg therapy adoption.

5. Conclusions

A total of 78% of PID patients surveyed expressed a preference for Pump A over Pump B when given the choice. This high percentage demonstrates a strong inclination toward Pump A among patients in this study. The positive patient preference suggests that the features and functionalities offered by Pump A align better with patients' needs and expectations.

These results demonstrate that the Pump A system offers considerable advantages in terms of load/unload setup time compared to the Pump B system in patients with primary immunodeficiency. The observed time savings and increased efficiency associated with the Pump A system underscore its potential to streamline the setup process and improve patient experience during SCIg therapy. Incorporating the Pump A system into clinical practice may lead to enhanced treatment adherence and overall patient satisfaction.

Overall, the results of this study indicate a strong preference among PID patients for Pump A over Pump B. Patients highly value a fast and easy setup process, compact and portable design, and minimal steps involved in pump setup. The findings emphasize the importance of considering patient preferences and incorporating user-friendly features in the design of subcutaneous drug infusion systems. Addressing these factors can lead to improved patient satisfaction, adherence to therapy, and ultimately better clinical outcomes in PID management. The study results provide valuable insights for medical device manufacturers and healthcare providers to optimize the design and selection of mechanical pumps for SCIG therapy, ultimately enhancing patient experience and improving treatment outcomes.

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Author contributions

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ORCID

Jasmin Bosshard  <http://orcid.org/0009-0005-9942-8270>

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Appendix

Pump A vs pump B head-to-head time and motion and preference survey

Are you currently on SCIg therapy or IVIg therapy?

- a. SCIg therapy
- b. IVIg therapy

If you answered "a) SCIg therapy" to the above question, please move forward to "Ease of Use" Section, Question #1. If you answered "b) IVIg therapy," please move forward to "Ease of Use" Section, Question #4.

Ease of use

These questions aim to gather insights into patients' experiences, preferences, and perspectives on the importance of faster setup and ease of use of mechanical pumps for SCIg therapy. The survey responses can help the pump manufacturer assess the potential impact and desirability of a specific pump design, based on the findings of the time and motion study, and inform further development efforts.

1. Are you currently using a mechanical pump for your SCIg therapy?
 - a. Yes
 - b. No
2. Have you ever used Pump A or Pump B for your therapy?
 - a. I have only used Pump A.
 - b. I have only used Pump B.
 - c. I have used both.
3. How frequently do you perform SCIg therapy using a mechanical pump?
 - a. Once a week
 - b. Every two weeks
 - c. Every four weeks
 - d. Other
4. How would you rate the importance of a faster setup and ease of use when choosing a mechanical pump for your SCIg therapy? Please rate on a scale of 1 to 5, where 1 represents not important at all and 5 represents very important.

1	2	3	4	5
No important				Very important

5. Please indicate which factors are important to you when considering a mechanical pump for SClg therapy. Please select all that apply:
- a. Fast and easy setup
 - b. Minimal steps involved in setting up the pump
 - c. Clear instructions and guidance for use
 - d. Compact and portable design
 - e. Reliable and consistent performance
 - f. Other (please specify) _____
 - g. None of the above

6. If a pump manufacturer conducted a time and motion study comparing two pumps and found that one pump had a significantly faster setup and was easier to use, how likely would you be to choose that pump for your SCLg therapy if you had the choice? Please rate on a scale of 1 to 5, where 1 represents not likely at all and 5 represents extremely likely.

1 2 3 4 5

Not likely at all Extremely likely

7. How would a faster setup and ease of use of a mechanical pump impact your overall experience during SCIg therapy?
Please select one of the following options:
- a. It would significantly improve my experience.
 - b. It would somewhat improve my experience.
 - c. It would have no significant impact on my experience.
 - d. It would somewhat worsen my experience.
 - e. It would significantly worsen my experience.

8. Have you ever encountered any challenges or difficulties when setting up or using a mechanical pump for SCIG therapy? Please select all that apply:
- a. Complex setup process
 - b. Unclear instructions or lack of guidance
 - c. Difficulty adjusting or programming the flow setting
 - d. Malfunction or breaking of the pump
 - e. Other (please specify) _____
 - f. None of the above

9. How likely would you be to recommend a mechanical pump that offers faster setup and ease of use for SCLg therapy to your medical provider or other individuals who require similar treatment? Please rate on a scale of 1 to 5, where 1 represents not likely at all and 5 represents extremely likely.

1 2 3 4 5

Not likely at all Extremely likely

10. Is there any additional feedback or comments you would like to provide regarding the importance of faster setup and ease of use of mechanical pumps for SCIq therapy or the potential benefits of a specific pump design?

7. If given the choice, which pump would you choose for your SCIg therapy?
- a. Pump A
 - b. Pump B
8. Please provide any additional feedback or comments regarding the speed of pump setup and its impact on your therapy experience or the potential benefits of a specific pump.

Prefilled syringe vs. vial-to-syringe transfer

These questions aim to gather insights into patients' experiences, preferences, and perspectives on the use of prefilled syringes versus vial-to-syringe transfer for medication administration. The survey responses can help assess patient preference and provide valuable feedback to healthcare providers and manufacturers regarding the benefits and considerations associated with each method.

1. Have you used both prefilled syringes and vial-to-syringe transfer for your medication administration?
- a. Yes, I have used both.
 - b. No, I have only used prefilled syringes.
 - c. No, I have only used vial-to-syringe transfer.
2. In your experience, which method do you prefer for medication administration?
- a. Prefilled syringes
 - b. Vial-to-syringe transfer
 - c. No significant preference
 - d. I'm not sure
3. Please explain the reasons for your preference regarding medication administration method (prefilled syringes or vial-to-syringe transfer) that you selected in the previous question.

4. On a scale of 1 to 5, where 1 represents not important at all and 5 represents very important, how important is the ease of use and convenience of the medication administration method to you?

1	2	3	4	5
No important			Very important	

5. Which factors influence your preference for the medication administration method? Please select all that apply:
- a. Ease of preparation
 - b. Accuracy in dosage measurement
 - c. Reduction in potential errors
 - d. Time efficiency
 - e. Portability and convenience
 - f. Reduction in the risk of contamination

- g. Other (please specify)
 - h. None of the above
6. If given the ability to choose, how likely would you be to ask your medical provider for a medication that comes in prefilled syringes over one that requires vial-to-syringe transfer?
- a. Very likely
 - b. Somewhat likely
 - c. Not likely
 - d. Undecided
7. If the option for prefilled syringes were not available, how would it impact your overall medication administration experience?
- a. It would significantly worsen my experience.
 - b. It would somewhat worsen my experience.
 - c. It would have no significant impact on my experience.
 - d. It would somewhat improve my experience.
 - e. It would significantly improve my experience.
8. How likely would you be to recommend the use of prefilled syringes to your medical provider or other individuals who require similar medication administration?
- a. Very likely
 - b. Somewhat likely
 - c. Not likely
 - d. Undecided
9. Please provide any additional feedback or comments regarding your preference for either prefilled syringes or vial-to-syringe transfer in medication administration.
