



## Outcomes Innovative Pharmacy Grant - Final Report

### Applicant Information

|                             |                                                                                                   |
|-----------------------------|---------------------------------------------------------------------------------------------------|
| <b>Applicant Name</b>       | Allison Hanus                                                                                     |
| <b>Project Title</b>        | Implementation of a Community Pharmacist-Provided Travel Health Clinic in an Independent Pharmacy |
| <b>Funding Amount</b>       | \$2,000                                                                                           |
| <b>Funding Amount Spent</b> | \$847.00                                                                                          |

### Outcomes Innovative Pharmacy Grant Feedback

*This section is intended for IPA staff and the IPA Foundation to gain a better understanding of the grant webpage, grant application, and feedback provided. Please be as detailed as possible with your responses so we can improve the outcomes grant process.*

**The grant webpage was easy to find on the IPA website:**

X Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree

**The information on the grant webpage was organized well:**

X Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree

**The grant webpage provided a detailed overview of the requirements that must be met throughout the course of the project timeline:**

☐ Strongly Agree X Agree ☐ Disagree ☐ Strongly Disagree

**The grant webpage provided a detailed description of the grant cycle (including the deadlines for applications, interim reports, final reports, and presentations):**

☐ Strongly Agree X Agree ☐ Disagree ☐ Strongly Disagree

**The grant webpage provided a detailed overview of the application process:**

X Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree

**The grant webpage provided a detailed overview of the review procedure following application:**

X Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree

**If you ranked any of the above as “Disagree” or “Strongly Disagree,” please provide feedback on how we can improve the grant webpage:**

It might be helpful to update the requirements as well as the timeline/deadlines to make sure they’re all accurate.



**The application form was organized well:**

X Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree

**The application form was user friendly:**

X Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree

**The application form was easy to understand:**

X Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree

**If you ranked any of the above as “Disagree” or “Strongly Disagree,” please provide feedback on how we can improve the grant application form:**

**Reviewers/evaluators provided constructive feedback throughout the application procedures, after reviewing the interim report, and when evaluating the poster presentation:**

☐ Strongly Agree ☐ Agree X Disagree ☐ Strongly Disagree

**Reviewers/evaluators were respectful and professional with their feedback throughout the application procedures, after reviewing the interim report, and when evaluating the poster presentation:**

☐ Strongly Agree X Agree ☐ Disagree ☐ Strongly Disagree

**If you ranked either of the above as “Disagree” or “Strongly Disagree,” please provide feedback on how we can improve the quality of feedback recipients receive:**

I did not receive feedback on my application or the interim report. I have only received the request for more information, which I did find to be respectful and helpful.

**Any questions I had regarding the grant (e.g., use of funds, requirements, application procedures, review procedures, interim reports, presentations, feedback, cycles, etc.) were answered in detail:**

X Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree

**Any questions I had regarding the grant (e.g., use of funds, requirements, application procedures, review procedures, interim reports, presentations, feedback, cycles, etc.) were answered in a timely manner:**

X Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree

**If you ranked either of the above as “Disagree” or “Strongly Disagree,” please provide feedback on**



**how we can improve the quality of our responses to your questions regarding the outcomes grant:**

Spencer was great at answering any questions I had very quickly and thoroughly.

**Please provide any additional information or feedback you think may be important for us to know regarding the outcomes grant:**

I appreciated the proactive and consistent communication about deadlines. This was very helpful.

### **Final Report**

- **Please describe the progress made towards meeting the goals and objectives of your project. Include results or outcomes if possible.**

**Objective 1:** Develop and implement a pharmacist-led travel health consultation service within a multi-site independent community Pharmacy.

- For objective 1, I created a detailed policies and procedures document outlining expectations for pharmacist training, medications and vaccines available through the service, storage and handling of travel vaccines, the consultation workflow, documentation, reporting, and reimbursement.
- A subscription-based travel health decision support tool (TravelCare™) was purchased to assist pharmacists in determining the needs of travelers.
- I completed a CE course on travel medicine in the community pharmacy setting to augment what I had learned through my PharmD program. I have curated training documents, quick reference guides, trusted resources, and patient education materials to ensure that pharmacists at Towncrest Pharmacy can continue the service after I leave.
- I created marketing material to advertise the service. I hung fliers in each Towncrest pharmacy location and around the Iowa City community. I distributed fliers and information about the service to direct primary care physicians, churches, travel agents, and schools. Towncrest also posted a video about the service to their social media pages.

**Objective 2:** Describe participation in the service, payment for the service, and medication/vaccine outcomes of the service.

- One patient has utilized the service prior to visiting four countries in Africa.
- This patient paid a cash-based fee for the consultation service, as well as copays for each prescription prescribed during the visit. Each prescription was reimbursed above its cost the pharmacy.
- The patient was prescribed two vaccines: Tdap and the oral typhoid vaccine. The patient was recommended to receive a COVID vaccine during the visit, but she declined.
- The patient was prescribed two medications: azithromycin for traveler's diarrhea and atovaquone/proguanil for malaria prophylaxis.
- Each prescription was written under a pharmacist's name, and her commercial insurance plan



did recognize prescriptions coming from a pharmacist.

**Objective 3:** Evaluate patient satisfaction with the service.

- A patient satisfaction survey was created to assess convenience, cost, trustworthiness, patient understanding, and overall satisfaction with the service. The patient who utilized the service filled out the survey at the end of her consultation, and she answered “strongly agree” to all questions on the survey. In the free text space, she wrote “In countries I felt a little more unsafe, I now feel more prepared and knowledgeable.”
- Early patient satisfaction data is promising, but more surveys will be needed to provide stronger support for satisfaction with this service and to identify weak points.

**Objective 4:** Compare free and paid travel health decision support tools to determine which provides the best value for the pharmacy.

- TravelCare™ is a subscription-based travel health decision support software that was purchased using grant funds for the purposes of this project. The Pre-Travel Providers’ Rapid Evaluation Portal (Pre-Travel PREP) is a free online decision support tool designed to be an interactive version of the Centers for Disease Control and Prevention (CDC) Yellow Book. These two decision support tools were compared based on parameters chosen to assess their usability and value to the pharmacy. Table 1 below shows the summary of this comparison.

**Table 1. Comparison between decision support tools**

|                                     | TravelCare™                                                                                                                                                                | Pre-Travel PREP                                                                                                                                        |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Credibility</b>                  | -Proprietary resources (no specific citations for recommendations)<br>-Updated daily                                                                                       | -Interactive version of the CDC Yellow Book: Health Information for International Travel<br>-Continuously updated                                      |
| <b>Customizability</b>              | -Less customizable to individual patient characteristics                                                                                                                   | -More customizable (age, gender, reason for travel, chronic conditions)                                                                                |
| <b>Thoroughness</b>                 | -More information directly on the platform<br>-Does not link to external resources<br>-Robust non-medical travel information (cultural, climate, financial, driving, etc.) | -Less information directly on the platform<br>-Links to the CDC Yellow Book when more information is needed<br>-Limited non-medical travel information |
| <b>Need for External Resources?</b> | -Yes                                                                                                                                                                       | -Yes                                                                                                                                                   |
| <b>Need for Clinical Judgement?</b> | -Yes                                                                                                                                                                       | -Yes                                                                                                                                                   |
| <b>Ease of Use</b>                  | -Larger learning curve                                                                                                                                                     | -More straightforward                                                                                                                                  |
| <b>Cost</b>                         | -Annual fee of \$649                                                                                                                                                       | -Free                                                                                                                                                  |

- The main strength of TravelCare™ was its thoroughness. It contained robust information and included both medical and non-medical information for travelers. The main drawbacks were the large annual cost and the lack of customizability based on individual patient characteristics. It did not provide specific medication or vaccine recommendations based on a person’s age, health history, or any other individual factors. Instead, it gave general recommendations, and it was up to the prescriber to choose which recommendations applied to which patients. In



comparison, Pre-Travel PREP was credible, cost-effective, and more customizable compared to TravelCare™.

- To compare the recommendations given by each decision support tool, intake information for 10 sample travelers was obtained from a collaborating pharmacy with an established travel vaccine service. Pre-Travel PREP and TravelCare™ yielded congruent medication and vaccination recommendations for 10 out of 10 sample patients once clinical judgement was applied.
- It was determined that Pre-Travel PREP provided sufficient guidance when paired with the clinical judgment of a pharmacist trained in travel health. In addition, the current utilization of the travel health consultation service does not support the annual subscription fee of TravelCare™ at this time.
- Unfortunately, Pre-Travel PREP is no longer available as of April 2026. The website now points healthcare professionals towards pre-travel guidance from the CDC or the World Health Organization. The CDC Yellow Book is available for free online, and it does contain comprehensive considerations for travelers to each country. It is a less streamlined than Pre-Travel PREP because clinicians must parse through the information in the CDC Yellow Book to come up with clinical recommendations. However, given the slow uptake of the service, using the CDC Yellow Book is still preferable from a cost and sustainability standpoint.

- **Which, if any, of your goals and objectives were not achieved as intended? Please explain these and what impact you believe it has on the overall project success.**

I was not able to enroll as many patients in the study as intended. I was hoping to complete ten or more travel health consultations; however, I only completed one. Completing one travel consultation allowed me to demonstrate that the concept works, that pharmacists are capable of providing this service in the community setting, and that the policies and procedures I created allowed the service to run smoothly.

However, completing additional consultations would have helped reveal more potential barriers in the process of delivering the service. The first visit went smoothly, but future visits could reveal unknown challenges. In addition, completing more consultations would have helped provide more data points for the patient satisfaction survey to gain better insight into patient satisfaction with the service. Finally, I was hoping to gain more insight into the most common travel vaccines and travel medicines prescribed in our community setting, and I was not able to do this with only one visit.

Overall, I still view the project as a success due to the implementation insights gained and the successful proof of concept. I intend to establish the framework for Towncrest to continue evaluating the outcomes of the service after I complete my residency as well, as scaling a project like this in a short time span is difficult, but as the service grows, there will be more insights to be gained.



- **Do you expect this project and its results to be sustainable at your practice and reproducible in other pharmacy settings? Do you anticipate any barriers to sustainability and/or reproducibility? Please explain.**

I anticipate that this service will be sustainable at my practice site. I created a strong policies and procedures document, which will guide future pharmacists in completing the travel health consultations. I have also curated training documents, quick reference guides, trusted resources, and patient education materials to ensure that pharmacists at Towncrest Pharmacy have the information they need. In addition, I will train the incoming resident as well as Towncrest's Director of Clinical Operations on the process, and these pharmacists will be able to carry on the service in my absence. The cash-based fee was chosen to adequately pay for the amount of time a pharmacist spends preparing for and completing the consultation service, so it is financially sustainable as well.

I do think the results are reproducible in other pharmacy settings, especially in pharmacies that already provide travel vaccine consultations. The service created through this project includes pharmacist-prescribed medications in addition to vaccines. With some additional training and updated policies and procedures, I think it is extremely feasible for pharmacies already providing a travel vaccine service to add medication prescribing to the service. I think the biggest barrier will be pharmacist comfortability prescribing medications. Overall, pharmacists seem to possess a lot of hesitancy with prescribing medications under their own names. I believe with adequate training and with detailed policies and procedures to follow, pharmacists will get more comfortable prescribing medications. The cost to provide the service should not be a barrier, as this study determined that a paid decision support tool is not necessary to the service. Free information is available for free online through the CDC Yellow Book. Aside from the cost of establishing and maintaining adequate pharmacist training, there are no recurring costs necessary to hosting this service at a community pharmacy (provided that the pharmacy already has an EHR they use to send electronic prescriptions).

- **What impact will the outcomes of this project have on pharmacy practice in Iowa?**

This project demonstrates one way in which pharmacists can practice at the top of their education and training. As someone who is passionate about travel health, I have chosen to gain extra training in this area and establish a service in which pharmacists can not only prescribe vaccines but also medications for travelers. Many pharmacies offer travel vaccines, but few offer pharmacist-prescribed travel medication as well. I hope that other pharmacies will add this on to their already-existing travel vaccine services because this project demonstrates that community pharmacists are capable of prescribing travel medications and can integrate it into an existing workflow. In addition, the same steps that were applied in this project to implement a new service under standard of care legislation can also be applied to establish different pharmacist prescribing services within community pharmacies. Based on the specific interests of the pharmacist and the specific needs of the community they serve, pharmacists can create any service that aligns with their training.



### **Final Budget Report**

Based on the funded amount from the IPA Foundation, please complete the grant budget in the table format below. Grant budgets must include all costs as well as any matching funds or in-kind support. Please include items from the entire project interval (pre- and post- interim report)

| <b>Budget Line Items</b>           | <b>Total Costs</b> | <b>Source if outside grant (e.g., in kind or other funding)</b>               |
|------------------------------------|--------------------|-------------------------------------------------------------------------------|
| CE Impact Travel Medicine Training | \$98.00            | Split between IPA Outcomes Innovative Pharmacy Grant and APhA Incentive Grant |
| TravelCare Subscription for 1 year | \$749.00           | Split between IPA Outcomes Innovative Pharmacy Grant and APhA Incentive Grant |
| <b>TOTAL</b>                       | <b>\$847</b>       |                                                                               |

### **Summary of Project**

**Please provide a summary of your project to be published in the Journal of IPA. (300 word maximum)**

The aim of this project was to implement a full-service travel health clinic at Towncrest Pharmacy in Iowa City, Iowa leveraging standard-of-care legislation. The CDC recommends that international travelers consult a travel health specialist at least 4-6 weeks before departure to receive destination-specific education, vaccinations, and medications necessary for safe travel. Pharmacists with specialized training in travel health are well positioned to provide these services in an accessible and convenient community pharmacy setting.

To support implementation, a comprehensive policies and procedures document was developed to outline expectations for pharmacist training, medications and vaccines available through the service, the consultation workflow, documentation, reporting, and reimbursement. The service was promoted through flyers distributed in pharmacy locations and throughout the community. Information about the service was also shared with direct primary care providers, travel agents, schools, and churches to increase awareness and attempt to establish a source of referrals.

To date, one patient has utilized the service prior to traveling to four countries in Africa. Following a comprehensive travel health consultation, the patient was prescribed tetanus, diphtheria, and acellular



pertussis (Tdap) and oral typhoid vaccines. COVID-19 vaccination was recommended but declined. The patient was also prescribed azithromycin for traveler's diarrhea and atovaquone/proguanil for malaria prophylaxis. Revenue was generated through a cash-based consultation fee and prescription copayments, with reimbursement for each prescription exceeding acquisition costs.

Initial patient feedback was positive, with the first patient strongly agreeing that the service was convenient, trustworthy, informative, and cost-effective on the post-consultation survey. Overall, this project demonstrated the feasibility of implementing a community pharmacy-based travel health clinic, including pharmacist-prescribed medications, under standard-of-care legislation. The primary barriers to implementation were related to patient awareness and understanding of the service. Future efforts will prioritize establishing referral partnerships, employing new marketing strategies, and increasing patient awareness of pharmacists' scope of practice.