

UMSAEP Grant Report – Nicole Keuler

I (Nicole Keuler, lecturer and PhD candidate from the School of Pharmacy, University of the Western Cape) visited University of Missouri Kansas City (UMKC) 1 – 19 June 2024 and was hosted by Prof Jerry Wyckoff. During this visit I had the opportunity to meet with various faculty from UMKC and also completed interviews with various stakeholders in pharmacogenomics from Kansas City and Columbia as part of my PhD. The report summarises the outcomes of my visit as well as action plans. It is divided into PhD related work and other collaborations with UM.

PhD: Developing a pharmacogenomics (PGx) curriculum framework for pharmacy education in SA

- Completed 10 interviews for the observational process mapping of my PhD research.
- I had interviews with relevant staff at Children’s Mercy Research Institute (n=7), a faculty member from UM Colombia, a pharmacist part of the PHASER program from the Veterans Affairs and a pharmacist from an independent community pharmacy.
- Prof Wyckoff connected with me some of these interviewees for which I am very grateful.
- The transcribing and reflection have been completed for these observations.
- The algorithm for each individual organisation has been shared with the relevant stakeholders for input.
- Way forward: the data will be analysed in Atlas.ti and then analysed for a publication and to inform future phases of my PhD study.
- I was also able to make great progress with my scoping review during my time in Kansas City.

Planned publications related to Nicole’s PhD as part of interviews and observations

- Observational process mapping in a PGx clinic.
- Experiential learning opportunities for pharmacy education.

Meetings with UMKC faculty

1. Meeting with Dr Steven Stoner (Associate Dean for student affairs)
 - Dr Stoner has extensive experience in mental health and we discussed the following points
 - Support for students which I would like to implement in our Master in Clinical Pharmacy Program at UWC.
 - International rotation for UM students to complete a rotation in South Africa through the Global Pharmacy program. Background information was shared with Dr Stoner. Currently we offer 3 rotations – clinical, public health and teaching. A follow up meeting will be scheduled with Dr Valerie Ruehter.

- Dr Stoner is also willing to do a guest lecture for the Masters of Clinical Pharmacy students from UWC School of Pharmacy in 2025.
 - The possibility of SA students to complete a rotation at UM is to be discussed.
2. Meeting with Dr Cameron Lindsey (Division of Pharmacy Practice and Administration)
 - Dr Lindsey has extensive experience in immunisations and community outreaches. We discussed the following opportunities for collaboration
 - Dr Stoner to assist with quality assurance of a immunisations course to be offered through UWC School of Pharmacy.
 - Projects to incorporate immunisations in B Pharm programme in SA.
 - Dr Lindsey is also interested to send students to SA through the Global Pharmacy Program.
 3. Meeting with Dr Seenae Eum
 - Discussed PGx education at UMKC and experience of Dr Eum in pharmacogenomics.
 - Dr Eum also shared about her training in PGx and is open to collaborate in the future.
 4. As part of interviews, meeting with Tracy Sandritter
 - Discussed different rotations offered to pharmacy students and activities related to PGx.
 - To discuss collaboration with UMKC as part of PGx education in pharmacy.
 5. Meeting with Morgan Sperry (Director of the Drug Information Centre)
 - We discussed in general the service offered by the DIC and also the activities for students to complete during a rotation, the general questions that the DIC receives and also those related to pharmacogenomics highlighting the need for patient education.
 - I was also interested in the evidence-based medicine approached followed in the DIC.
 - I was able to share some resources related to PGx with Morgan to add to her resource list for the students.

Other meetings

- Meeting with Sarah Cox, who is the director of pharmacy at a community hospital to understand a bit about pharmacogenomics in the hospital setting and the challenges around it and various pharmacy rotations offered at the hospital.
- Meeting with Charles Trebilcock who is the owner of a few independent community pharmacies and completed pharmacogenomics trianing. This provided me with a better understanding of pharmacogenomics in the community setting and the challenges around implementation in this setting.

Teaching collaboration

- Discussed with Dr Wyckoff, Dr Stoner and Dr Lindsey that UWC could offer teaching related to infectious diseases e.g. HIV/TB and this would be recommended for students that are considering a rotation in SA.
- Pharmacogenomics shared curriculum is a possibility.

Other research opportunities

- Possible co-supervision of Masters/Mini-thesis/PhD at UMKC/UWC related to pharmacogenomics.

Discussion points with Dr Wyckoff

- Precision medicine elective for UWC BPharm 4th year level after completion of Nicole's PhD.
- A project proposal for a Precision Medicine Initiative between UWC, UM and Ghent University is being considered and discussed. Nicole is currently working on a logic model and framework in collaboration with Dr Wyckoff. Once the proposal is ready the respective universities will be informed.
- Background of pharmacogenomics in the US.

Mentorship

- During my time in Kansas City, Dr Wyckoff mentored me through various project ideas, this included collaborations with private pharmacogenomics organisation in SA.
- He also shared various research project ideas with me.
- We discussed the Precision Medicine initiative in more detail.

Social Accountability

- I hosted an ice-cream bar at the Ronald McDonald House in Kansas City and some of the PhD students volunteered with me. This was great fun and I would recommend that this be considered as a social accountability project for UMKC School of Pharmacy to give back to the community.

ClinPGx Conference

- Through this opportunity I was able attend the ClinPGx conference in Philadelphia where I met various pharmacogenomics experts.
- I was able to source participants for the next phase by presenting a poster on my PhD.
- I was able to identify collaborators to support PGx in SA.

Acknowledgements

- I wish to acknowledge and thank the UMSAEP grant committee for granting me this opportunity to visit Kansas City.
- I am grateful to Dr Wyckoff who hosted me and provided me with various opportunities to meet new colleagues and build new networks.

- I would like to thank the PhD students from UMKC pharmacy school and dentistry for their friendship and exposing me to Kansas City.
- I would like to acknowledge my colleagues at the School of Pharmacy who made sure the Master in Clinical Pharmacy Program continued while I was abroad.

Closing thoughts

- Diastole is a sacred place and the evidence of someone that had a great vision. There is a lot of history captured and I am grateful to have had the opportunity for this place to be my home for 19 days.
- I came home with a full heart and a lot of ideas, not only related to pharmacogenomics but also other ideas to improve the student and patient experience.
- I would be willing to present my experience as part of future orientations for UMSAEP grant opportunities.