

# Evaluating the First Nationwide Canadian Oncology Mentorship Program (2022-2023) by the University of Toronto NCODA Chapter

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PASSION FOR PATIENTS



## Introduction

- Mentorship plays a critical role in the field of oncology.
  - Professional support systems fosters an environment that develops and nurtures future professionals around complex patient care.
- During 2022-2023, the NCODA University of Toronto chapter initiated the first Canada-wide mentorship program, modeled after NCODA's US-based program.
- The program design included feedback collection from mentees at the midpoint and from both mentors and mentees at the endpoint.

## Objectives

- To evaluate the NCODA University of Toronto Canadian Mentorship Program's effectiveness, identify areas for improvement, and develop actionable recommendations based on statistical and qualitative feedback analysis.

## Program Structure



## Program Expectations

- Minimum Time Commitment:** minimum 1 hour total committed by each mentor/mentee pair throughout the academic year, with more frequent meetings encouraged if both parties capable.
- Meeting Platforms:** In-person meetings are encouraged to facilitate communication and relationship development. Remote options like Zoom and Microsoft Teams are suitable for distant pairings.
- Shadowing Opportunities:** Not required but may be offered based on the mentor's work environment and the mentee's interest.

## Mentor Expectations

- Availability and Accessibility:** Engage with mentees throughout the program and be available for meetings and guidance.
- Share Experiences:** Provide real-world insights and practical advice to guide mentees' academic and professional journeys.
- Support and Honesty:** Offer honest, supportive, and transparent advice to help mentees achieve their goals.
- Flexible Pairing:** Mentors may be matched with more than one student if they are open to it, and group sessions can be arranged.

## Mentee Expectations

- Initiate Contact:** Reach out to mentors to schedule meetings and maintain ongoing communication.
- Communicate Goals:** Clearly express professional goals and prepare questions/topics for discussions with mentors.
- Respect and Commitment:** Respect the mentor's time and follow through with agreed-upon activities and experiences.
- Professional Boundaries:** Maintain respect for professional and personal boundaries.

## Methods

- Study Population:** 28 student mentees and 19 pharmacist mentors
- Data Collection:** Online surveys, distributed through Google Forms

Table 1. Survey structure

Survey Type	Survey Structure
Midpoint Survey (Feb 2023): Mentee Responses	Open-ended questions: Topics discussed, Effectiveness of group meetings, Challenges faced, and Areas for improvement.
Endpoint Survey (May 2023): Mentee and Mentor Responses	Satisfaction Evaluation (Category 1): Participants rated various statements related to program satisfaction on a 1-to-5-point Likert scale.
Engagement Metrics (Category 2):	Specific queries on the frequency of meetings ("times met") and the duration of these interactions ("hours met").
Communication Methods (Category 3):	Participants identified their modes of communication from options such as Zoom, MS Teams, FaceTime, Phone Call, In-Person, and Email.
Qualitative Feedback (Category 4):	Open-ended questions solicited qualitative responses for in-depth insights.

## Methods (cont'd)

### Quantitative Analysis

- Data Conversion:**
  - Categorical survey responses ("times met" and "hours met") were converted into **numerical (ordinal) values** using midpoints for ranges (e.g., 2.5 hours for "2-3 hours") and conservative estimates for open-ended categories (e.g., 6 hours for ">5 hours").
- Descriptive Statistical Analysis:**
  - Calculated central **mean, median, mode, and standard deviation** for responses in Category 1 and 2. Analysis was performed both collectively (for all mentors or mentees) and individually.
- Inferential Statistical Analysis:**
  - Selected a **key satisfaction statement** from Category 1 for correlation analysis with other metrics.
- Correlation Analysis:**
  - Spearman's rank-order correlation for Category 1 and Category 2, suitable for ordinal Likert scale data and identifying non-linear relationships.
  - Point-biserial correlation for Category 3, suitable for converting communication methods into binary variables (presence or absence) to examine their correlation with satisfaction scores.
  - $p$ -values < 0.05 used to determine statistical significance.

### Qualitative Analysis

- Thematic analysis of open-ended responses from midpoint and endpoint surveys to identify common themes and insights into participants' experiences.

## Results

### Quantitative Analysis

- Response Rate**
  - Mentees: 32% (9/28) for midpoint survey and 25% (7/28) for endpoint survey
  - Mentors: 58% (11/19) for endpoint survey
- Satisfaction Evaluation (Category 1)**
  - Mentees generally expressed higher satisfaction (mean =4.35) than mentors (mean =3.45).
- Engagement Metrics (Category 2)**
  - Both mentors and mentees showed modest engagement (mean =2-3 meetings and 2-3 hours spent).
- Communication Methods (Category 3)**
  - Both mentors and mentees preferred digital platforms.
  - The most preferred method was MS Teams (33.33%) for mentees and Zoom (50.00%) for mentors.

### CORRELATION ANALYSIS

Table 2. Correlation between variables and MENTOR statement "I would sign up as a mentor again next year"

Category	Variables	Corr. Coeff.	p value
1 Other Satisfaction Statements	Recommend program	0.83	0.002
	Fills mentorship gap	0.62	0.038
	Met expectations	0.60	0.051
	Relevant information package	0.16	0.468
	Student curiosity	0.16	0.642
2 Engagement Metrics	Times met with student	0.30	0.377
	Hours met with student	0.15	0.663
3 Communication Methods	Zoom	0.04	0.898
	Email	-0.03	0.936
	MS Teams	-0.04	0.898
	In-Person	-0.22	0.515

Table 3. Correlation between variables and MENTEE statement "The mentorship program achieved my goals and objectives"

Category	Variables	Corr. Coeff.	p value
1 Other Satisfaction Statements	Learned from mentor	0.64	0.118
	Relationship with mentor	0.73	0.061
	Recommend program	0.62	0.134
	Fills mentorship gap	0.62	0.134
	Mentor matched clinical interests	0.72	0.065
	Relevant information package	0.83	0.018
2 Engagement Metrics	Times met with student	0.74	0.055
	Hours met with student	0.24	0.609
3 Communication Methods	Zoom	-0.14	0.762
	MS Teams	0.71	0.074
	Phone Call	-0.09	0.846
	In-Person	-0.14	0.762

### Qualitative Analysis

- Mentee Midpoint Feedback**
  - Professional insights and Career Guidance: Mentees expressed interest in mentors' daily professional activities, future opportunities, and sought guidance on how to navigate their professional journeys
  - Groups meetings: Mentees expressed no explicit preference for individual or group meetings.
  - Challenges and Improvements: Most challenges involved geographical constraints, as mentees sought in person communication with mentors. A guideline or structure may have provided better direction for mentee communication.

## Results (cont'd)

### Qualitative Analysis (cont'd)

- Mentee Endpoint Feedback**
  - Industry involvement: Mentees expressed interest in more involvement from a diverse group of clinicians, mainly industry engagement.
  - Timing and Interaction Frequency: Mentees would prefer an earlier program start as well as more frequent, structured meetings.
  - Positive Feedback: Mentees felt as though they had positive experiences in the areas of career guidance and research discussions.
- Mentor Endpoint Feedback**
  - Structural Guidance: Mentors would prefer a more structured program guidance.
  - Varied Mentee Engagement: Mentors expressed large variation in mentee engagement, indicating a need for mechanisms to ensure consistent mentee participation; including the potential for more group sessions.

**Overall:** A need for a more diverse group of oncology professionals, including those from hospital an industry settings are desired. Starting the program earlier and implementing a more structured, guided timeline may enhance more consistent participation and communication. Ability to have in person experiences is also valuable for enhanced learning and relationship building

*"From career guidance to discussions on research opportunities, this program fostered a nurturing environment for growth. The mentors' genuine interest in our success and continued accessibility makes this mentorship program truly exceptional. I am immensely grateful for the opportunities and skills gained, and I highly recommend this program to pharmacy students passionate about oncology." – Student*

## Discussion

### Interpretation of Descriptive Statistics

- Mentee Satisfaction:** Overall high satisfaction (4.35) but room for improvement in aligning program outcomes with mentee expectations
- Mentor Satisfaction:** Overall moderate satisfaction (3.45) but there was a disparity between mentor expectations and student engagement.
- Engagement Metrics:** Participants exceeded the minimum engagement requirements but there were asymmetric reported times between mentors and mentees.
- Communication Methods:** There was a preference for in-person conferencing tools. However, there was also a disparity between actual and preferred communication methods.

### Interpretation of Inferential Statistics

- Mentee Satisfaction:** Strongest correlation with "relevant information package" underscores the importance of structured guidance. "Relationship with mentors" also had strong, but not statistically significant, correlation.
- Mentor Satisfaction:** Strongest correlation with a willingness to "recommend the program" to peers and a belief that program "fills a mentorship gap," highlights the current mentorship gap in oncology pharmacy.
- Engagement Metrics:** No significant correlation with frequency or duration of meetings for both mentor and mentee, but there may be a slight preference for more frequent interactions. Further research is needed for confirmation.
- Communication Methods:** Minimal impact of communication medium on satisfaction for both mentors and mentees.
- Sample Size Considerations:** Findings from the limited sample size (11 mentors, 7 mentees) reduce the power and generalizability of results.

## Future Recommendations

- Enhance Mentor-Mentee Matching:** Consider geographical proximity and common professional interests in pairings; facilitates in-person meetings.
- Provide Structured Guidance and Resources:** Offer a suggested schedule and discussion topics.
- Facilitate Scheduling and Communication:** Introduce tools for easier scheduling and conduct regular check-ins.
- Optimize Program Timing:** Start the program earlier in the academic year to maximize its impact on students' academic and career planning.
- Expand Industry Involvement:** Increase engagement with industry professionals and expand students' exposure.
- Group Sessions and Peer Learning:** Organize structured group meetings and peer feedback sessions.
- Feedback and Continuous Improvement:** Implement formal processes for collecting feedback at multiple points to continuously improve the program.
- Mentor Recruitment Strategies:** Enhance efforts to recruit and retain mentors by emphasizing the program's impact, encouraging word-of-mouth promotion, and offering tokens of appreciation.