Health Information Technology Burnout:
A novel instrument to assess physician tech burnout

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INTRODUCTION

Factors leading to **physician burnout** include:

- administrative burden,[1]
- increased financial demands,[2]
- constraints on physician autonomy,[2] and
- ineffective health information technology (HIT)[3-5] (e.g., hardware, software, infrastructure required to collect, store and exchange electronic patient health information in clinical practice such as EMR).

HIT is a widespread, high yield, and modifiable contributor to burnout.

In comparison to Nova Scotia (NS) with ~ 3,200 practicing MDs, Ontario (ON) has ~ 31,500 MDs.

- ON has 13 certified EMR vendors,[6] NS has 2.[7]
- ON has higher integration of emergency health records (EHR) and laboratory information systems, more user support resources, and consistent user feedback.

OBJECTIVES

- Design a novel analytical survey to explore MD experiences with HIT and tech burnout;
- Compare, contrast and evaluate aspects of HIT associated with the experience of occupational burnout among physicians.

METHODS

- A 25-item survey was designed by the Dalhousie research team and OntarioMD using multiple sources, including:
    - **literature review;**
    - primary data from the **Annual Clinician Survey** administered by OntarioMD;
    - Canadian Medical Association **Physician Health Survey**, and
    - **Iterative feedback** from individual physicians and orgs.

- Survey questions focused on MD's perceptions of HIT across several domains:
    - Proficiency
    - Quality of support
    - Motivations for use
    - Most burdensome administrative tasks
    - Time on HIT relative to other clinical work

- In ON, distribution occurred through OMD's internal customer relationship management (CRM) software from **February 14 – March 18**
- In NS, multiple recruitment strategies were used including personal and broadcast emails, telephone calls, and presentations to physicians and various organizations from **February 14 - still open**
- These included: Pediatric Grand Rounds presentation, DoctorsNS e-Newsletter, direct emails from Department Heads of the Faculty of Medicine, Department of Family Medicine newsletter, and NSH VP Newsletter.

RESULTS

To date:

- **127 NS physicians** completed the survey out of 3,200 that were surveyed **(3.97%)**
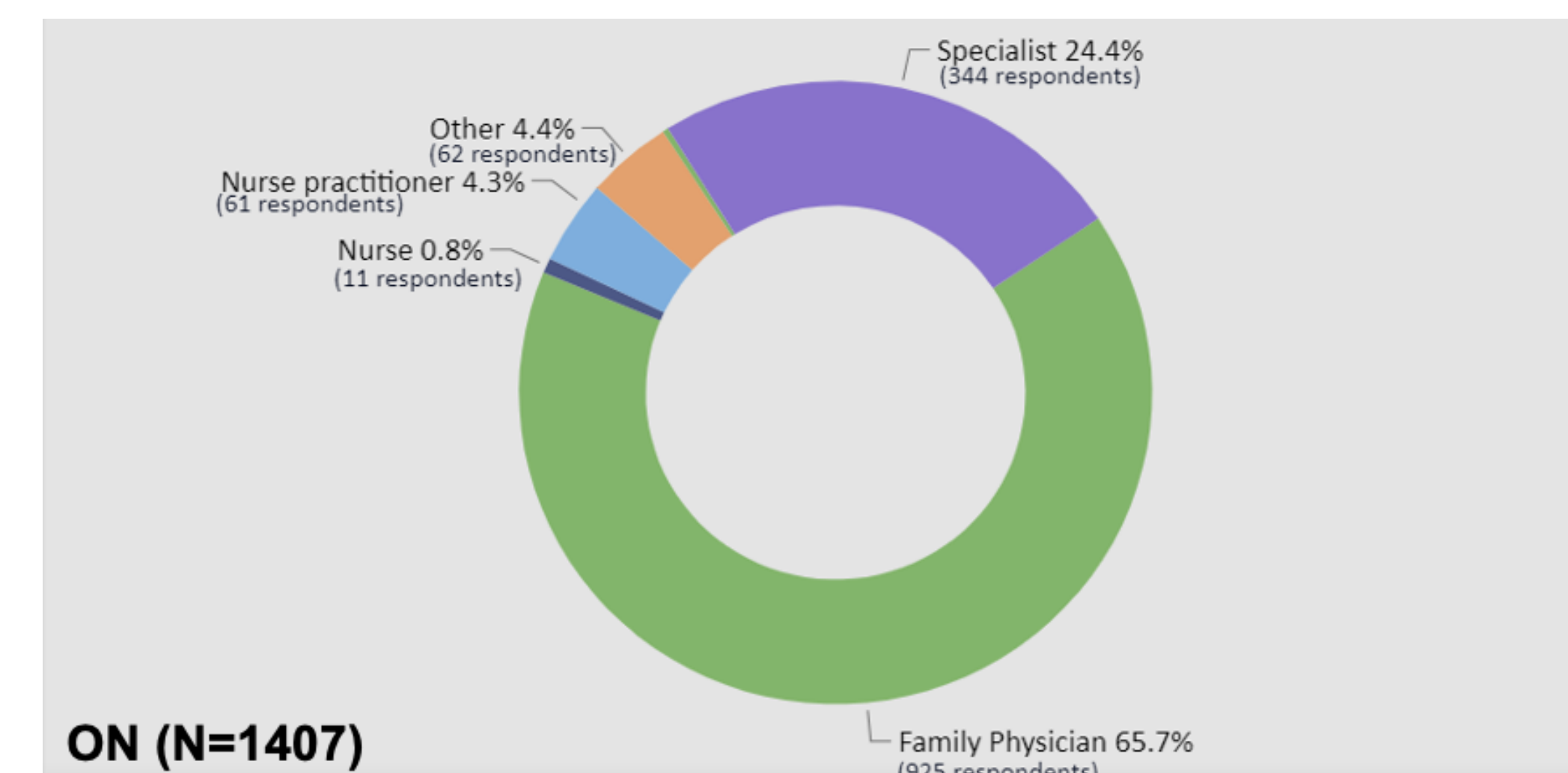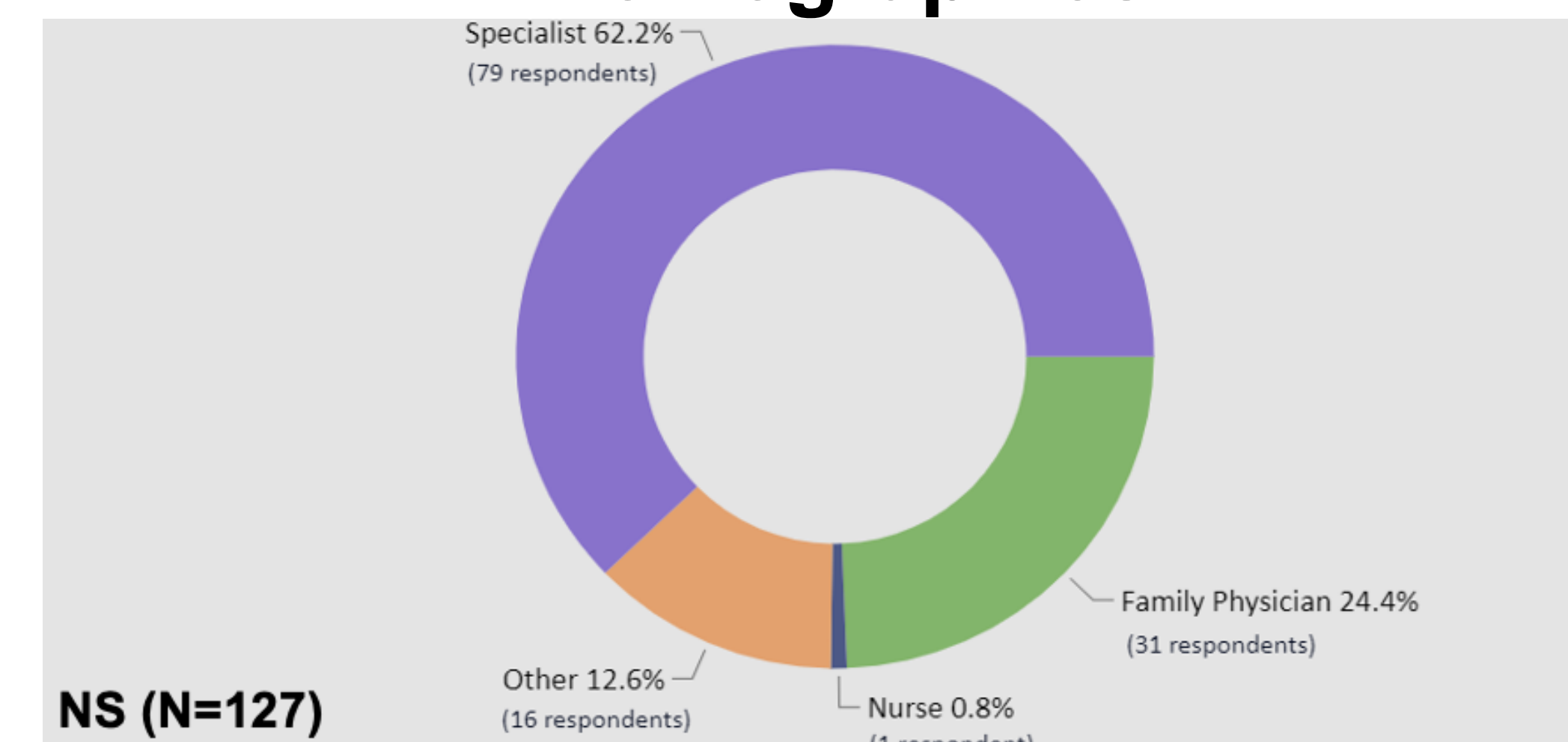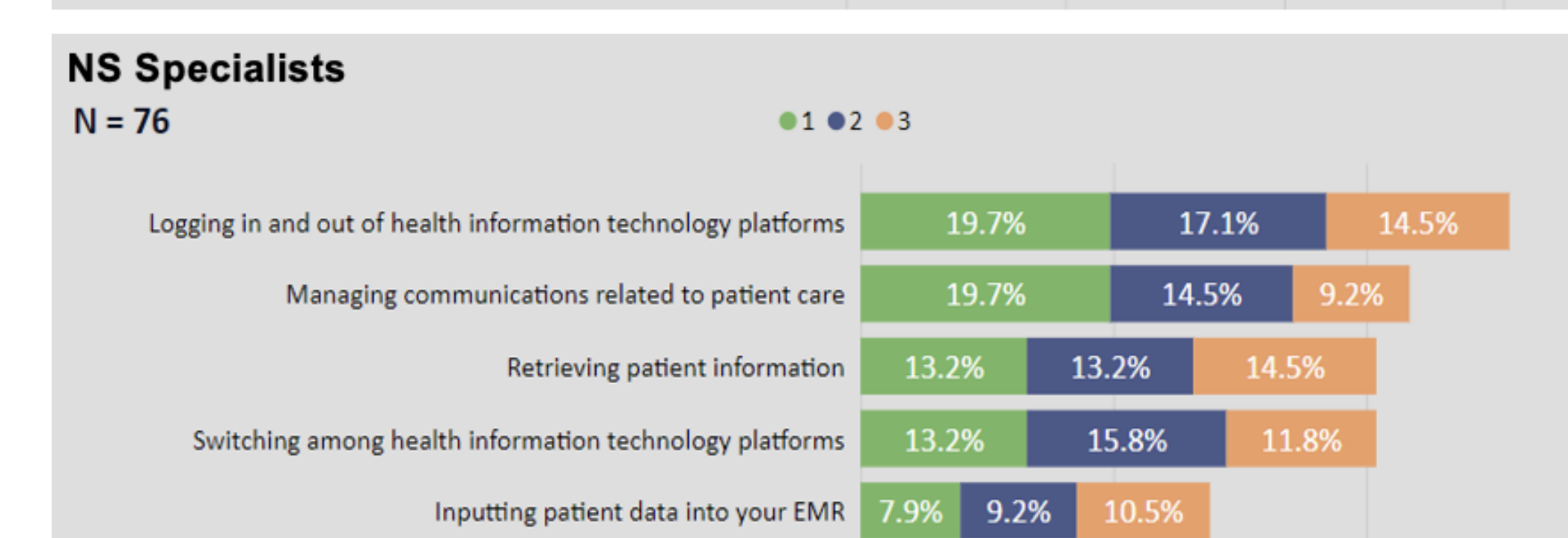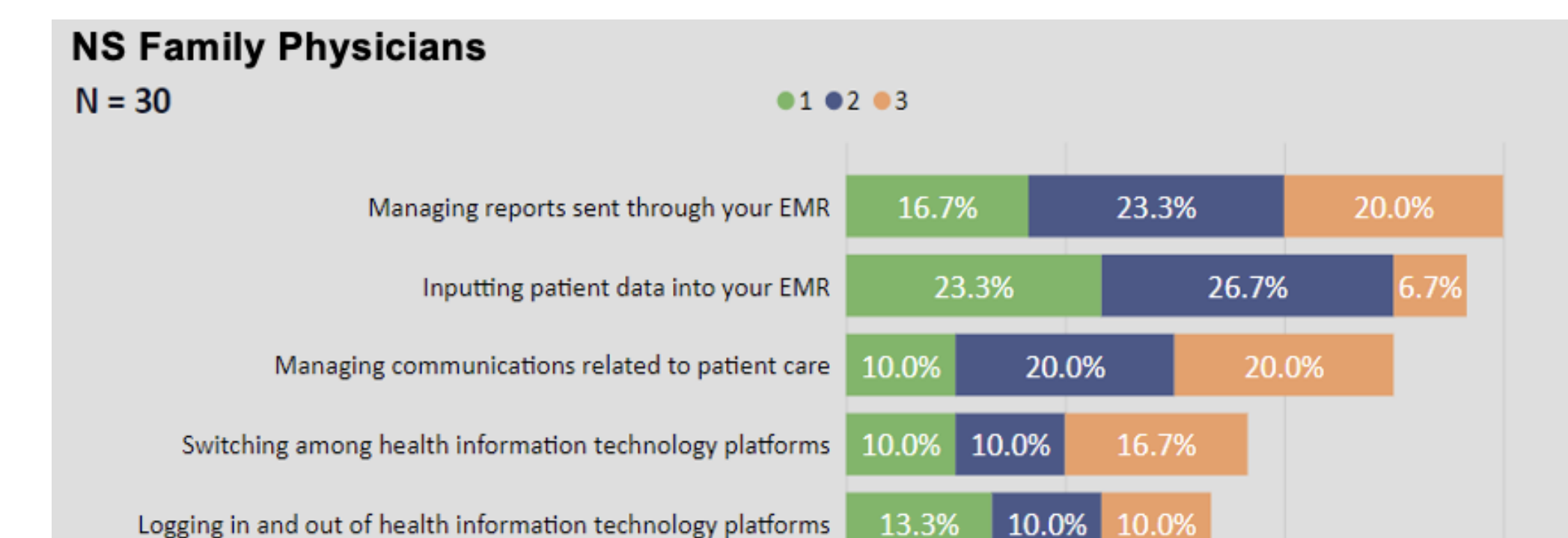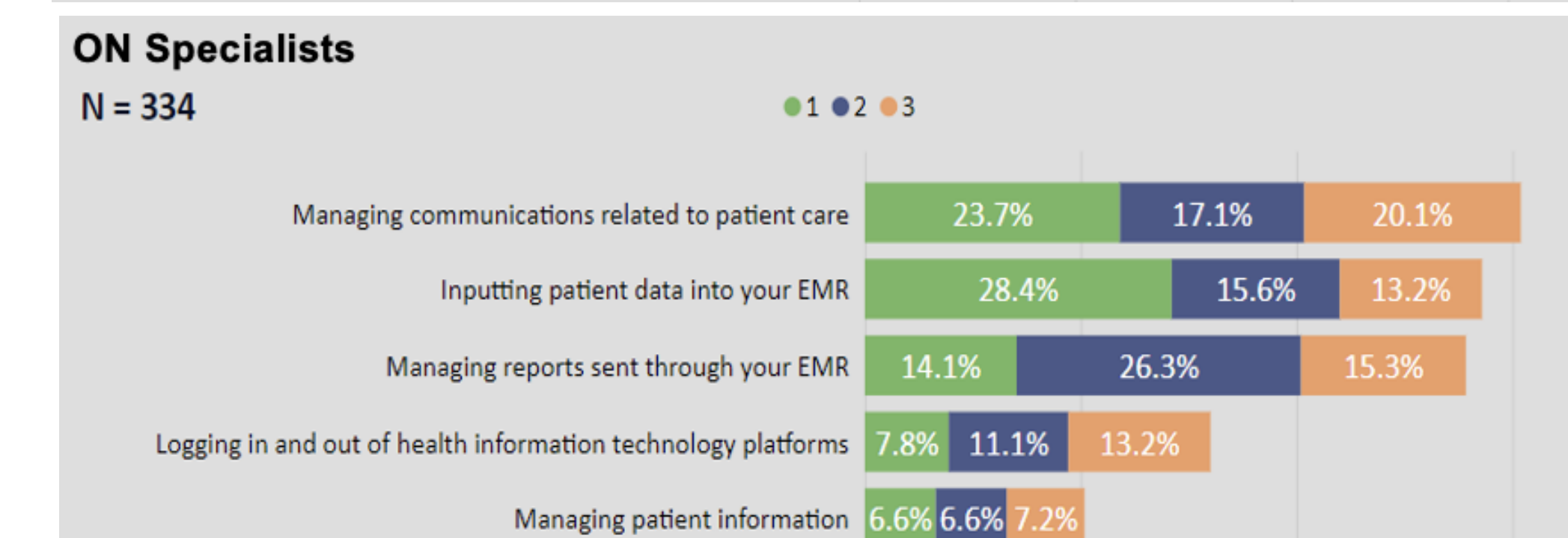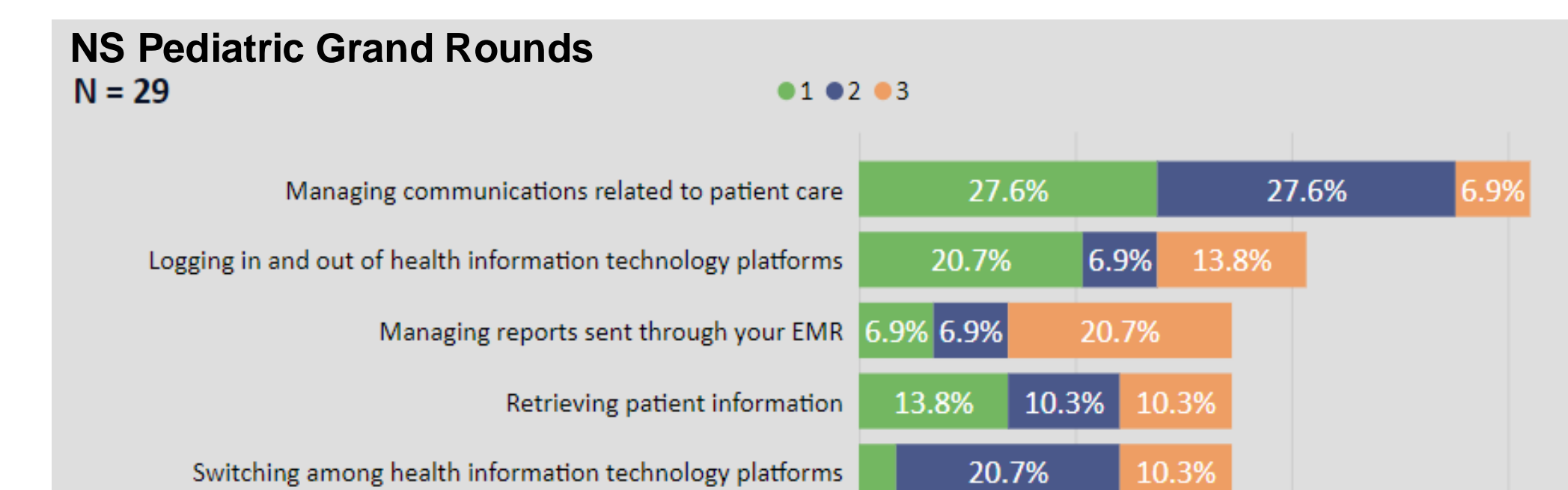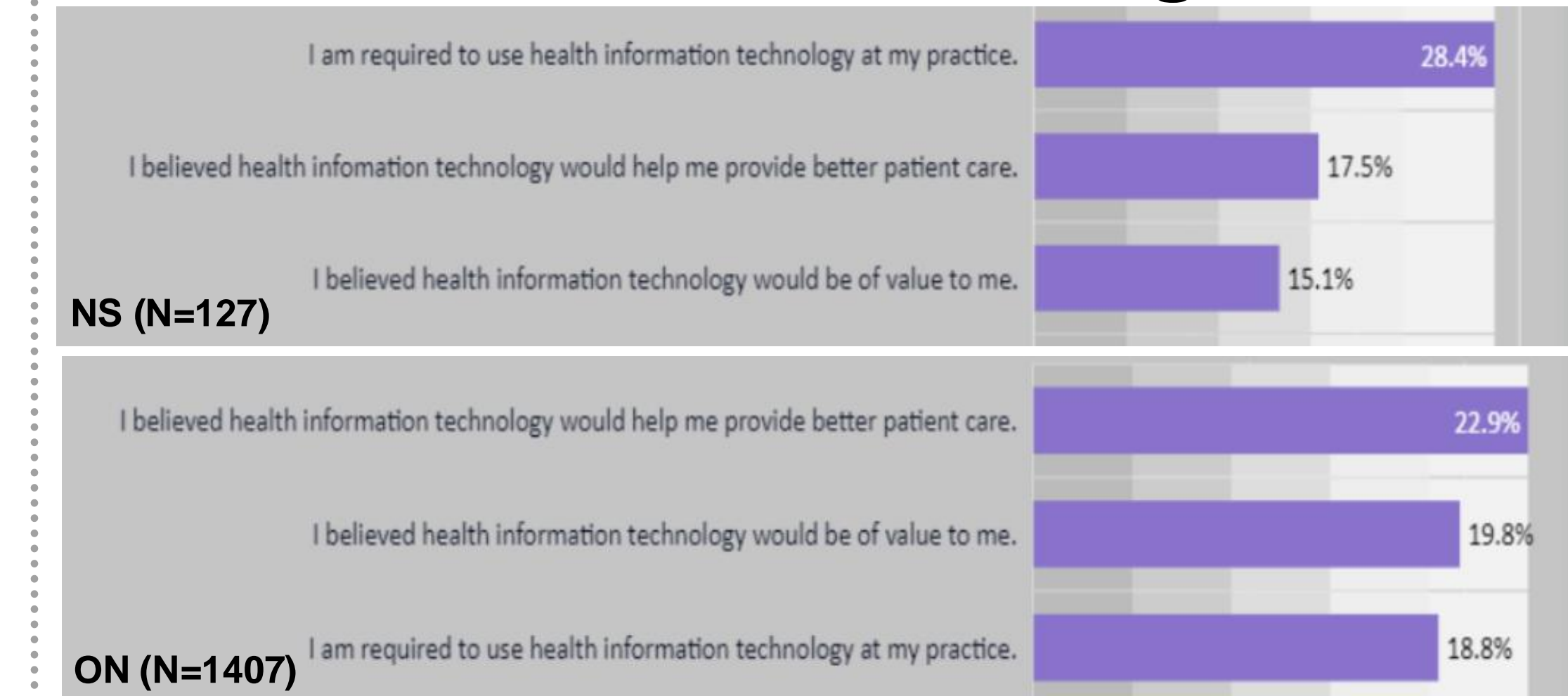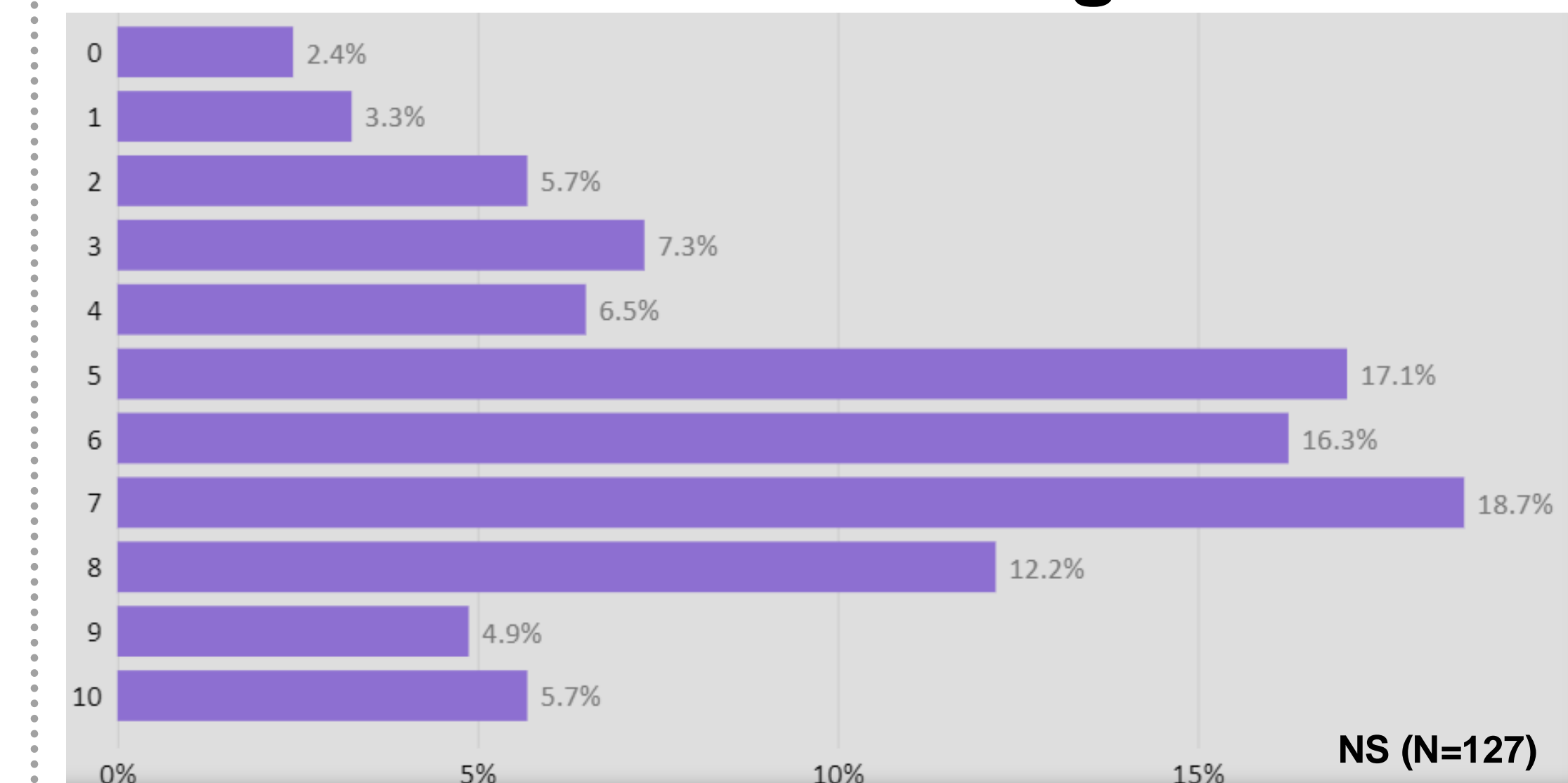- **1407 ON physicians** completed the survey out of 31,500 that were surveyed **(4.47%)**

Preliminary results show:

- **Demographics**: NS sample has significantly more specialists than family physicians, 22.8% of our respondents were part of Dept of Pediatrics (DoP), IWK Health.

- **Most Burdensome Task**: The top ranked most burdensome task for DoP and ON specialists was managing communications related to patient care. Similarly, NS family physicians felt managing EMR reports was their top burden. NS specialists ranked logging in and out of HIT platforms as most burdensome.

- **Motivations**: NS physicians recognized extrinsic motivations for using HIT more than ON MDs.

- **HIT Burnout Rating**: On a scale of 0 being not at all burnt out to 10 being extremely burnt out, NS physicians had a median response of 6 and mode of 7.

Demographics

NS (N=127): Specialist 62.2% (79 respondents); Family Physician 24.4% (31 respondents); Other 12.6% (16 respondents); Nurse 0.8% (1 respondent)

ON (N=1407): Specialist 24.4% (344 respondents); Other 4.4% (62 respondents); Nurse practitioner 4.3% (61 respondents); Nurse 0.8% (11 respondents); Family Physician 65.7% (925 respondents)

Most Burdensome Tasks

Motivations For Using HIT

NS (N=127): I am required to use health information technology at my practice. 28.4%; I believed health information technology would help me provide better patient care. 17.5%; I believed health information technology would be of value to me. 15.1%

ON (N=1407): I believed health information technology would help me provide better patient care. 22.9%; I believed health information technology would be of value to me. 19.8%; I am required to use health information technology at my practice. 18.8%

HIT Burnout Rating: NS

NS (N=127): 0: 2.4%; 1: 3.3%; 2: 5.7%; 3: 7.3%; 4: 6.5%; 5: 17.1%; 6: 16.3%; 7: 18.7%; 8: 12.2%; 9: 4.9%; 10: 5.7%

CONCLUSION

- Many NS physicians experience higher levels of burnout with HIT a potentially contributing factor.
- Differences in most burdensome task across physician types may reflect the variability in usability and integration of individual HIT platforms available within each institution.
- Extrinsic motivation for using HIT in NS could reflect the lack of alternatives to existing HIT or the lack of adaptability of these current programs to user needs.
- FUTURE DIRECTIONS: Our small sample size is consistent with physician survey response rates. We intend to expand NS recruitment (sample frame). Hypotheses to be further explored in analysis.

References

1. Peccoralo LA, Kaplan CA, Pietrzak RH, Charney DS, Ripp JA. The impact of time spent on the electronic health record after work and of clerical work on burnout among clinical faculty. *J Am Med Inform Assoc.* 2021;28(5):938-947. doi:10.1093/jamia/ocaa349
2. Physician burnout survey. Doctors Nova Scotia. Accessed March 30, 2023. https://doctorsns.com/news-events/surveys/physician-burnout
3. Tajirian T, Stergiopoulos V, Strudwick G, et al. The Influence of Electronic Health Record Use on Physician Burnout: Cross-Sectional Survey. *J Med Internet Res.* 2020;22(7):e19274. doi:10.2196/19274
4. Shanafelt TD, Dyrbye LN, Sinsky C, et al. Relationship Between Clerical Burden and Characteristics of the Electronic Environment With Physician Burnout and Professional Satisfaction. *Mayo Clinic Proceedings.* 2016;91(7):836-848. doi:10.1016/j.mayocp.2016.05.00
5. West CP, Dyrbye LN, Shanafelt TD. Physician burnout: contributors, consequences and solutions. *Journal of Internal Medicine.* 2018;283(6):516-529. doi:10.1111/joim.12752
6. Certified EMR Offerings. Accessed October 16, 2023. https://www.ontariomd.ca/emr-certification/omd-certified-emr-offerings/ontario-omd-certified-emr-offerings
7. Electronic Medical Records and Integrated Solutions - Electronic Medical Records Certification | novascotia.ca. Accessed October 16, 2023. https://novascotia.ca/dhw/ehealth/eis/emr-certification.asp