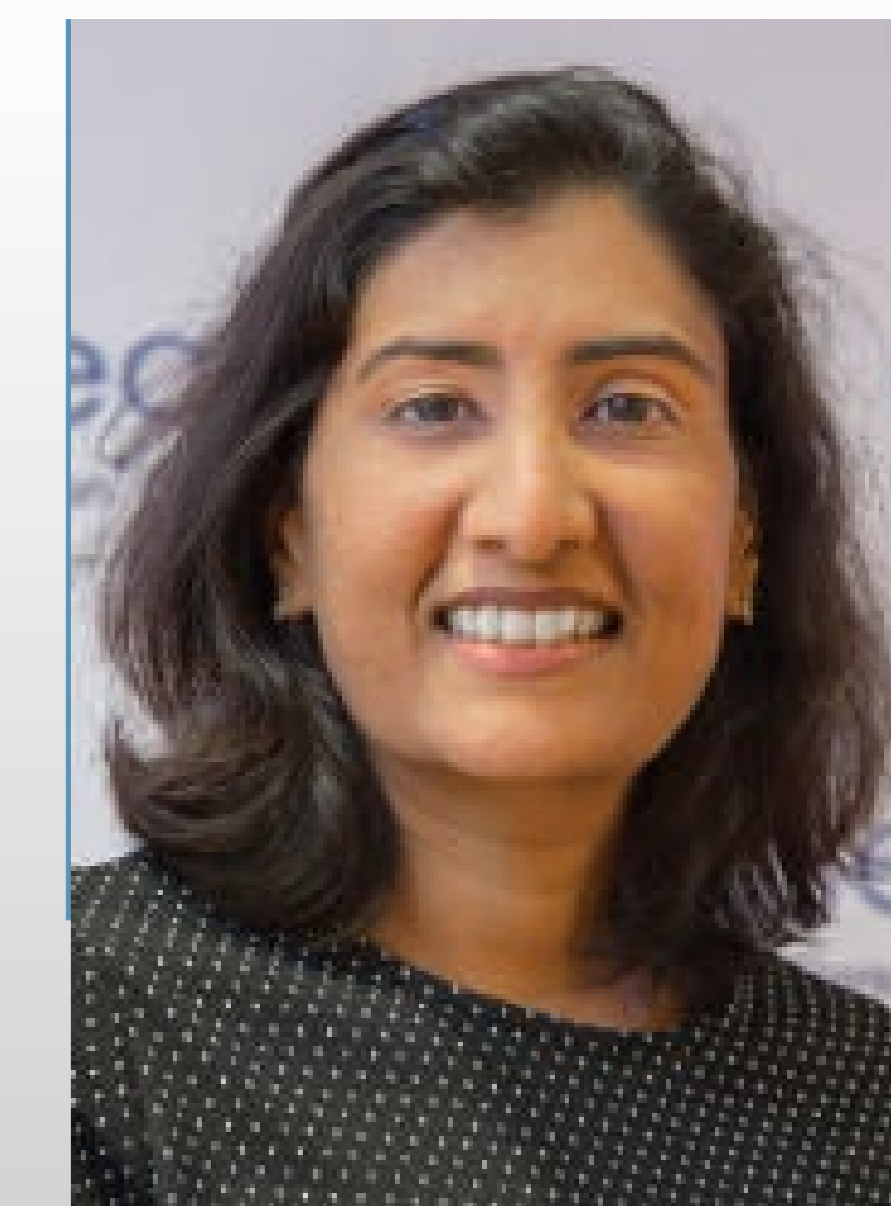


# Insights into the practice patterns, challenges and the role of a shared care model in the management of neuroendocrine (NET) patients in the community.

Radhika Yelamanchili<sup>1,2\*</sup>, Alia Thawer<sup>3</sup>, David Chan<sup>4,5</sup>, Dorothy Lo<sup>6,7</sup>, Simron Singh<sup>3,6</sup>, Warren Fingrut<sup>6</sup>, David Wyld<sup>8,9</sup>

<sup>1</sup>Department of Oncology, McMaster University; <sup>2</sup>Walker Family Cancer Centre, Niagara Health System; <sup>3</sup>Department of Oncology, Sunnybrook Health Sciences Centre; <sup>4</sup>Department of Medical Oncology, Royal North Shore Hospital; <sup>5</sup>Faculty of Medicine and Health, University of Sydney; <sup>6</sup> Faculty of Medicine, University of Toronto ;<sup>7</sup>Division of Hematology/Oncology, St. Joseph's Health Centre;<sup>8</sup>Department of Medical Oncology, Royal Brisbane Hospital; <sup>9</sup>Faculty of Medicine, University of Queensland; \*Corresponding Author.

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Radhika Yelamanchili

## Abstract

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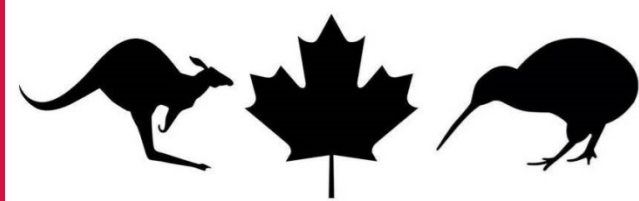
### Results 5

### Conclusion

- **BACKGROUND:** Management of a NET patient involves multidisciplinary approach involving various disciplines in the community and NET specialty centers (NSC). We aimed to understand barriers and opportunities in the development of a shared care model between local medical oncologists(LMOs) and NSC.
- **METHOD:** A survey with 30 questions was developed through consensus. Questions focused on number of NET patients in their practice, comfort levels and barriers in their management. The survey was distributed electronically using an provincial oncology email list in Ontario ,Canada and an educational meeting mailing list in Queensland , Australia .Responses were collected between Nov 2017 and May 2018.
- **RESULTS:** 74 responses analyzed. Only 11 of the respondents (MOs) identified as practising at a NSC. Of the MOs working outside a NSC, 24% were from Australia. 43% of the MOs had 0-5 NET patients in their practice. Of the MOs who had >5NET patients, 95%were comfortable with management of newly diagnosed patients, with only 69% being comfortable with decisions at disease progression. Only 33% of them were comfortable in referral and monitoring of NET patients on PRRT.
- Lack of easy access to NET boards, nuclear imaging and limited clinical experience were the most common barriers in the care of NET patients outside NSC. 19% of the MOs referred all their NET patients to NSC, while 58% of them referred patients for access to PRRT, clinical trials or specific procedures. Discussion of non-referred cases in the NET specific tumor boards was low at 14%. While email/phone conversations with NET specialists were used 62% of the time.
- **CONCLUSION:** Shared care appears to be already occurring primarily via individual communications. But, a clear pathway for shared care, education, access to NET specific tumor boards and PRRT would be essential in bringing quality care closer to home for NET patients.

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## Intro

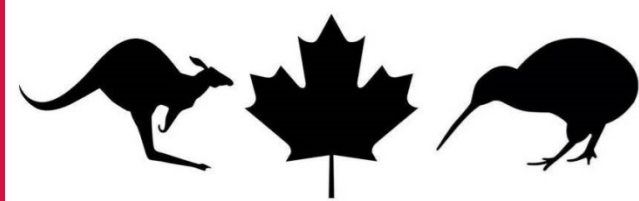
- The management of a NET patients often involves a multidisciplinary approach, requiring collaboration between the referring oncologists, surgeons, endocrinologists locally and NET specialty centers(NSC).
- Increasing prevalence of NET patients and disparity in outcomes based on the geographical location of the patient, was previously noted<sup>1,2</sup>.
- Shared care models have been looked at in cancer survivorship<sup>3,4</sup>. But, very little has been published to date looking at models of shared care between local medical oncologists (LMOs) and subspecialists at the specialty centers.
- No data was found ,defining such a model in NETs specifically.
- To our knowledge , no data currently exists documenting perceived barriers between the LMOs and the subspecialists at the NSC.
- It is our hope to develop an optimal shared care model, that brings quality care closer to the patient, and thereby improve outcomes<sup>2</sup>.

## Objective

To understand barriers and opportunities in the development of a shared care model between LMO and NSC

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## Methods

### Survey Development

Survey premise and domains were initiated, at the CommNETS 2016 roundtable discussion.

Questions generated during 3 conference calls and finalized via email communications (with input from all members).

### Survey Dissemination

Web based survey using survey monkey was used to collect data.

Survey link emailed to the medical oncologists in Ontario (ONTMOA list) and in Queensland (list serve used for local educational meetings).

Survey was sent out , 2<sup>nd</sup> week of November 2017.

### Survey Components

Key domains: demographics, comfort with NETs treatment decisions and management, interest in shared-care model and NETs education, perceived barriers to collaboration, and existing methods for collaborating care.

Survey had 30 questions in total , some used modified Likert scale and others allowed free text responses.

### Responses To-Date

74 medical oncologists (MOs) responded as of, 1<sup>st</sup> week of May 2018 .

Responses collected were anonymous.

Demographics were summarized using descriptive statistics.

Responses were reported using frequencies and percentages.

Qualitative responses were reviewed and analyzed for recurrent themes.

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## Demographics

11 out of the 74 MOs, were from NSC.  
Approximately 24% (15/63) of the MOs outside of the NSC were from Australia.  
69%(51/74) saw 0-1 new NET patients per month.  
43% (32/74) had total of 0-5 ,NET patients in their practice.

46% (29/63) MOs outside the NSC were >50 KM .  
20%(13/63) MOs were > 100Km away from NSC.

This highlights , **NET patients being managed by MOs, with limited NET experience,**  
and the **distances travelled by NET patients to get to the NSC.**

MOs-Medical Oncologists  
NSC-NET speciality centre

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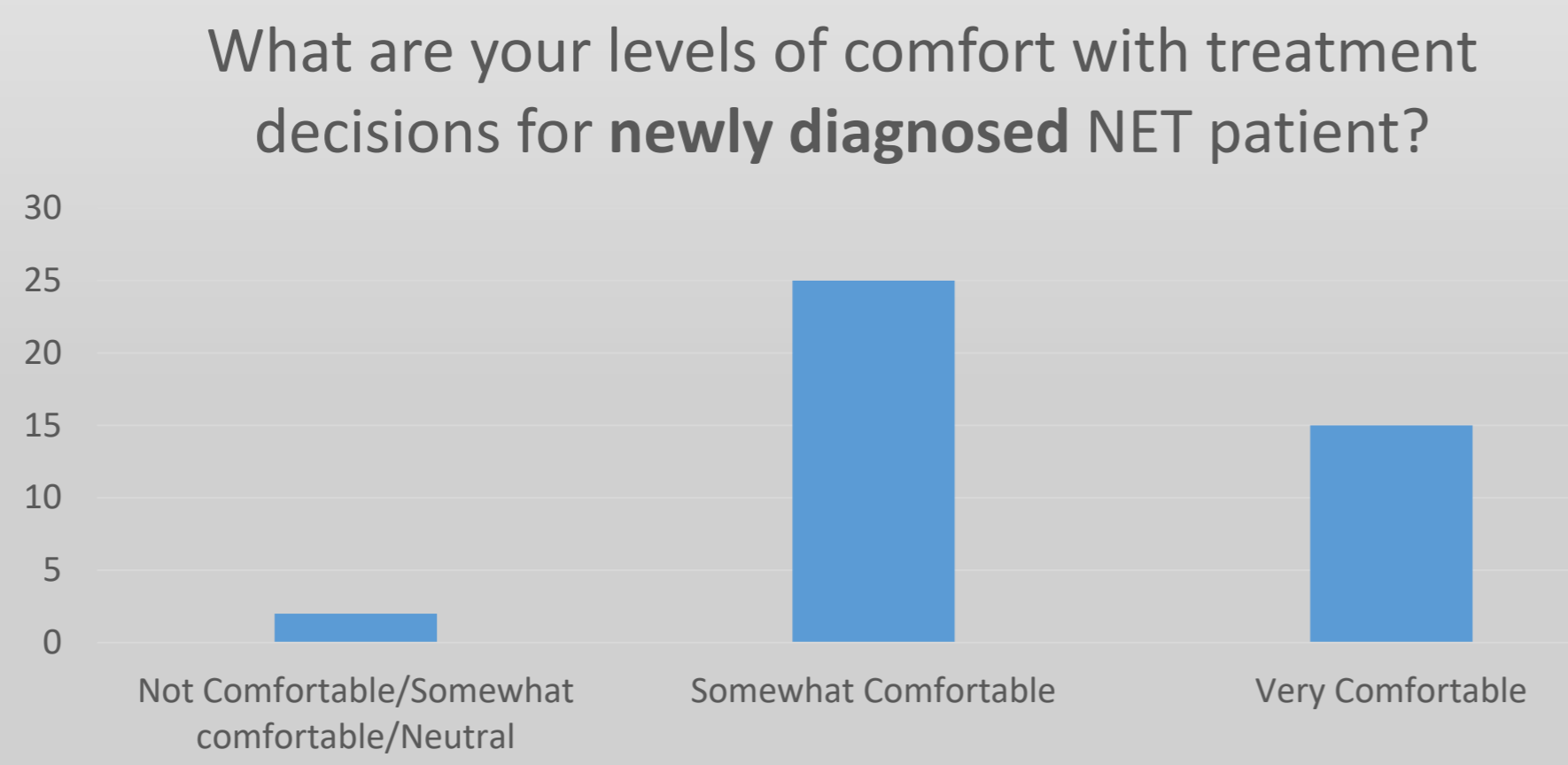
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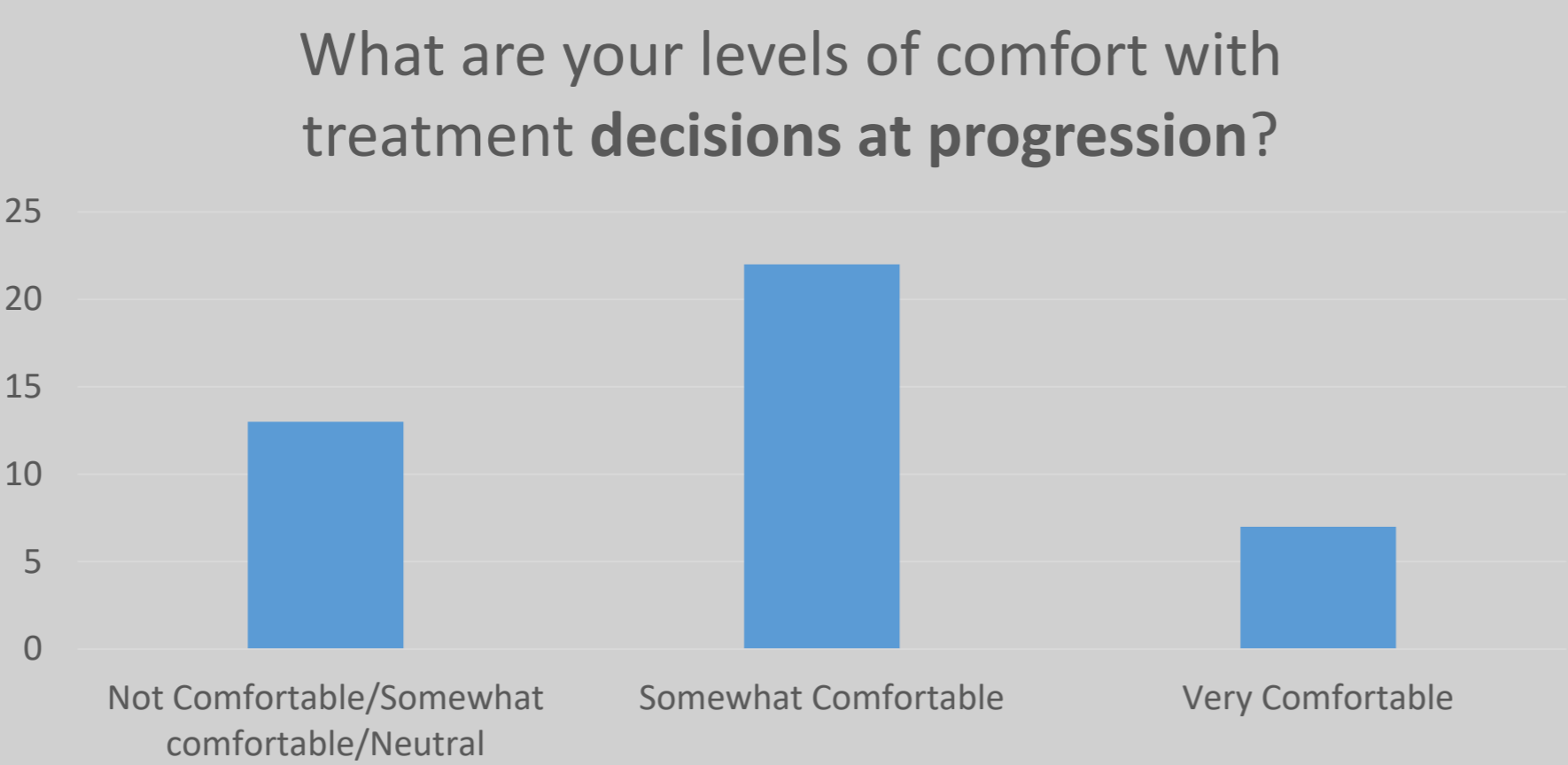
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## Comfort levels in NET management



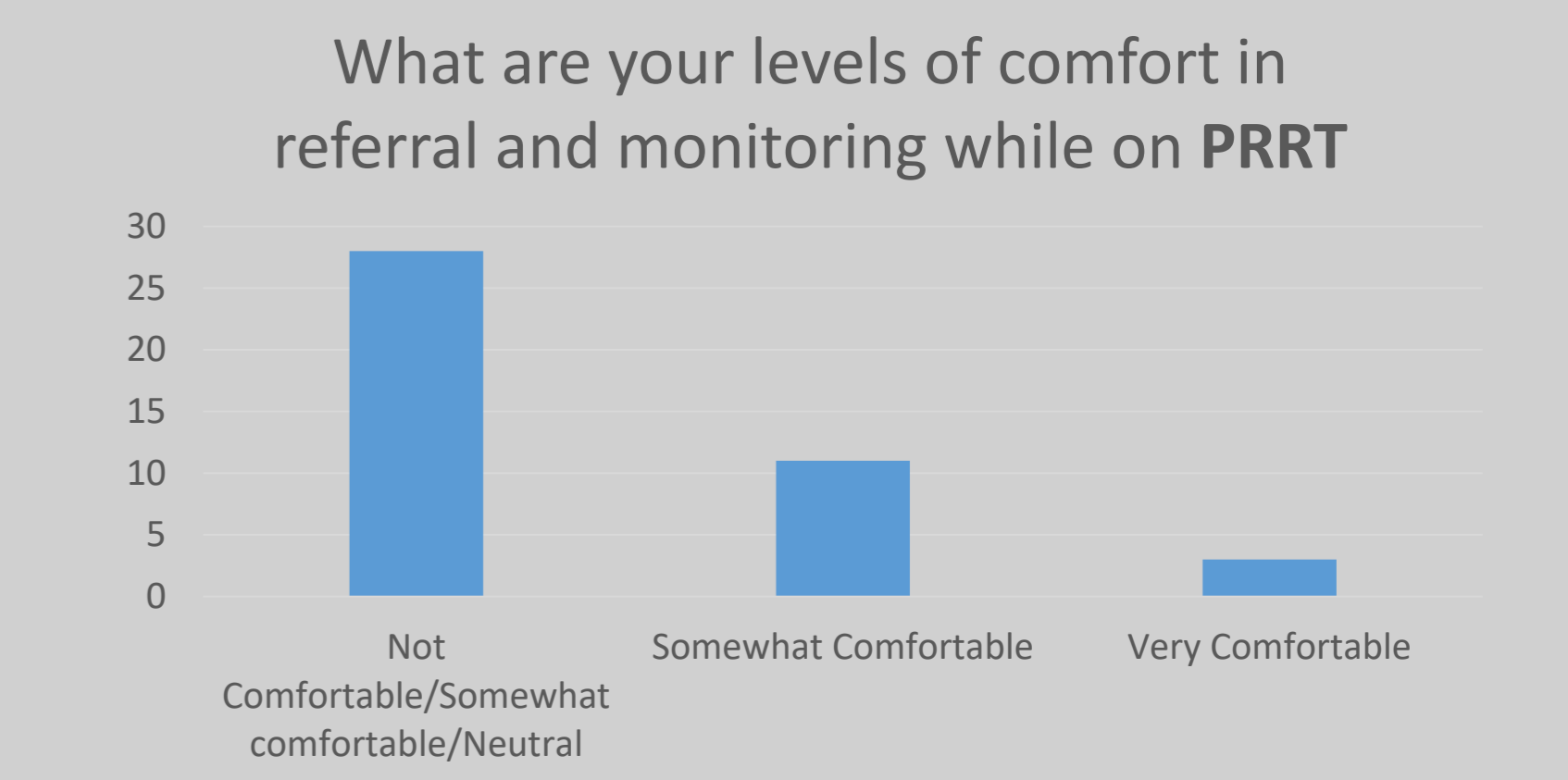
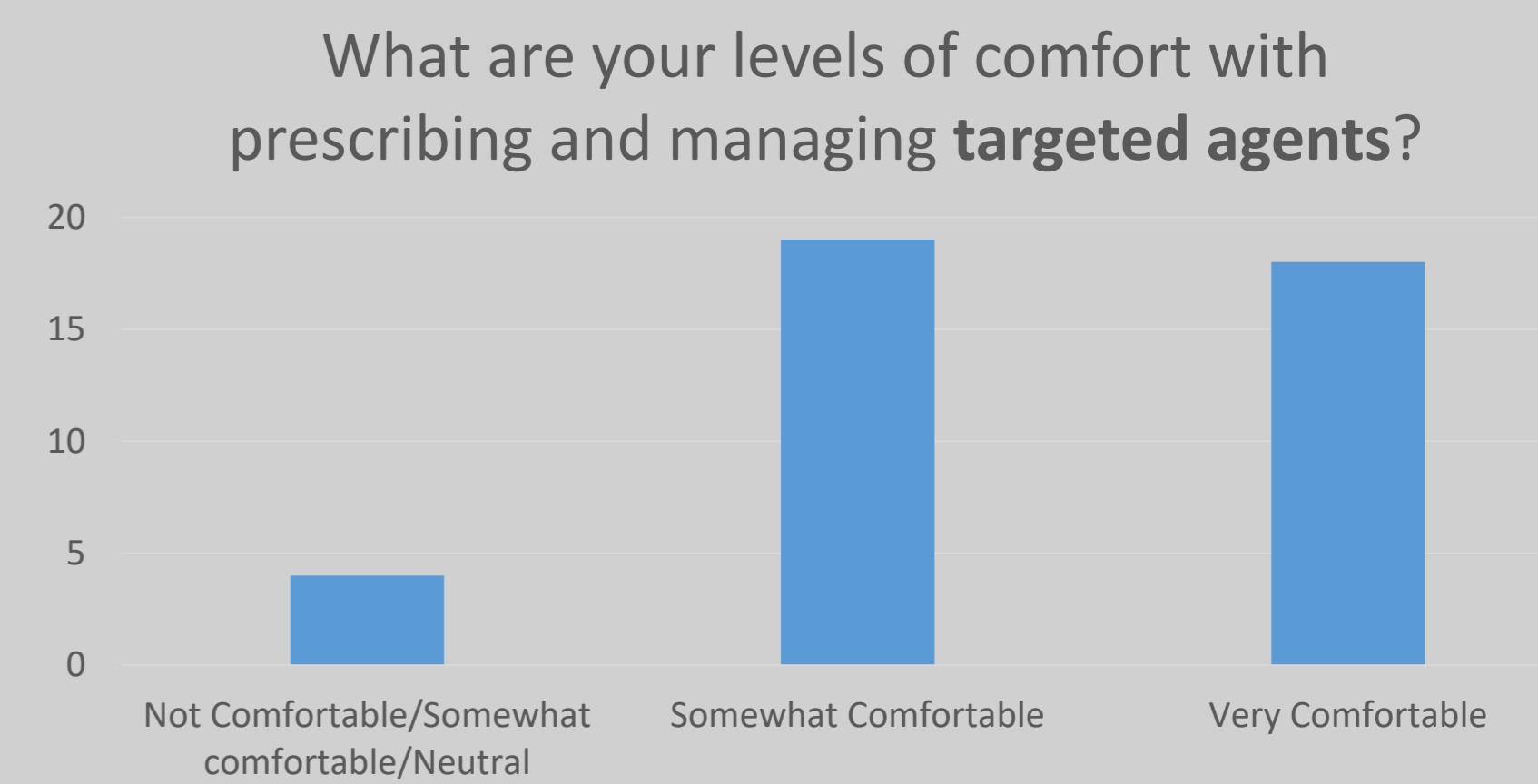
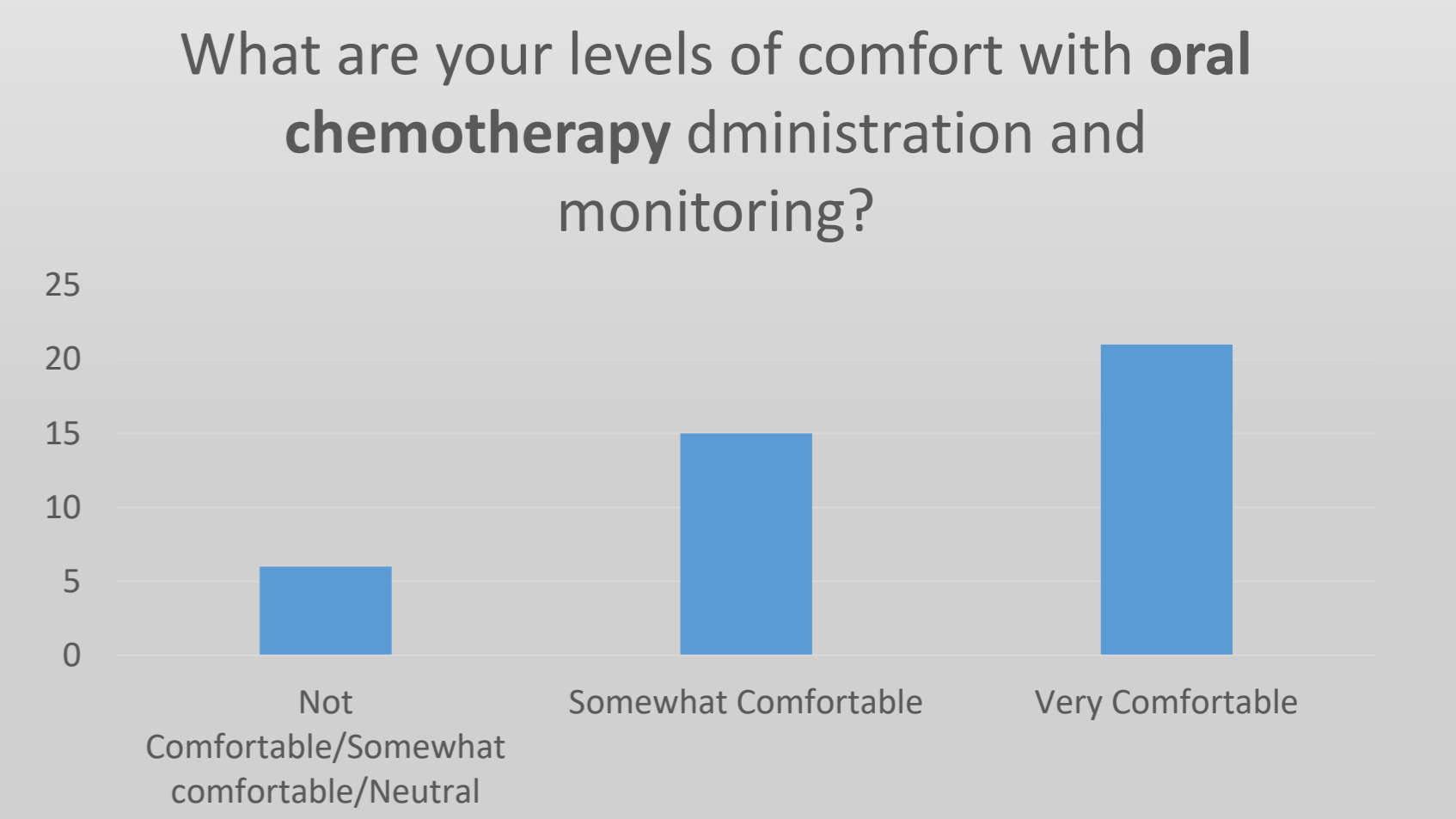
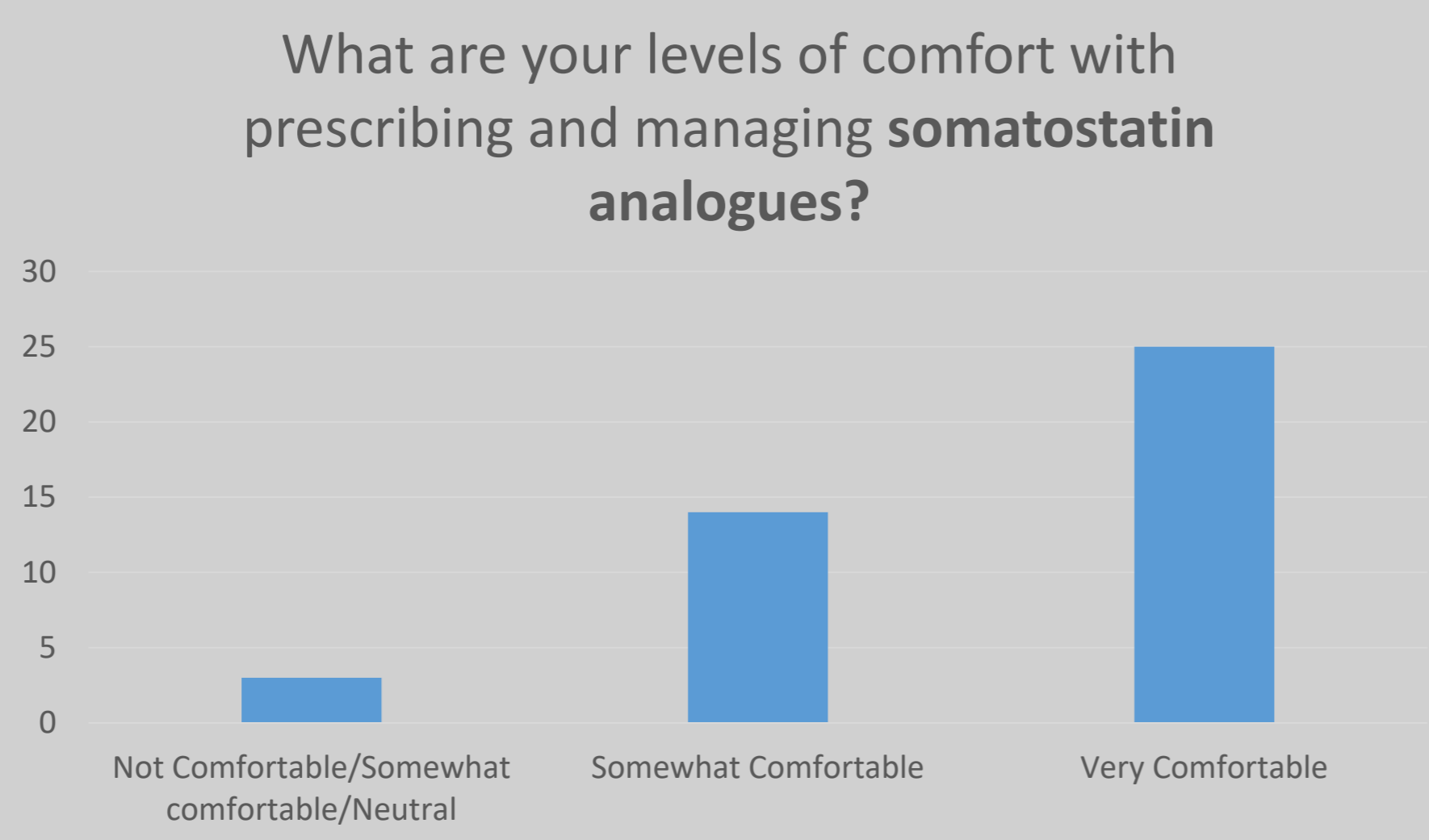
MOs who had > 5 NET (n=42) patients were asked about their comfort levels in management of NET patients.

**Majority were comfortable with decisions for a newly diagnosed NET patient , but not so much at progression.**



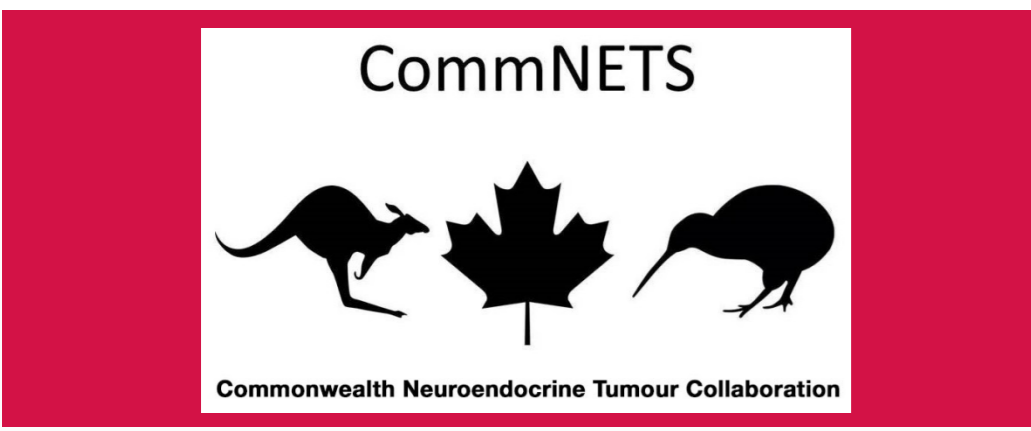
Majority of MOs were comfortable with prescribing and managing SSAs and oral chemotherapy , and to some extent targeted agents.

**MOs were much less comfortable with referral and monitoring while on PRRT**



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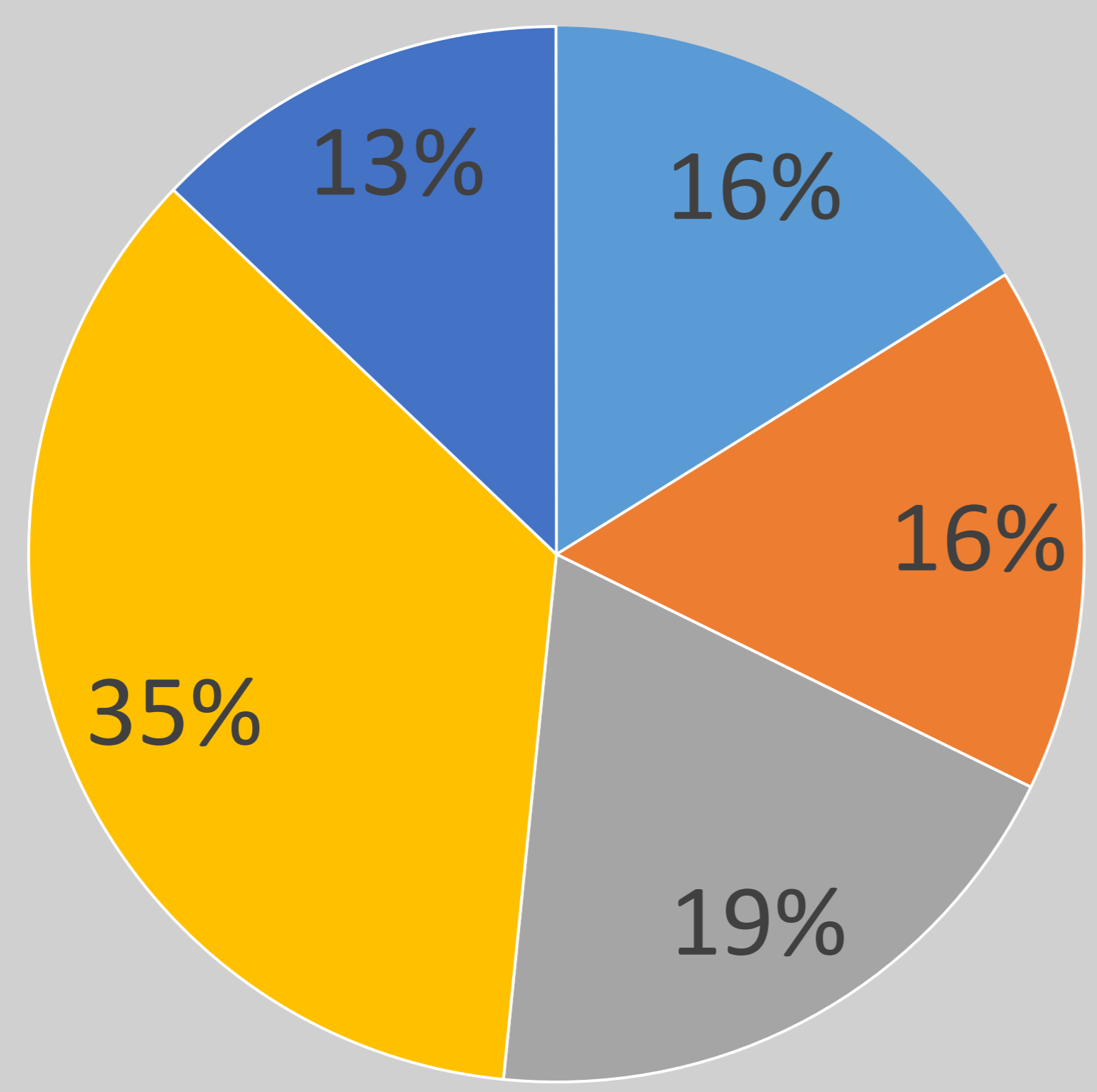
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## Interest and Barriers in NET management

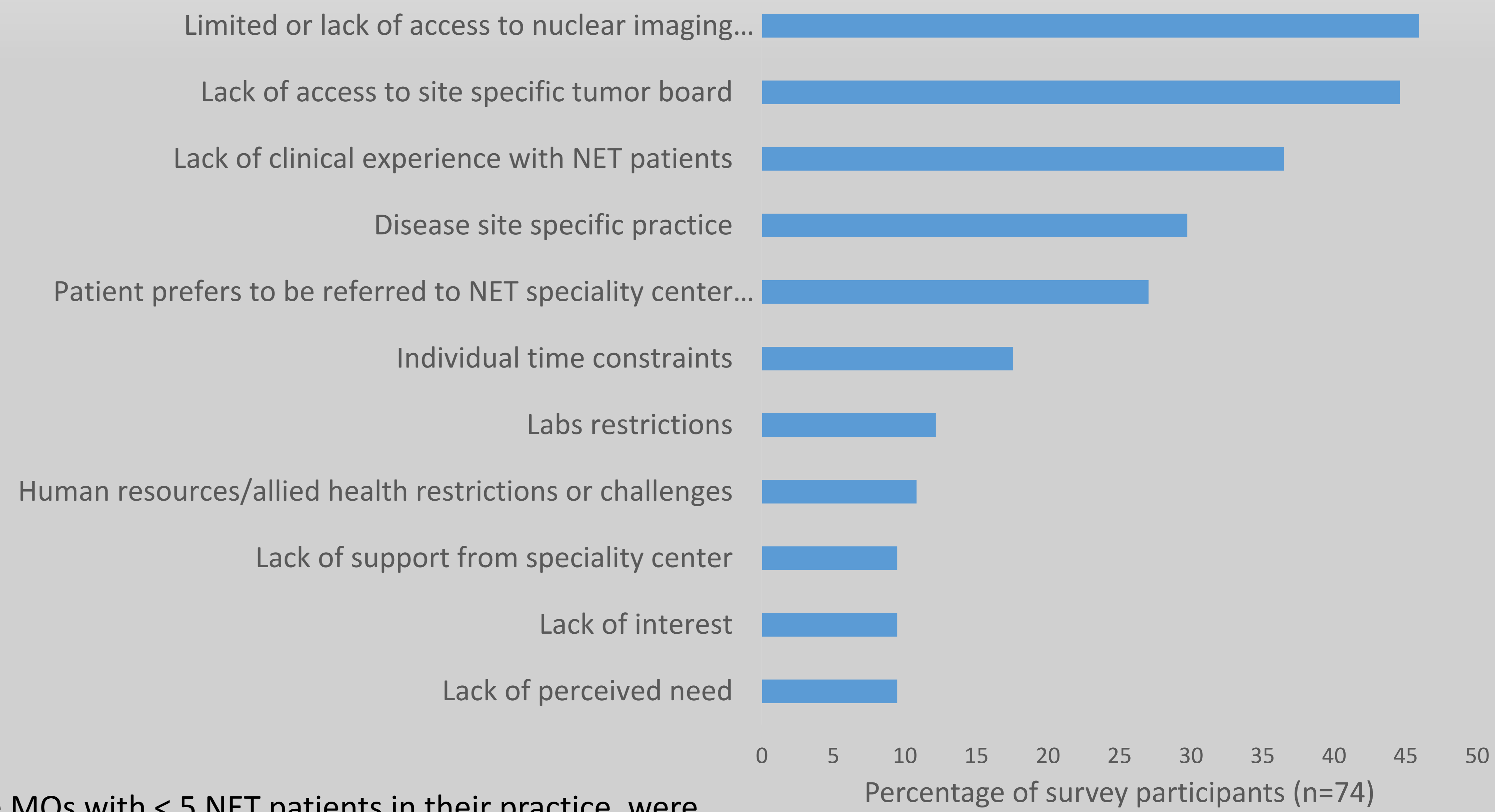
MOs with < 5 NET patients(n=32) , were asked regarding their interest in incorporating these patients, in to their individual practice?



- Not interested
- Somewhat not interested
- Neutral
- Somewhat interested
- Very interested

48% of the MOs with < 5 NET patients in their practice, were very interested or somewhat interested in managing NET patients

## Oncologists' perspective on barriers to the management of NET patients in the community







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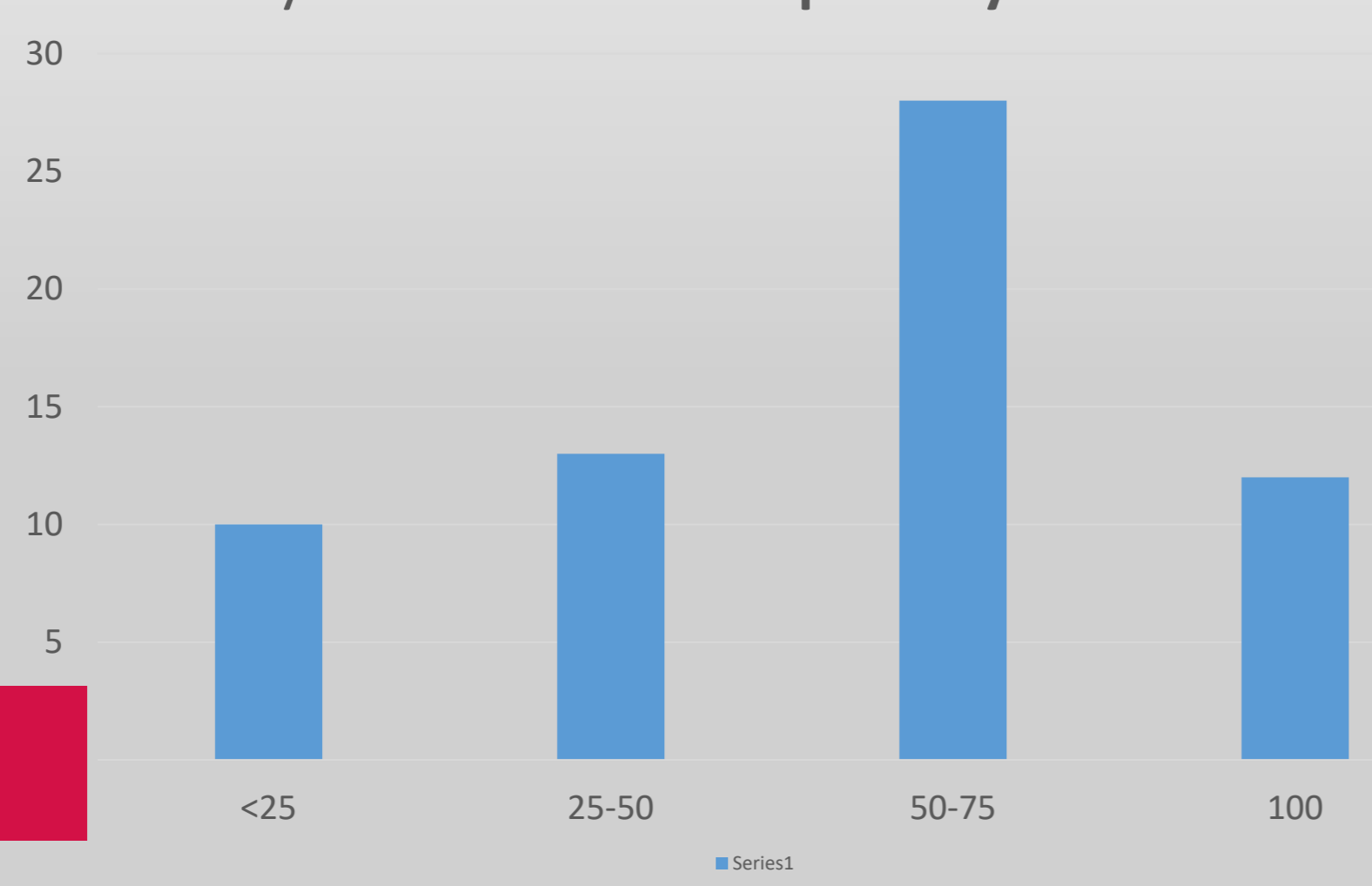
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## Referral Patterns and Coordination of care

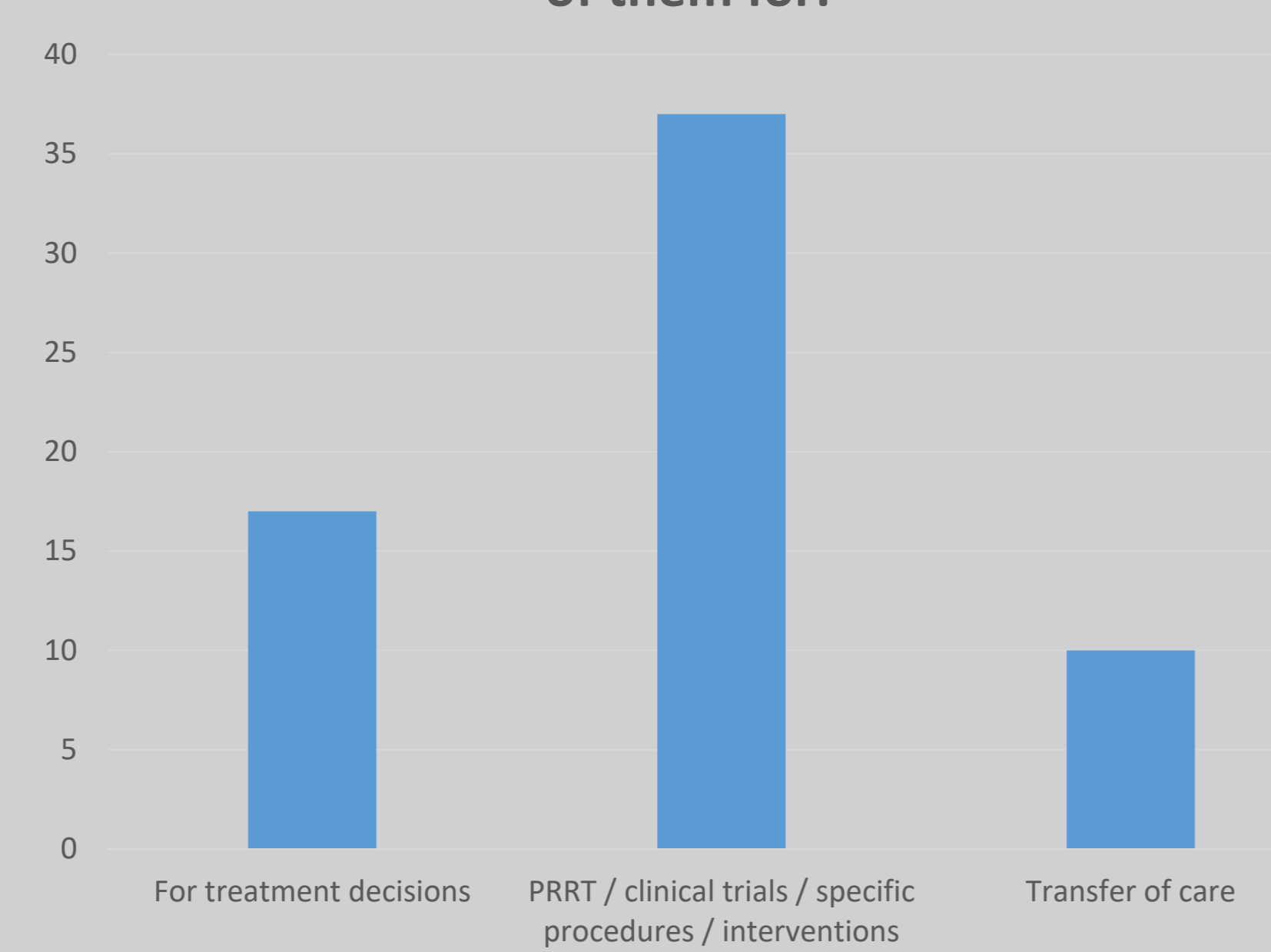
What **percentage** of your NET patients do you refer to a NET specialty center?



Majority MOs referred 50- 75% of their NET patients to NSC.

Majority of the referrals were for PRRT, clinical trials or specific interventions, to some extent for treatment decisions and only minority of them for transfer of care.

When you refer patients to the NET speciality center, would you refer majority of them for:

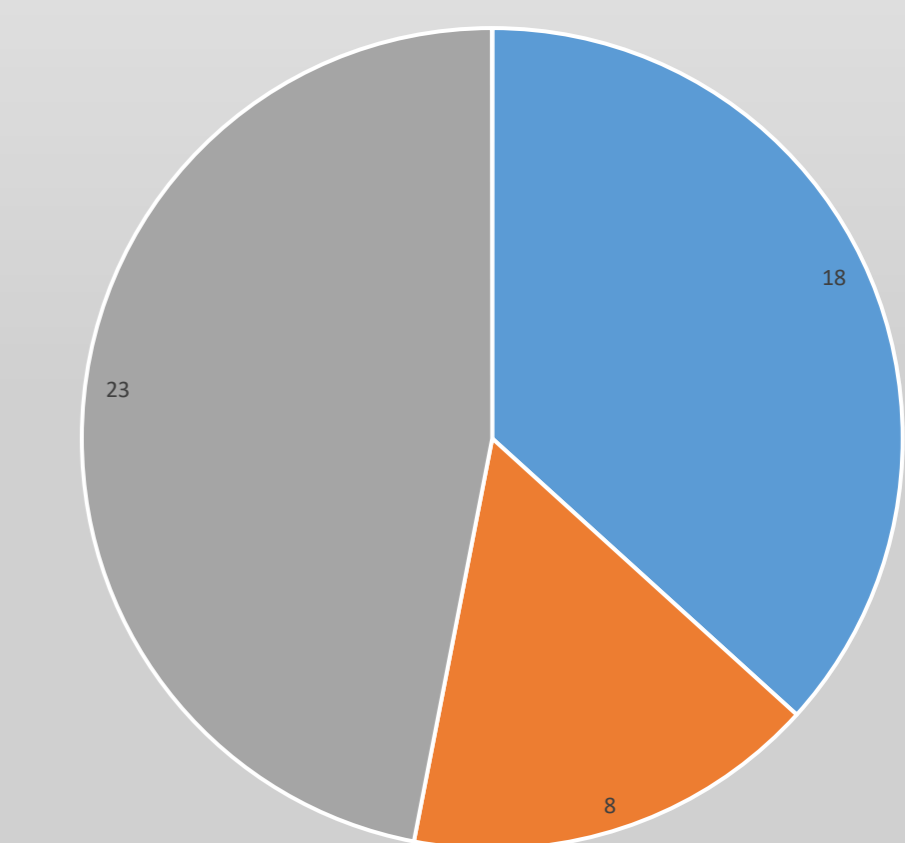


Patients not referred to NSC were discussed at NET specific tumor boards in only minority of the cases.

**Majority of the coordination of care was through email or phone communication with providers at NSC.**

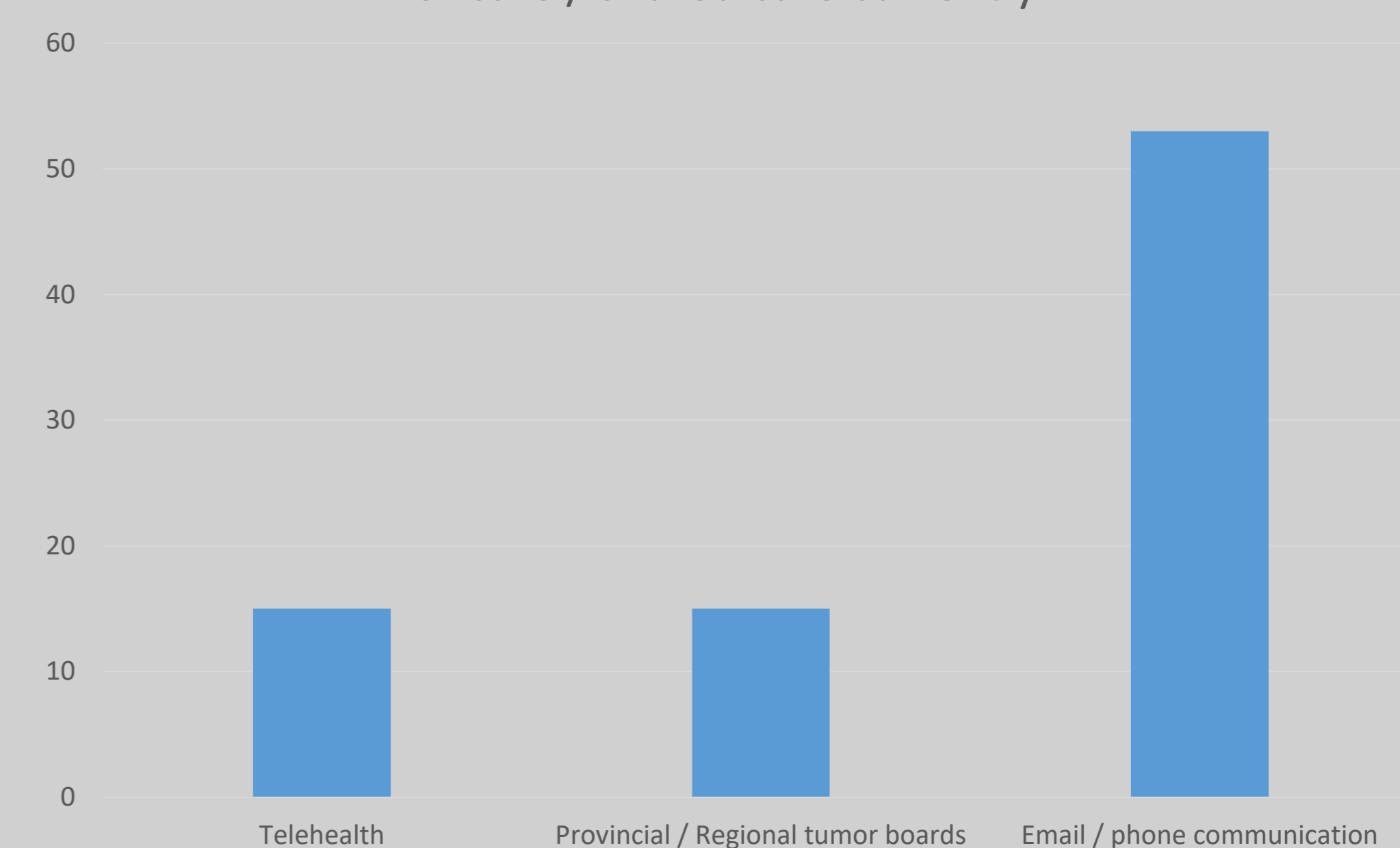
Less often via telehealth or regional/provincial tumor boards.

Do you **discuss the management** of the patients **not referred** to a NET specialty center at:



- Directly with a NET expert (via phone / email)
- NET specific Multidisciplinary tumor board (MDT)
- Other MDT (lung / GI)

Are you using the **following services** for coordination of care / shared care currently?







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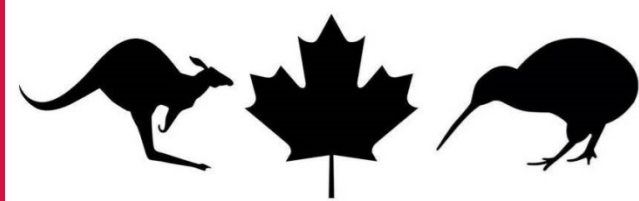
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## Qualitative themes from the survey

<b>ACCESS</b> challenges	<ul style="list-style-type: none"> <li>- lack of <u>timely access</u> to expert services /opinion/tumor boards</li> <li>- Lack of common EMR</li> <li>- Lack of access to Ga 68 PET scan</li> <li>- Limited access to PRRT</li> </ul>
<b>COORDINATION</b> challenges	<ul style="list-style-type: none"> <li>- Too much <u>time spent</u> in coordination /collaborating with NET specialty centers and the onus falls on the local provider</li> <li>- Discussion at provincial tumor boards gives you <u>more questions than answers</u></li> </ul>
<b>Challenges</b> faced by patients	<ul style="list-style-type: none"> <li>- <u>Wait times</u> to see a <u>NET expert</u></li> <li>- Wait times for <u>nuclear imaging and treatment</u></li> <li>- <u>Redundant</u> imaging /investigations</li> <li>- Frustration due to <u>lack of communication</u> between centers</li> <li>- <u>Travel distances and financial toxicity</u> involved in seeing a NET expert</li> </ul>
Need for <b>education</b> and development of expertise outside NSC	<ul style="list-style-type: none"> <li>- <u>limited</u> NET experience/exposure during oncology <u>training</u> and in practice.</li> <li>- Need for <u>ongoing education</u> and access to updates and clinical trials</li> <li>-lack of clarity and comfort with <u>PRRT</u> .</li> </ul>





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## Conclusion

Medical oncologists outside NET specialty centers are involved in the care of NET patients, but not necessarily comfortable/experienced in NET management.

Key barriers to the management of NET patients include, limited access to nuclear imaging, lack of access to NET specific tumor boards, lack of experience with NET patient management .

**PRRT** is an area where **more education** is required, as to how it fits into the NET treatment algorithm (particularly in Ontario, Canada).

A streamlined process for coordination of care amongst providers, education, timely access to NET specific tumor boards/expert services and PRRT would be **essential in the development of a shared care model** between the local medical oncologists (LMOs) and NSC.

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