



NARMS

Neurology Advanced Referral Management System

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November 2022

NARMS

- Why?
- What is it?
- How can it be of use to
 - Patients
 - GPs
 - Neurologists

Neurology Waiting Times

- 22/05/2020 – 4370
- 1.3% of SEHSCT catchment population



Reasons for This Problem

- Demand for neurology appointments outstrips supply
- 2019 there were
 - 3217 referrals to neurology
 - 1889 slots available
 - 1328 patients were added to the waiting list
 - 8 months work for the neurologists

How to manage?

- Current waiting list
 - Validation
 - Expand team
 - WLI
- Future referrals
 - NARMS

NARMS

Neurology
Advice
and Referral
Management
System



Neurology
Advanced
Referral
Management
System

NARMS

- Introduced on 9 June 2020
- Initially led by Dr Victor Patterson
- Aim - reducing clinic attendances using advice or investigations to provide a speedy response to about 50% of referrals



Underlying Evidence

PAPER

Email triage of new neurological outpatient referrals from general practice

V Patterson, J Humphreys, R Chua

J Neural Neurosurg Psychiatry 2004;75:617-620. doi: 10.1136/jnnp.2003.024489

See end of article for authors' affiliations

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Objectives: To determine whether an email triage system between general practitioners and a neurologist for new outpatient referrals is feasible, acceptable, efficient, safe, and effective.

Methods: This was a prospective single cohort study on the interface between primary care practitioners and the neurology clinic of a district general hospital. Seventy six consecutive patients with neurological symptoms from nine GPs, for whom a specialist opinion was deemed necessary, were entered in the study. The number of participants managed without clinic attendance and the reduction in neurologist's time compared with conventional consultation was measured, as was death, other specialist referral, and change in diagnosis in the 6 months after episode completion. The acceptability for GPs was ascertained by questionnaire.

Results: Forty three per cent of participants required a clinic appointment, 45% were managed by email advice alone, and 12% by email plus investigations. GP satisfaction was high. Forty four per cent of the neurologist's time was saved compared with conventional consultation. No deaths or significant changes in diagnosis were recorded during the 6 month follow up period.

Conclusions: Email triage is feasible, acceptable to GPs, and safe. It has the potential for making the practice of neurologists more efficient, and this needs to be tested in a larger randomised study.

Quality improvement report

Email triage is an effective, efficient and safe way of managing new referrals to a neurologist

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► Teleneurology by email

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Summary

We introduced an email teleneurology service for patients referred to a neurologist by general practitioners. Over 14 months, 76 referrals (of 75 patients) were received. To determine the sustainability of the service, we studied a second cohort of 76 consecutive patients referred after our first study. We also followed up the first cohort of patients to get information on longer-term safety. The second cohort was obtained in one month less than the first, and had similar characteristics in terms of age, sex and the time taken by the neurologist to reply to the general practitioner. It contained fewer patients requiring clinic appointments (34% versus 43%). Fewer patients from the second cohort were referred for second opinions (4 versus 10) and there were no resulting changes in diagnosis. Follow-up of the first cohort from a mean of 6 months to a mean of 23 months led to seven more re-referrals and no additional changes in diagnosis. We conclude that teleneurology by email is sustainable for this group of patients, and confirm that it is safe, effective and efficient.

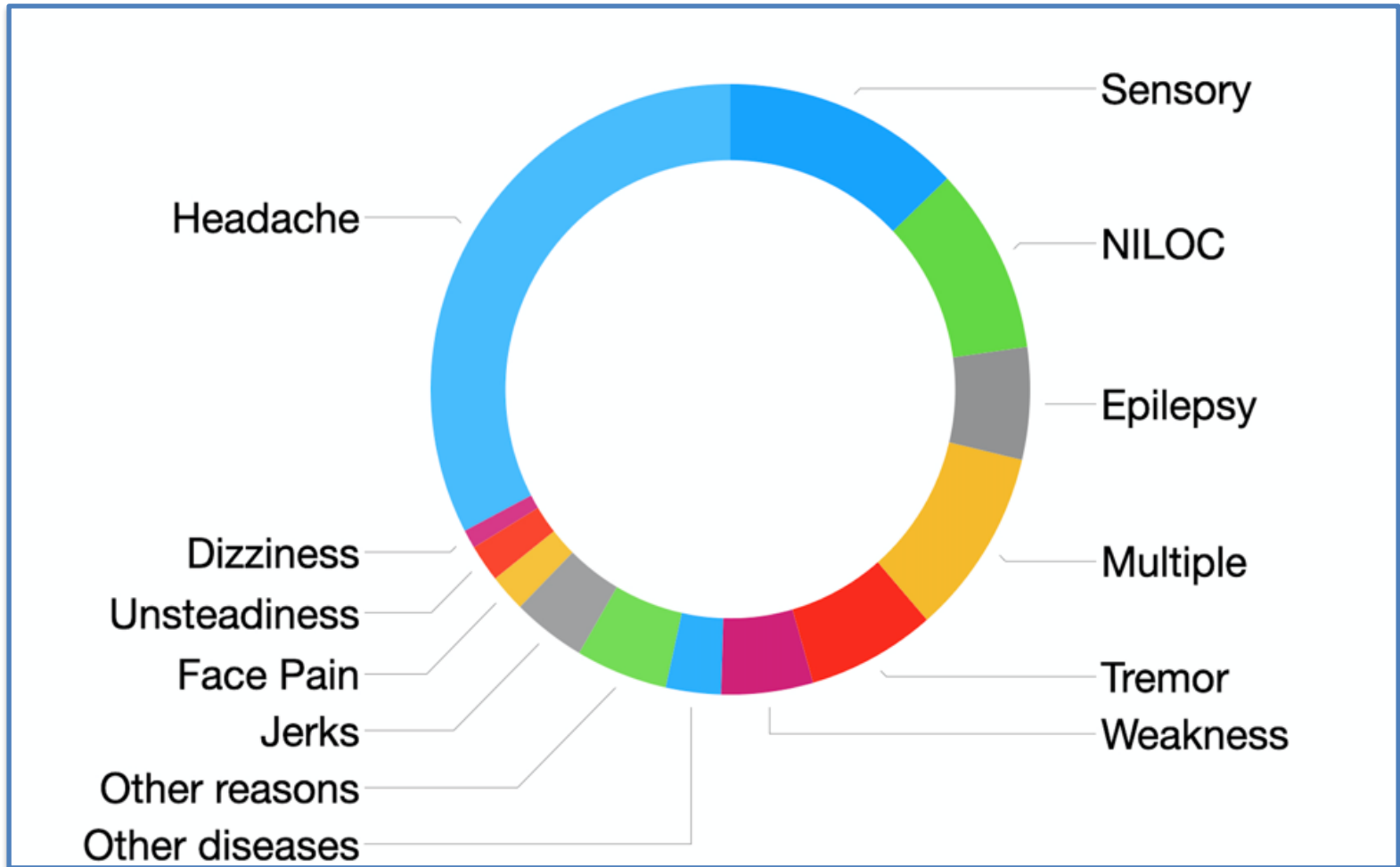
Email triage for new neurological outpatient referrals: what the customers think

When patients with neurological symptoms

NARMS

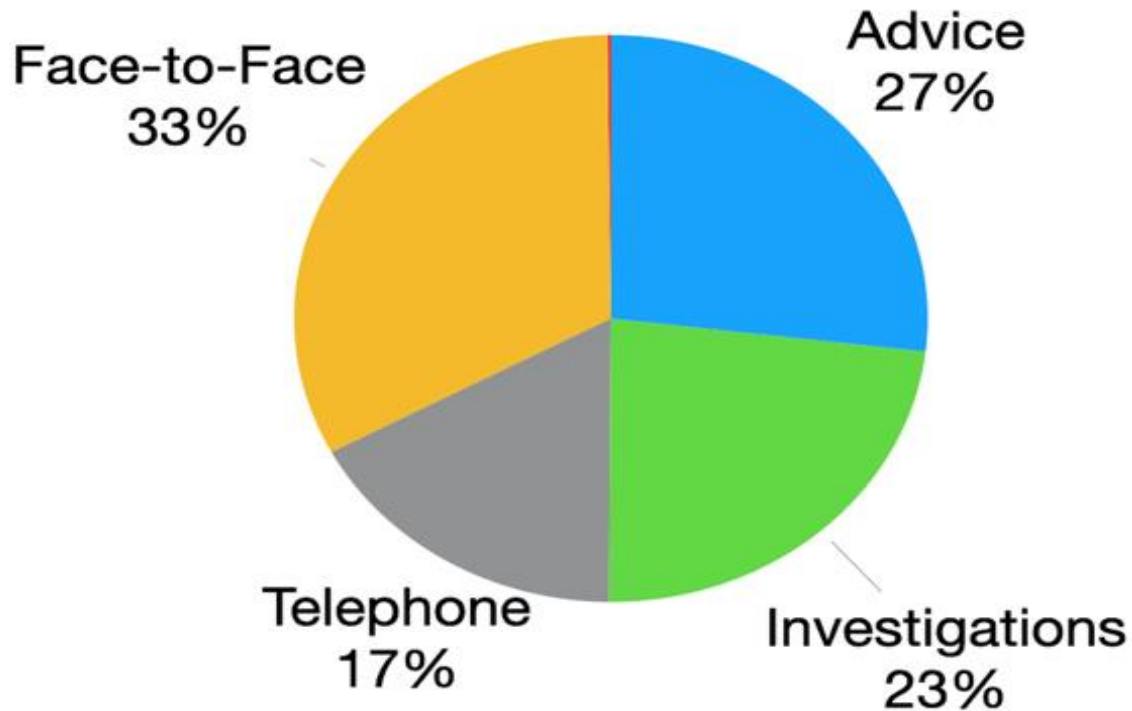
- GP referral through e-triage on ECR
 - Advice within 48 hours
 - Investigation
 - NARMS virtual appointment
 - NARMS FTF appointment
 - Re-direct elsewhere
- <https://setrust.box.com/s/53slnu9ppfuygsr1m4b4ytjvev8mucvt>

NARMS - First six months

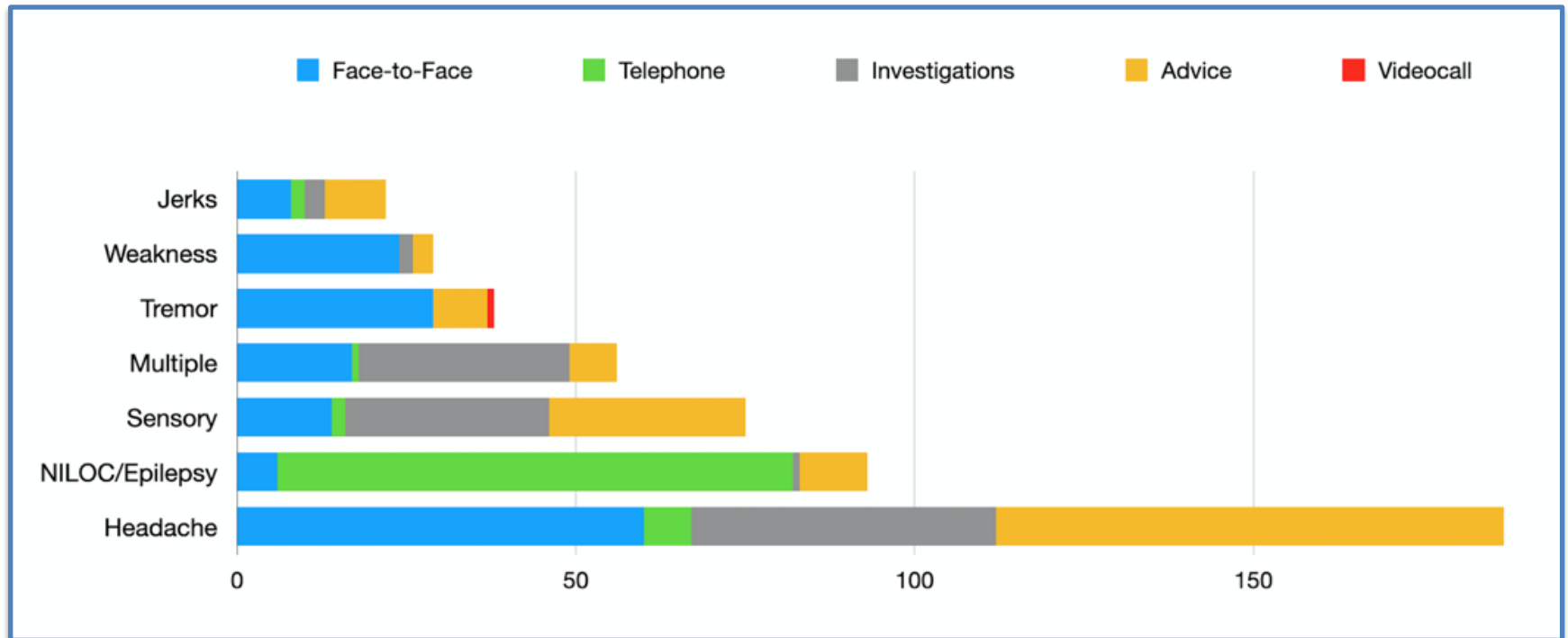


573 referrals, June - Nov 2020

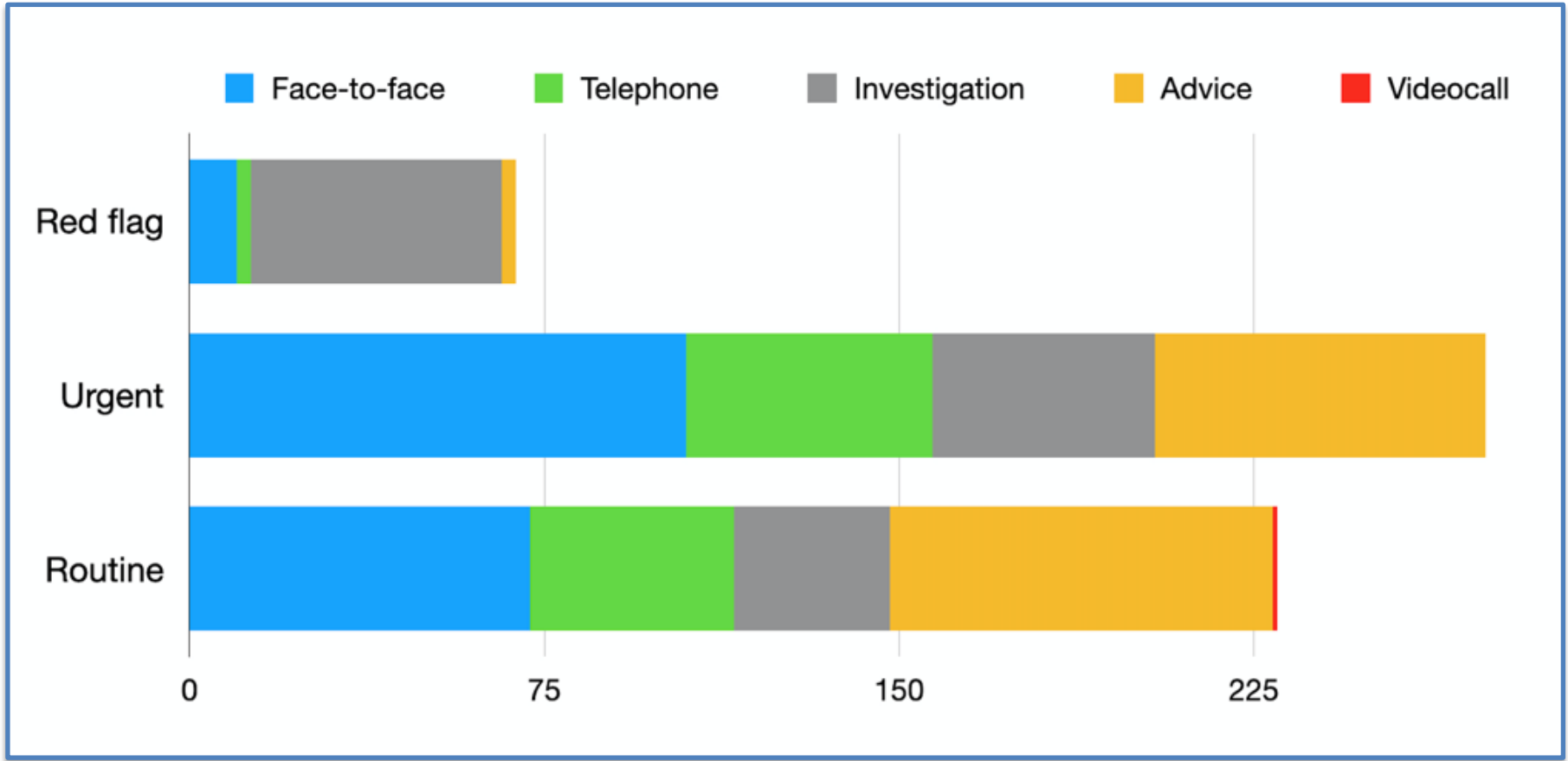
NARMS - First six months



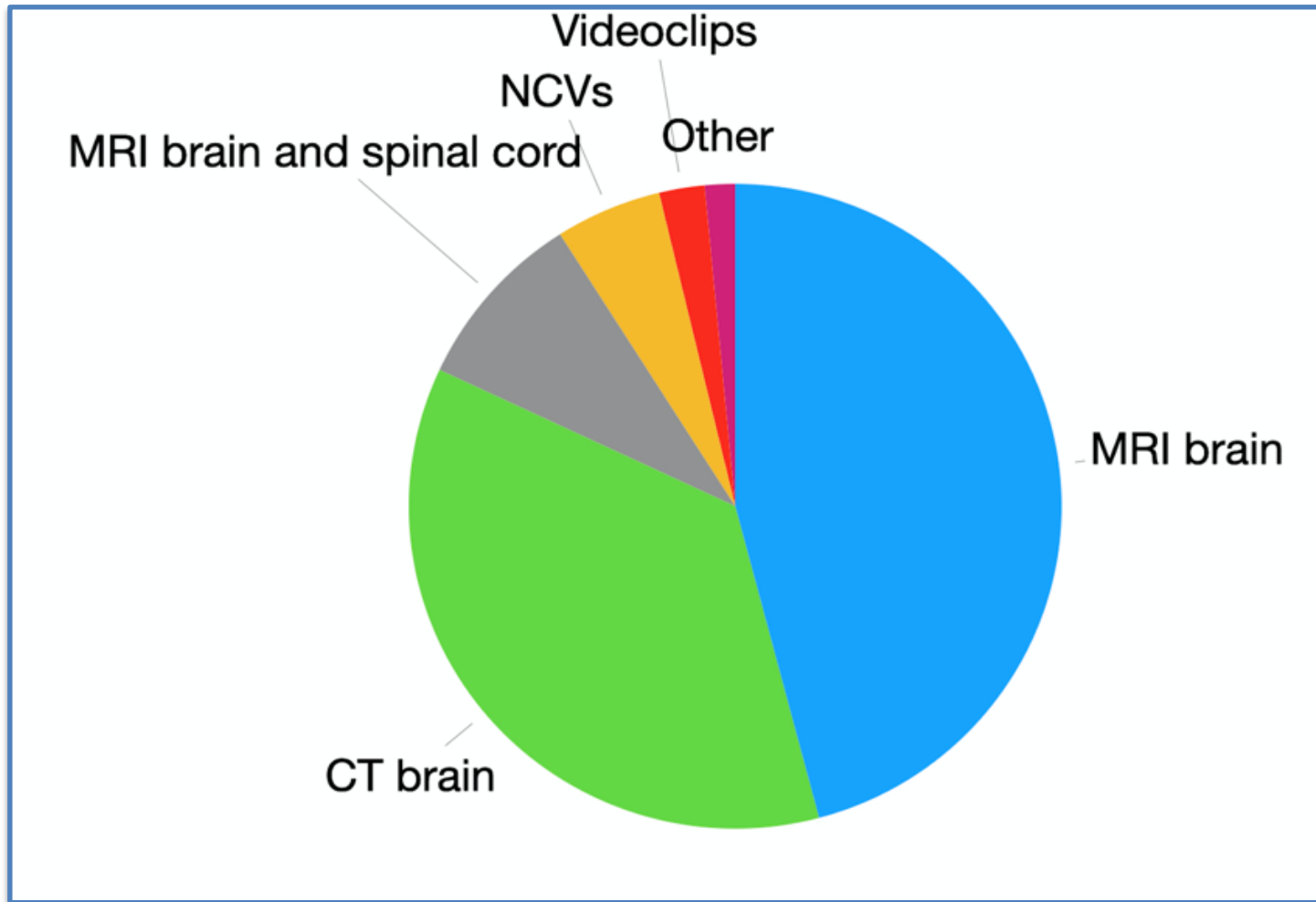
NARMS - First six months



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NARMS - First six months



NARMS - First six months

- Patient feedback
 - 64 cases triaged to investigation
 - *“Are you happy with triage to Imaging as opposed to a face-to-face appointment? You will not be seen in the clinic if the imaging is normal.”*
 - *95 % agreed*
- Re-referrals
 - 187 referred triaged to advice or investigation
 - 7 (4%) re-referred

NARMS - First six months

- Pilot study
- 20 cases
- Consultant with experience
- Two other consultants

Triage Outcome	Triage Consultant	Consultant 1	Consultant 2
Advice	3	1	3
Investigations	5	3	3
Telephone	5	7	6
FF	7	8	8

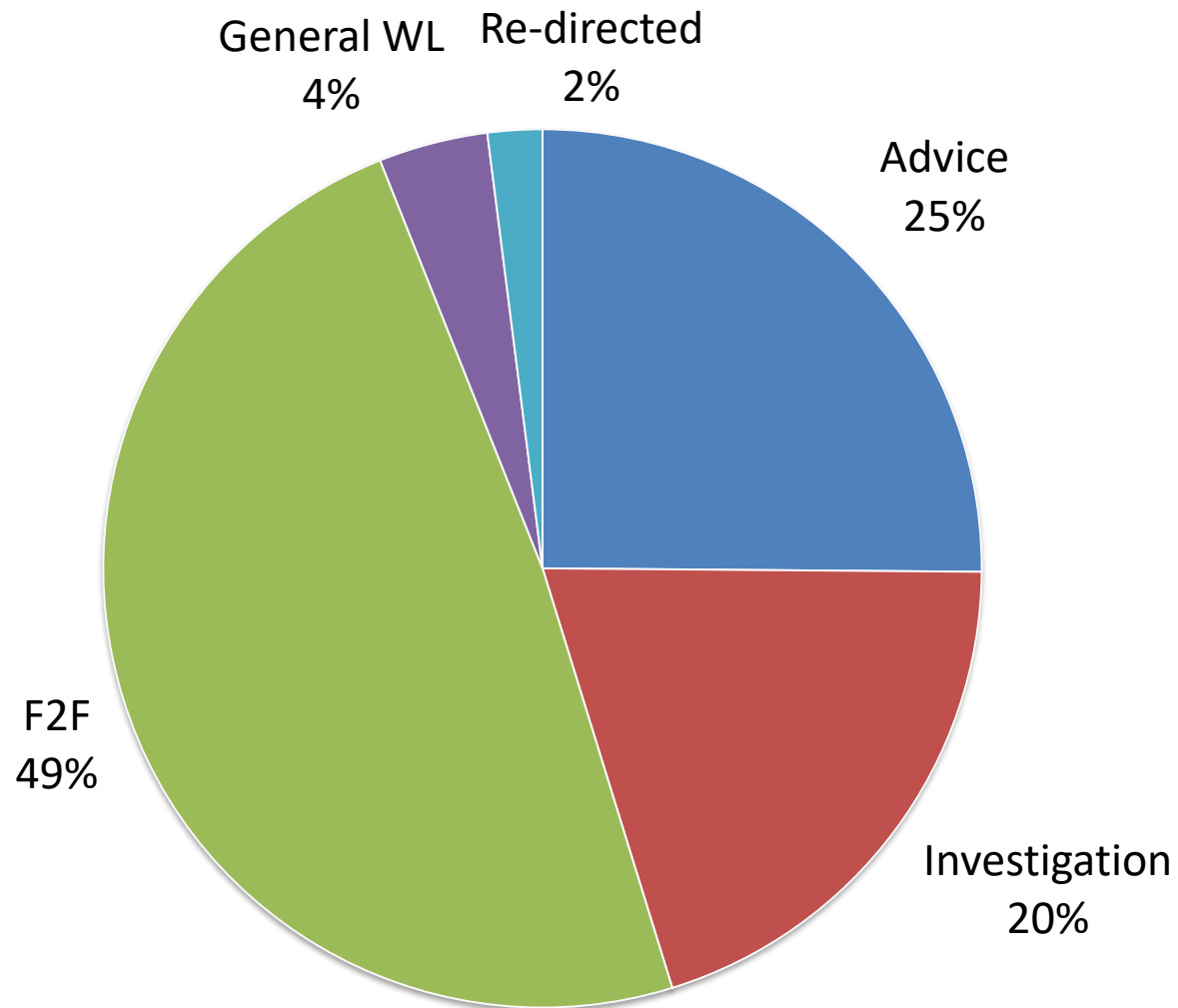
NARMS

June to December 2021

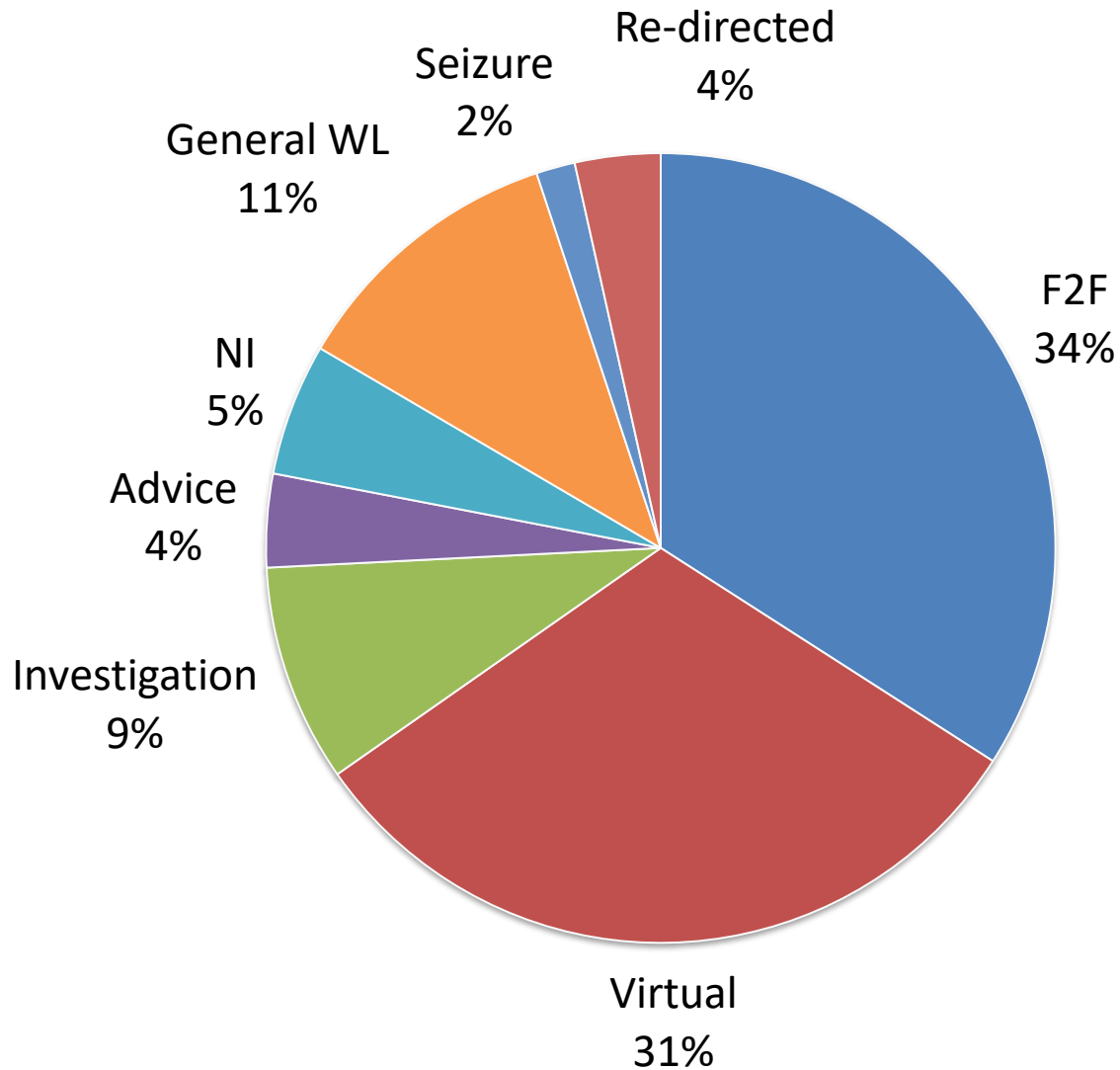
June-August 2021

- 409 referrals
 - Headaches 95
 - General Neurology 314

Headaches (n=95)



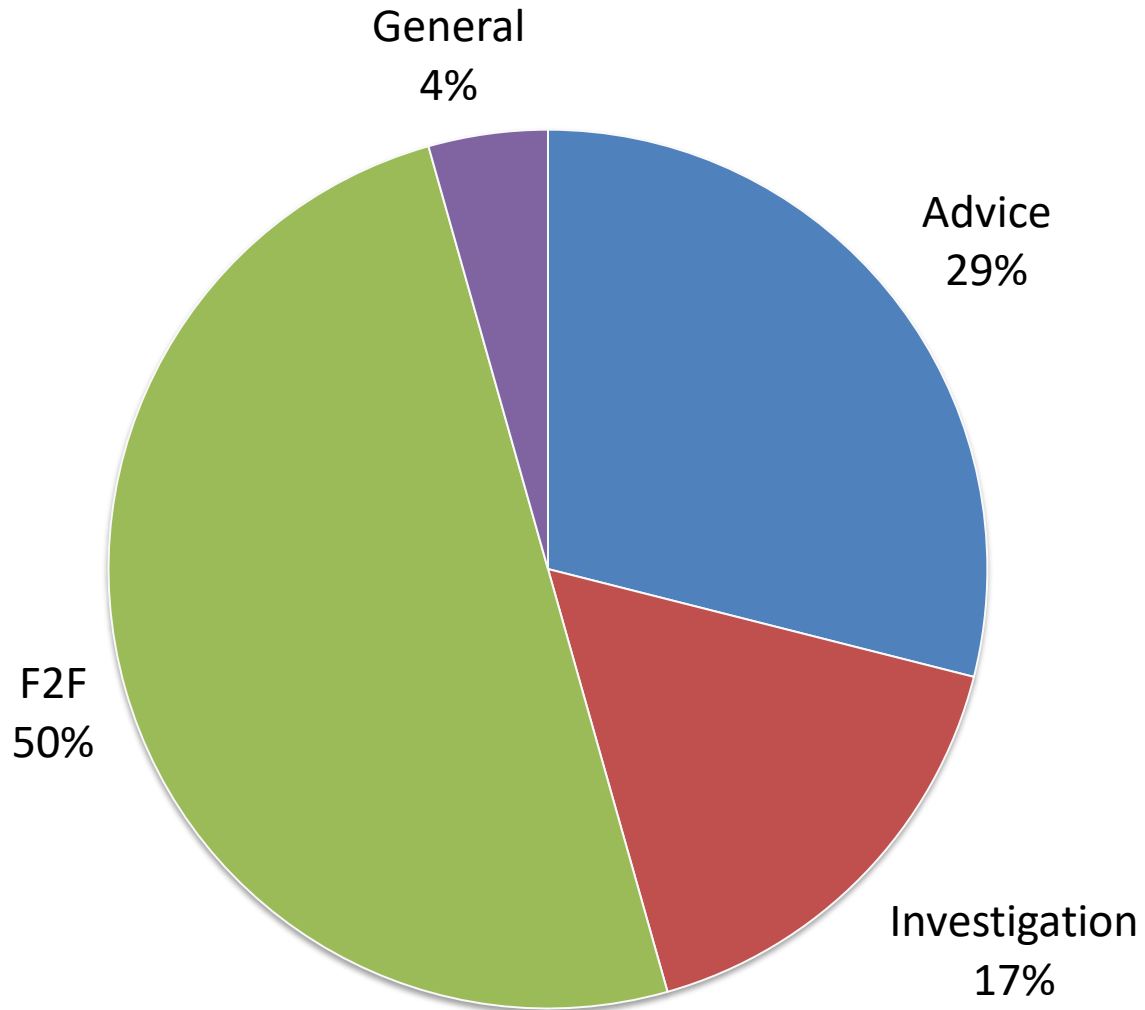
General (n=314)



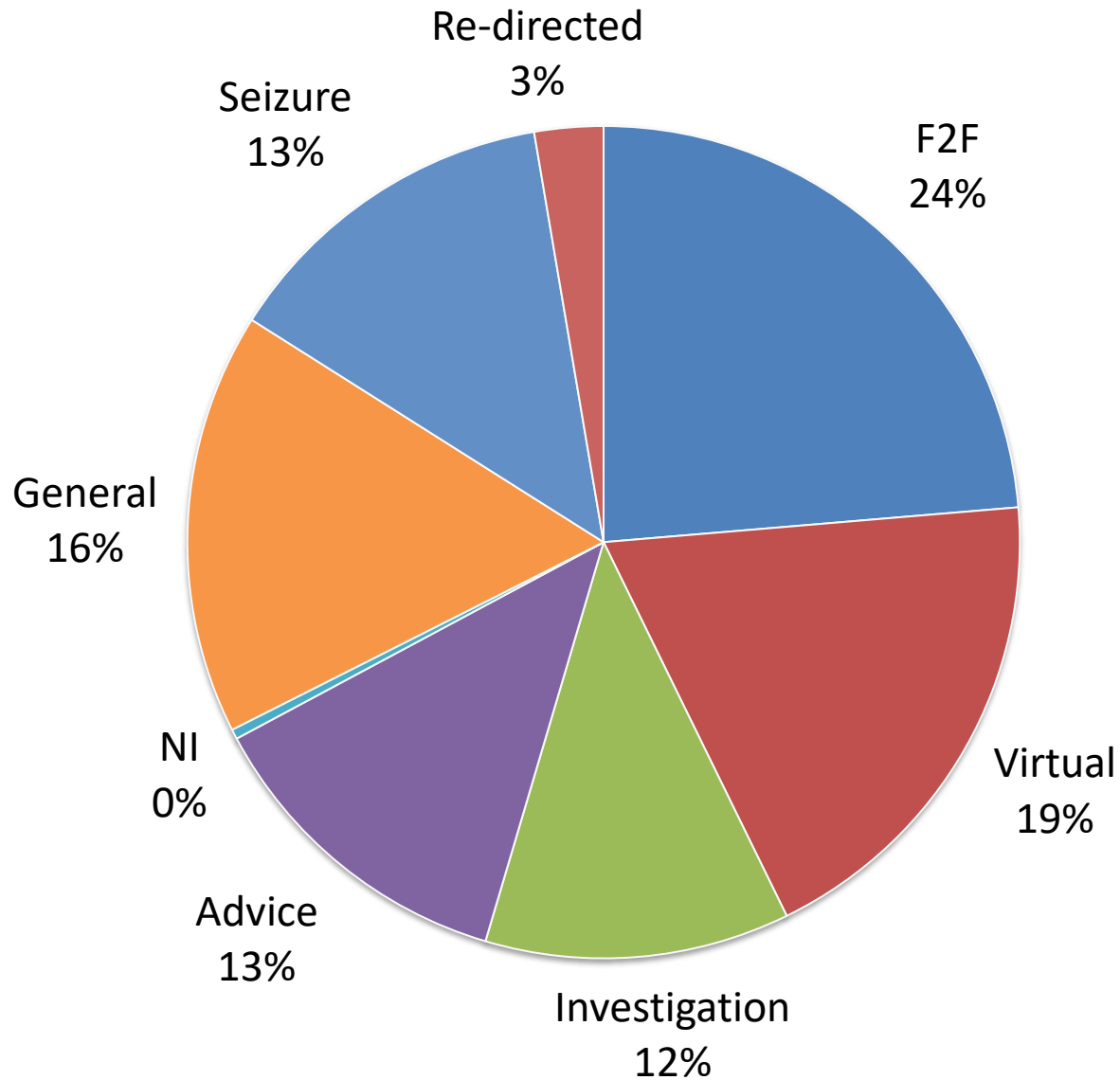
September - November 2021

- Total referrals 376
 - Headaches 114
 - General Neurology 262

Headaches (n=114)



General (n=262)

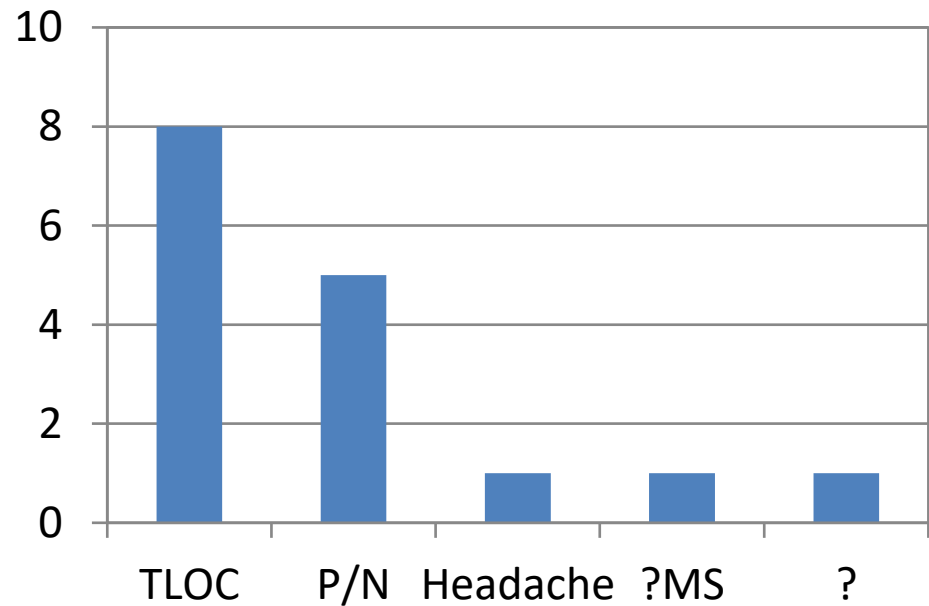


NARMS Waiting Lists

13/12/2021

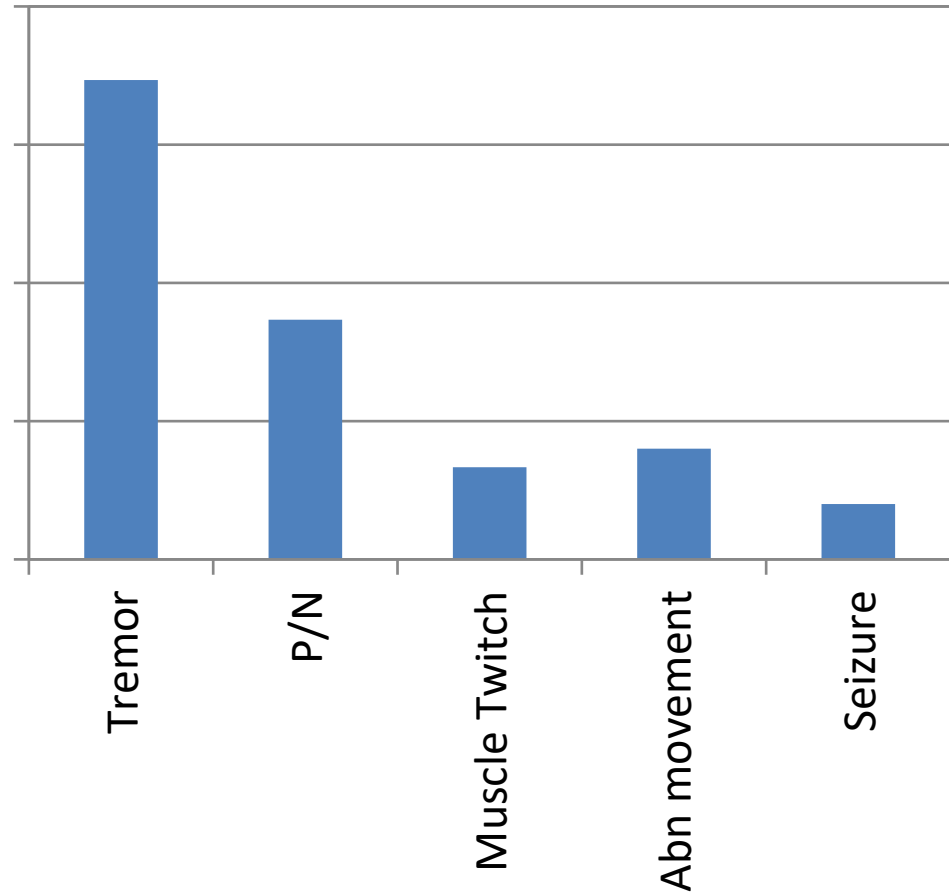
NARMS Virtual (31/12/21)

- 16 cases
- Region
 - UHD 10
 - LVH 6



NARMS Face to face (31/12/22)

- 79 cases
- Region
 - UHD 56
 - LVH 23



Current status

- 4370 patients May 2020
- 4273 patients Sept 2021
- 983 patients Oct 2022

	Time
F2F	12 weeks
Virtual	3 weeks
N I	8 weeks
Other	(314 cases >52 wks)

What is working well?

What is working well?

- GP buy-in
- Positive feedback
 - GP and patient
 - No complaints
- Timely advice
 - e.g. seizure management, trigeminal neuralgia, RLS, neuropathic pain
- Quicker investigations
 - eg first seizure, possible MS
- Quicker opinion in all cases
- Specific GP requests
 - Eg ?MS, ?CTS

What could be improved?

What could be improved?

- Communication between primary and secondary care eg today
- Information in referral letter
- Patient expectation
 - “Seek an opinion” rather than “refer to see”
- Blood investigations
 - who to perform/ follow-up