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Multi-disciplinary VT Clinics- going Virtual

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Chris Monkhouse is a Cardiac Physiologist (hopefully soon to be Scientist) at the Barts Heart Centre in Central London. He is involved in the investigation and treatment of patients with all forms of arrhythmia problems focusing on device therapy and ablation. His research and clinical interests are focused on device therapy and ventricular tachycardia. He is an active member of the Electrophysiology community. He has published in peer reviewed papers, lectures nationally and internationally. If you show him a cool trace, he can get over excited.

Conflict of Interest

- CM has received speaker fees from Abbott, Biotronik, Boston Scientific & Medtronic

The problem

What do you do with your patients with VT & device?

Refer to consultants?
Bring to device clinic to see circulating registrar?

What inconsistency/ delays are there with this method?

Our problem

NHS
Barts Health
NHS Trust

A variety of practice

30-35 device physiologists circulate in clinic

16 Registrars circulate with varying experience: ST4-Post CCT

A new clinic: Joint VT Device Clinic

Barts Health NHS Trust

Purpose:

Streamlined device check & specialist registrar/ Consultant review for patients with treated VT

Clinic Personnel

- Specialist Cardiac Physiologist
- Specialist EP SpR/ Consultant
- Admin Support

Criteria for referral

ICD implanted+

- Treated VT (ATP/ Shocks)
- Sustained VT below detection (inc monitor zone)

<u>Complex patients/ oversubscribed</u>

e.g. HCM/ inherited OR limited availability to the clinic patients are referred to consultant specialist clinics.

Consultation

- Device check and consultation performed in parallel aiming to reduce VT/ shock burden

  Comprehensive history
  Educate patient on VT
  Physical examination
  Up to date 12 lead if necessary
  Additional diagnostics, blood tests and imaging

- Detailed review of VT and plan for which potential ablation strategy would be best.

<u>Programming changes</u>

Tailor programming for patients symptoms

<u>Medication changes- prescribed from clinic</u>

Beta-blockers ↑

Escalate antiarrhythmic

Optimising programming

- ATP only zones for tolerated sustained VT
- Detections increased in VT zones to allow for NSVT episodes
- ATP aggressiveness assessed/ adjusted
- Brady parameters assessed

Template

Diagnosis:

Previous ablation procedures:

Current Medications:

Background:

Device History:
- No.of VT episodes:
  - Burden of therapy:
  - Non-sustained episodes:
- Symptoms during VT:
- Morphology on device:
- Cycle length (s):
- Initiating triggers from device?:
- Other features (e.g. chamber of onset):
- Device function:

Physical Examination:

Investigations performed/required:

Plan:
Device setting changes:
Medication changes:
DVLA advice:
Ablation considered?:
Ablation strategy: Mapping system?, ?catheters; ?Endo/Epi; induction at start?; substrate only/substrate++ / LP?/ uni/bi maps?; GA?
Other treatments (device upgrade/downgrade/HF team/palliation?/Psychology/Lifestyle):

Summary Discussion:

Options:
1. No changes- risks of further device therapy and rhythm disturbance
2. Uptitrate/ add medications- risk of side effects of medications, in particular Amiodarone.
3. Ablation strategy- risks of invasive procedure, Commonly Bleeding/Brusing, Swelling Haematoma on the groin 1:10. Stroke 1%. Tamponade 1-2% which may require an emergency drain or open chest surgery rarely. Chest discomfort. Major vascular injury 1-2%. Major life changing injury or death 1:200-1:500. Success rate of 70%.

Patient opted for...

Cardiology EP SpR Chief Cardiac Physiologist
Electronically Signed to avoid delay

Letters

Typed on pacing system and uploaded to hospital electronic notes, no dictation required

Requests for procedure/ tests

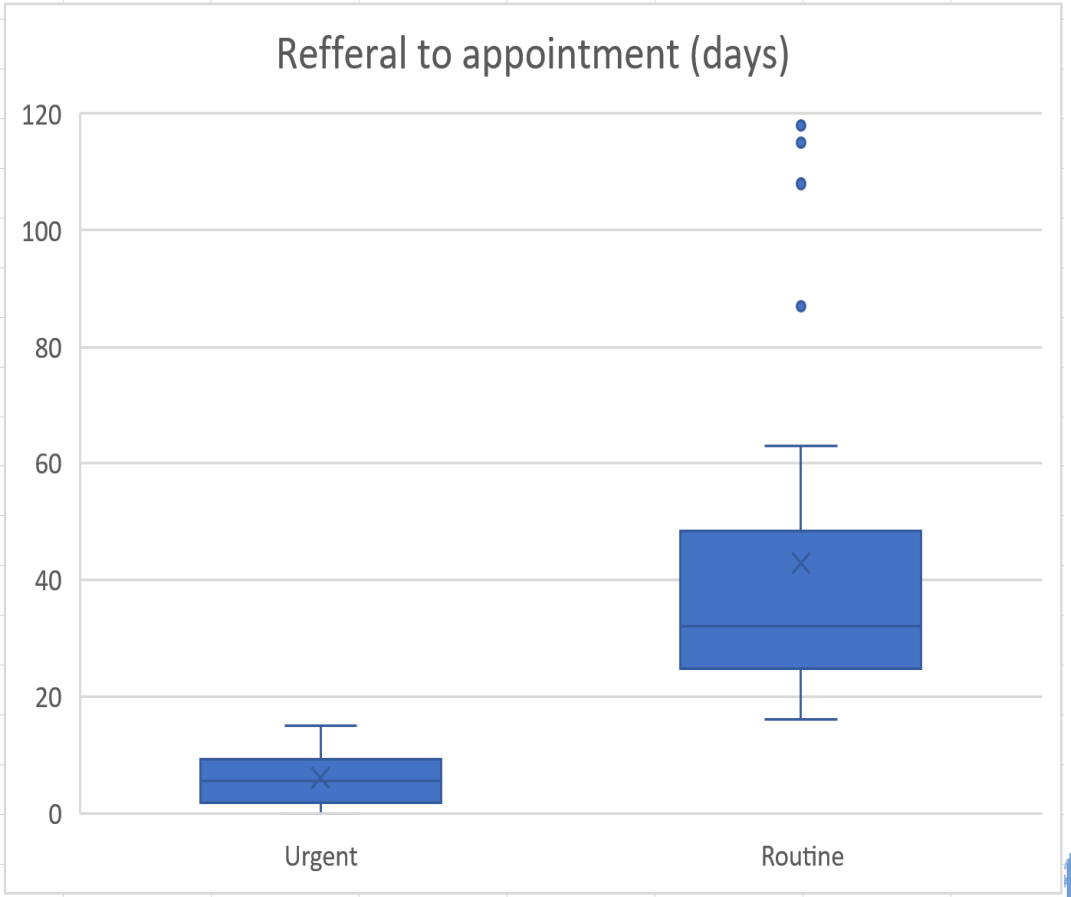
The next working day a copy is sent to the patient and to GP

Results of clinic- last year, Oct 2019

Referral time

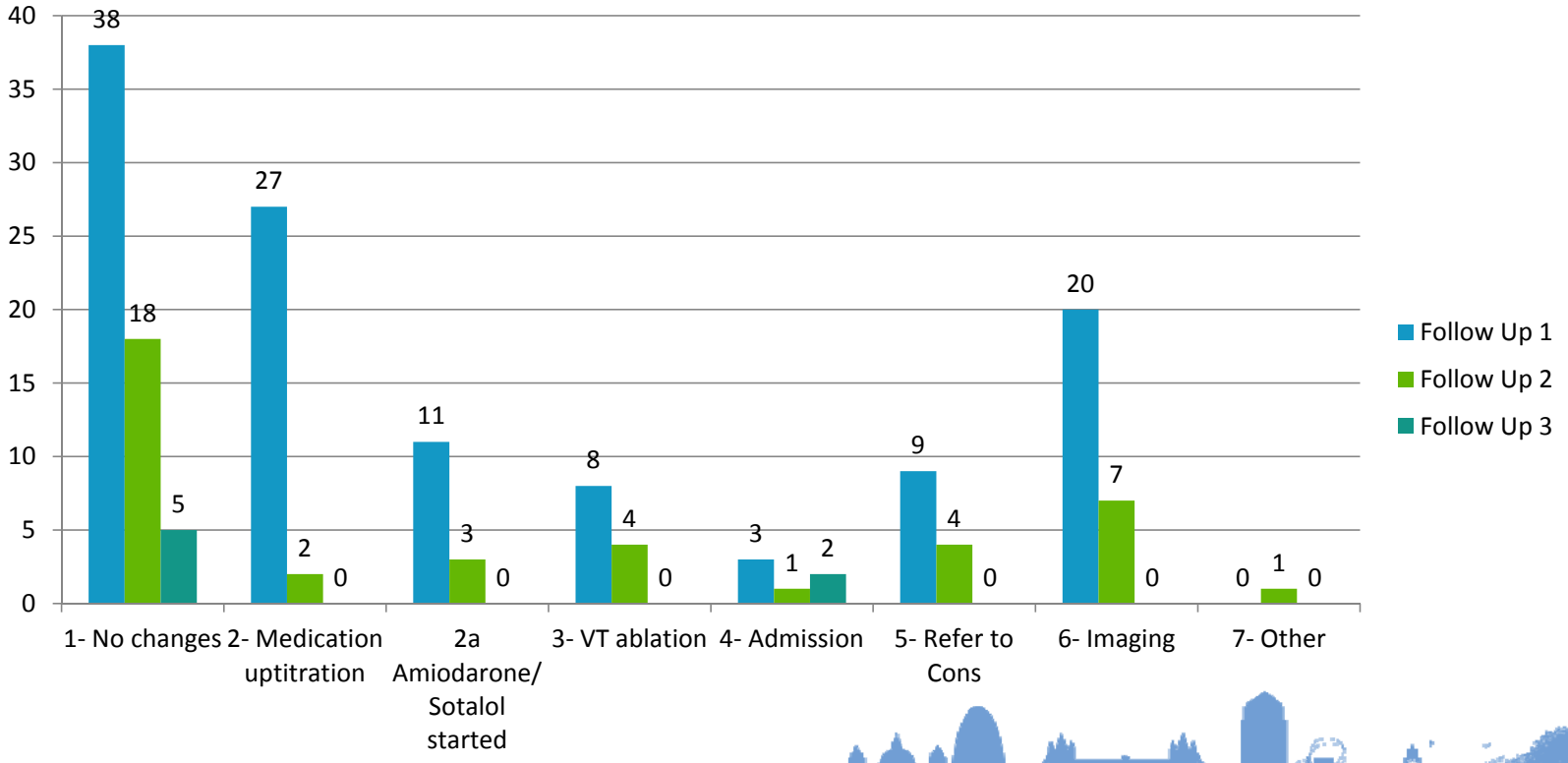
34 Urgent appointments
All seen within 15 days
Mean 6 days

51 Routine appointments



What did we do?

85 patients seen for new appt
26 followed up x 1
7 followed up x 2



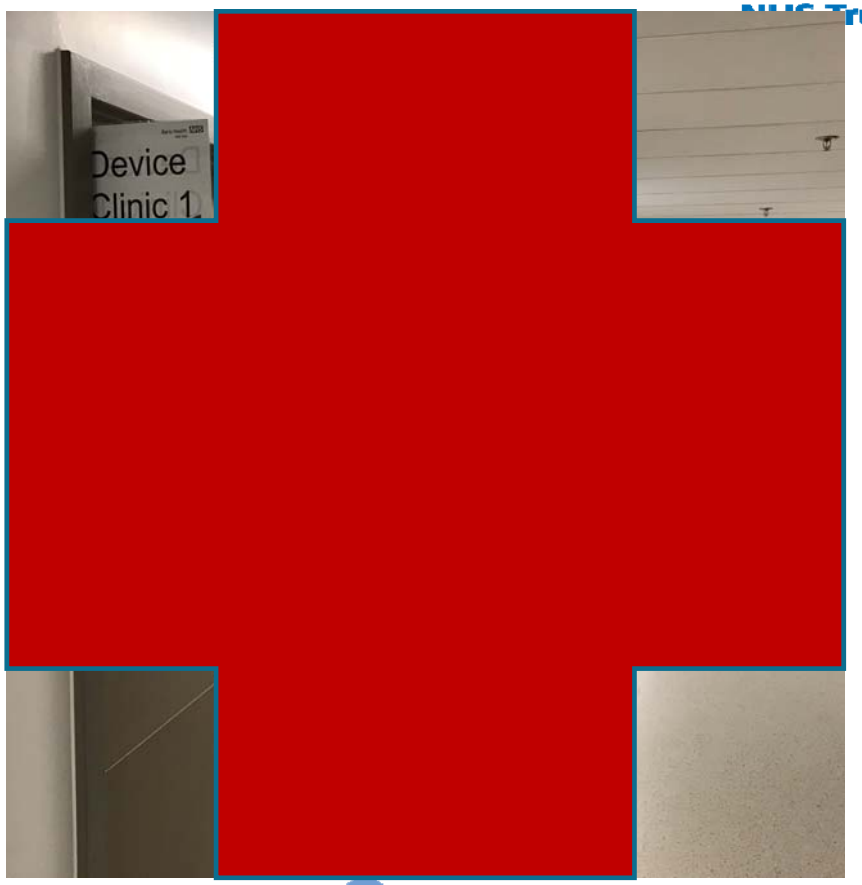
Our New problem

COVID

Patients not to be seen in device clinic unless absolutely necessary

Cardiac Physiologist shielding

Consultants/ SpR sent to Wards/ DGH/ Nightingale



Virtual VT Clinic (Cardiac Physiologist Led)

- Specialist Cardiac Physiologist running clinic independently with virtual Consultant/ Reg oversight
- Developed a sign off process and documentation
- Video and telephone consults with patients and plans discussed with Consultant. Joint consults performed if necessary.
- GPs contacted and letters sent via email to avoid any delay
- Patients needing programming arranged to go to local centres if possible

Future Projects- from last year

- Consultant Cardiac Physiologist to run clinic room independently with Consultant/ Reg oversight ✓
- Use this cohort to investigate optimal programming of secondary prevention patients ⏳
- Expand service to cover outreach hospitals ✓
- Audit effectiveness compared to previous management ⏳

Honestly tho, what are the challenges?

- Admin support to arrange checks and remote monitoring
- Balancing risk of COVID to whether patients require an physical check
- How to complete full review of patients virtually
- Referring for procedures and imaging
- Auditing throughout COVID

What benefits does this have?

- Opportunity for advances roles in cardiac science
- Opportunity to learn from other members of the MDT
- Standardise care within your service and from external referrals

Comprehensive package of care for the patient

Barts Health NHS Trust

Many Thanks

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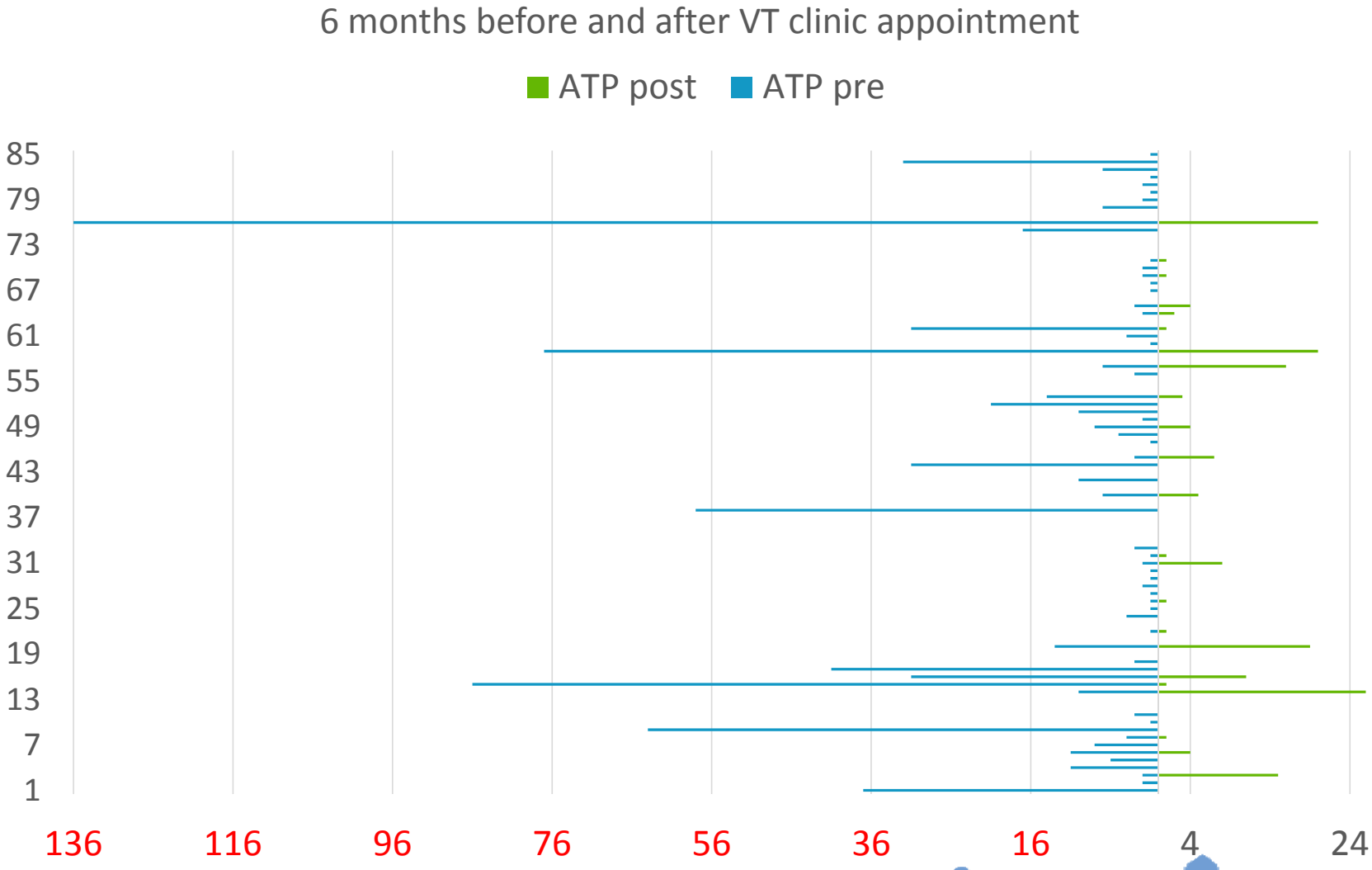

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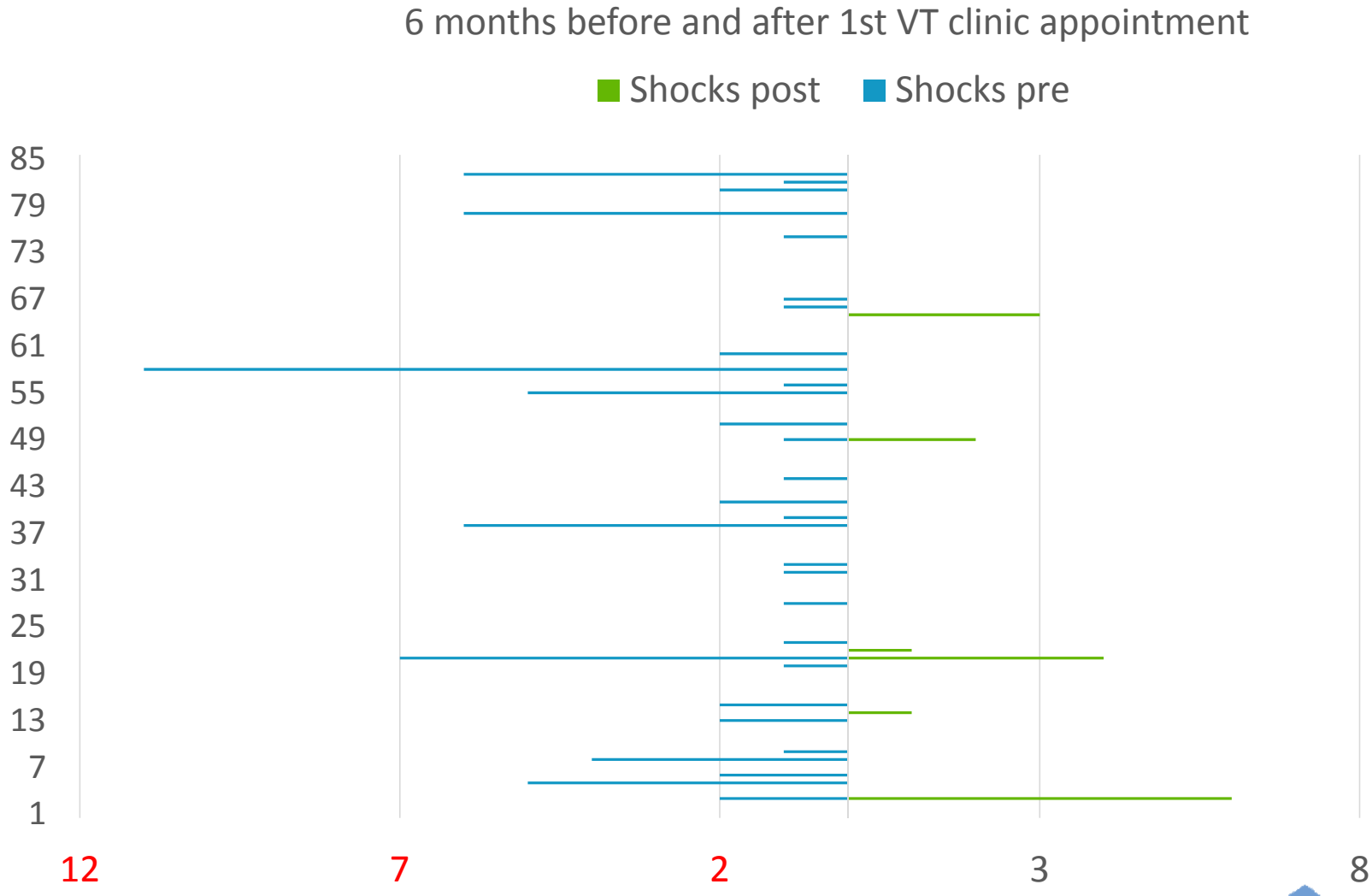

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