Magic – Imperial experience to date

Dec 2021- May 2022

Core Aims and Objectives

MAGIC AIM: To promote good cannulation practice and improve the patient experience of cannulation

Short Term

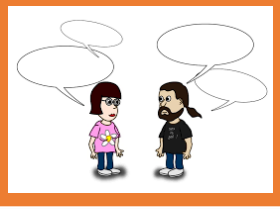
- Maximise RL and BH, minimise area puncture
- Minimise missed cannulation
- Minimise infection
- Optimise patient satisfaction

Long Term

- Increase rates of AV access
- Reduce AV access loss
- Minimise CVC use

Elements of MAGIC

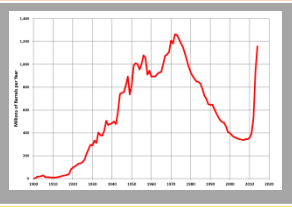
Leadership



Needling Champion - Nurse

Nephrologist

Measurement



Monthly clinical outcomes

Run Charts

Measure impact

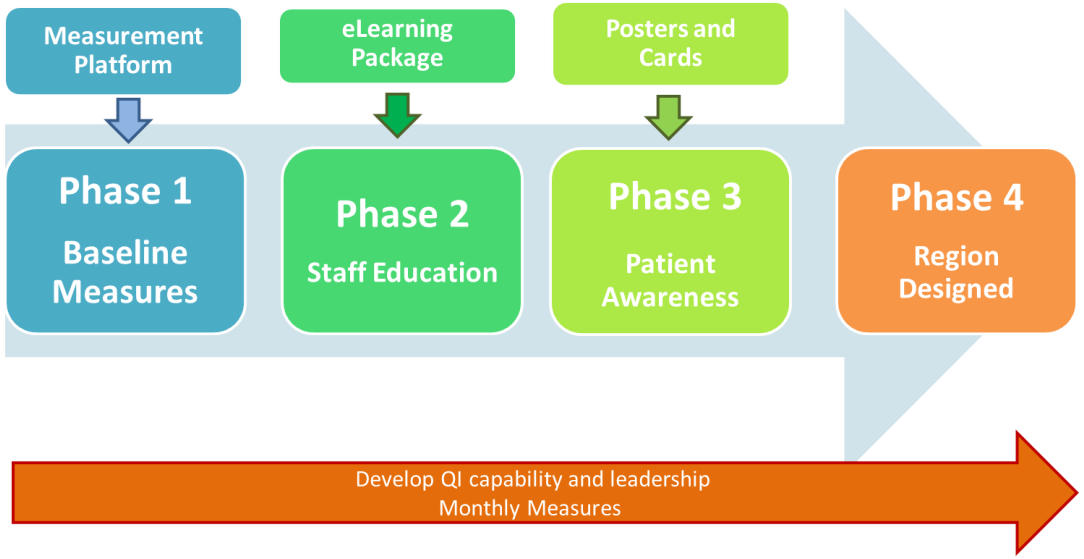
Guide future QI

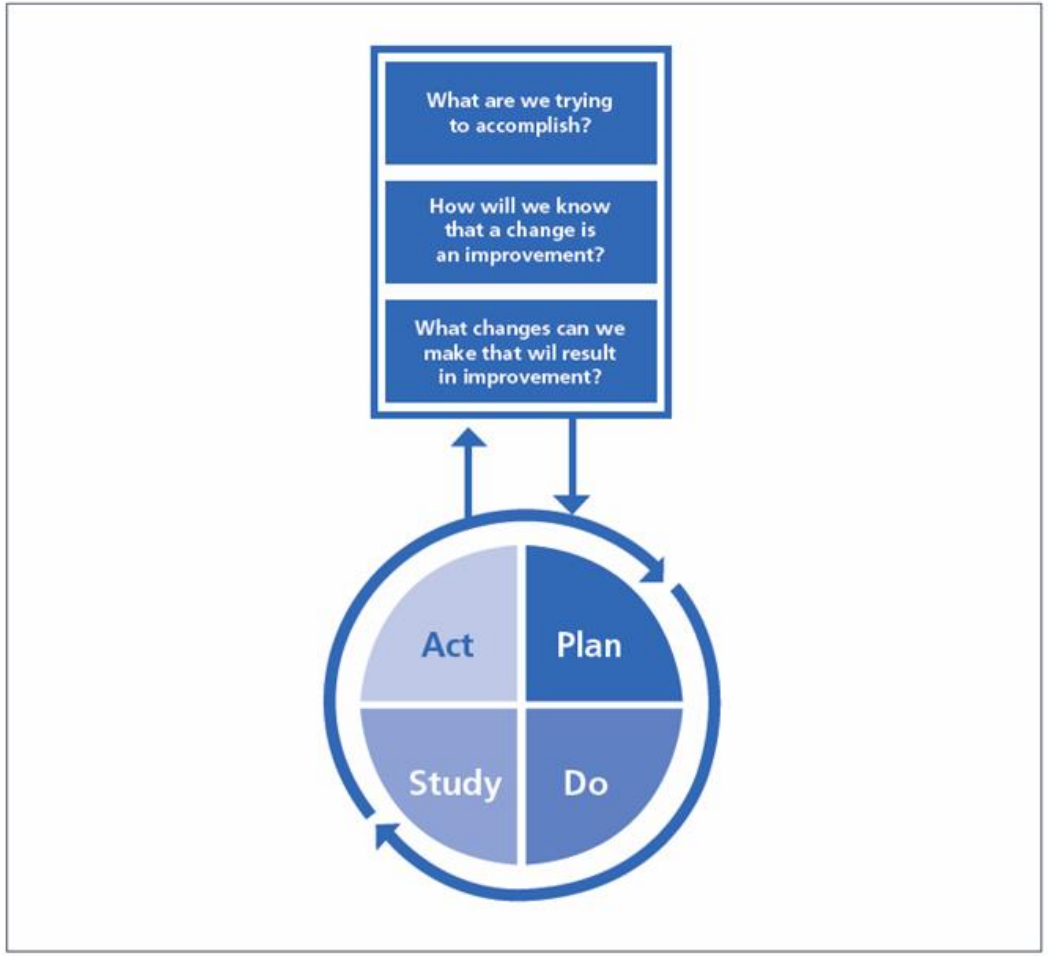
Materials

ELearning based on Recommendations

Awareness materials for patients

Implementing MAGIC





Month 1

- Choose a needling champion for each area
- Agree aims and objectives and clinical outcome measures- Consider What When Who How
- Identify and agree sites for inclusion – consider your satellite units

Month 1-3

- Collect clinical outcome data and input into measurement platform - ideally at least 6 sets of measures to obtain a baseline
- Weekly for 6 weeks then fortnightly once baseline data acquired

Month 3

- Review clinical outcomes data collected to set SMART objectives

Month 4-6

- Launch MAGIC ELearning
- Continue collecting, inputting and reviewing clinical outcome data

Month 6

- Collect and review MAGIC ELearning process data, including MAGIC ELearning evaluation forms
- Order patient awareness materials for printing
- Ask 10 random patients (per unit) to complete pre questions for patient awareness phase

Month 7-9

- Launch patient awareness materials
- Continue collecting, inputting and reviewing clinical outcome data
- Review MAGIC ELearning process data

Preparing the team

- We chose to run in the main centre and 8 satellites
- The vascular access link nurses stepped up to become the ‘needling champions’ along with other keen staff (approximately 3 from each unit)
- We had three meetings to explain how to capture the data
- Set up an area on the shared drive where data collected is uploaded
- The uploaded data is then collated and put on the magic platform
- We set up a WhatsApp group to keep in touch

MAGIC Measurement Tally Sheet **UNIT:**

Date:

Please collect data from a sample of patients who are using AV access for HD on this day.

Measure	Tally (Keep tally marks here to count patients)	Total Total number of tally marks **Please enter onto MAGIC platform**
Number of Patients using Buttonhole Cannulation of each cannulation site in the same manner each time. Involves removing the scab of the previous cannulation prior to needling. Includes cannulation with sharp needles or blunt needles.		
Number of Patients using Rope Ladder Cannulation that moves up the vein at each treatment in a progressive manner, to cover as much of the vein as is possible. Once the top of the vein is reached, cannulation starts at the bottom again. One cannulation site's (A or V site) needle marks should cover at least 5cm.		
Number of Patients using Area Puncture Cannulation in a different site each time that does not progress up the vein is systematic manner AND/OR one cannulation site's needle marks cover less than 5cm.		
Missed Cannulation Number of patients for that haemodialysis session that experienced more than one attempt to insert a needle at one needling site		

Your kidney team is working to improve your experience of having needles put into your dialysis fistula (or dialysis graft) at each haemodialysis treatment session. We would like to know how satisfied you are with your needling today.

We cannot identify you from this question, so please answer honestly.

Please rate your satisfaction between 1 and 7, by marking an X in one of the boxes below:

How was your needling today?	Very Bad						Very Good
	1	2	3	4	5	6	7

If there are any other comments you would like to make about your needling, please insert these in the box below:

Most of their comments was nicely done less pain, no complained at all, very satisfied with the service I get.
Over all, very good needling technique.

Thank you.

Capturing the unit measurements

Data manager collates:
No. HD patients
No. of HD pts with AVF - prevalence
No. of AVFs in new starts - incidence
No. Bacteraemia in HD patients

Lacking: No. grafts / hybrid access
No. conversions to AVF in HD population
No. of lost AVFs / grafts
Some of the provided data doesn't add up and needs further investigation.

Challenges

Dec - Jan 2022 – new Covid wave: Impact:

- Non essential meetings cancelled including London Wide support meetings for those units about to start.
- Covid HD ramped up in our CXH satellite unit displacing patients.
- Staff sickness
- Fatigue

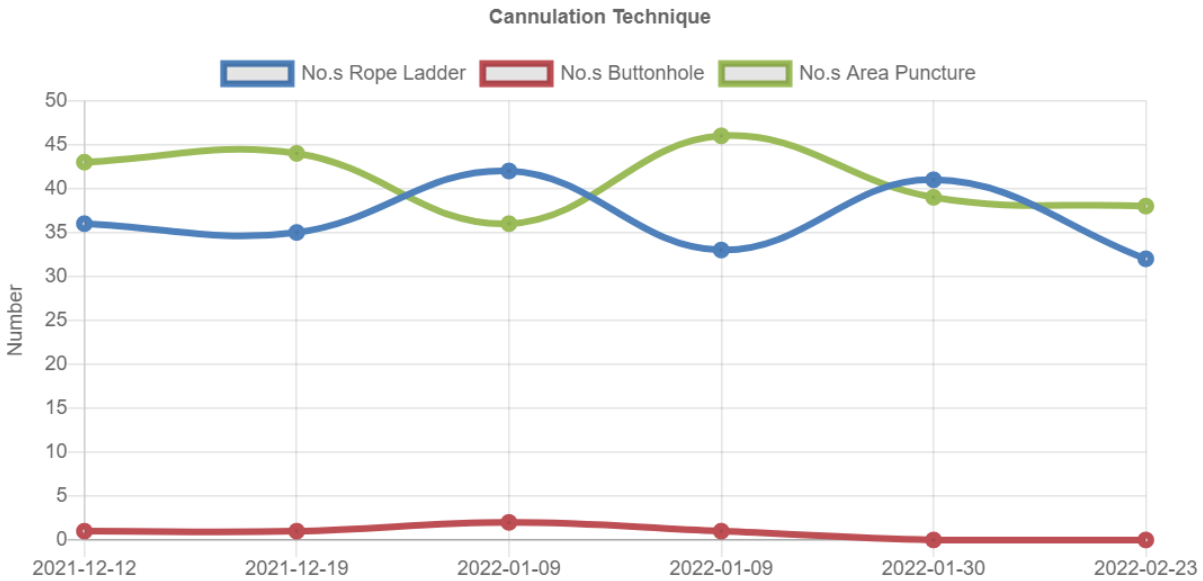
January 22 – Magic lead on bereavement leave. Impact

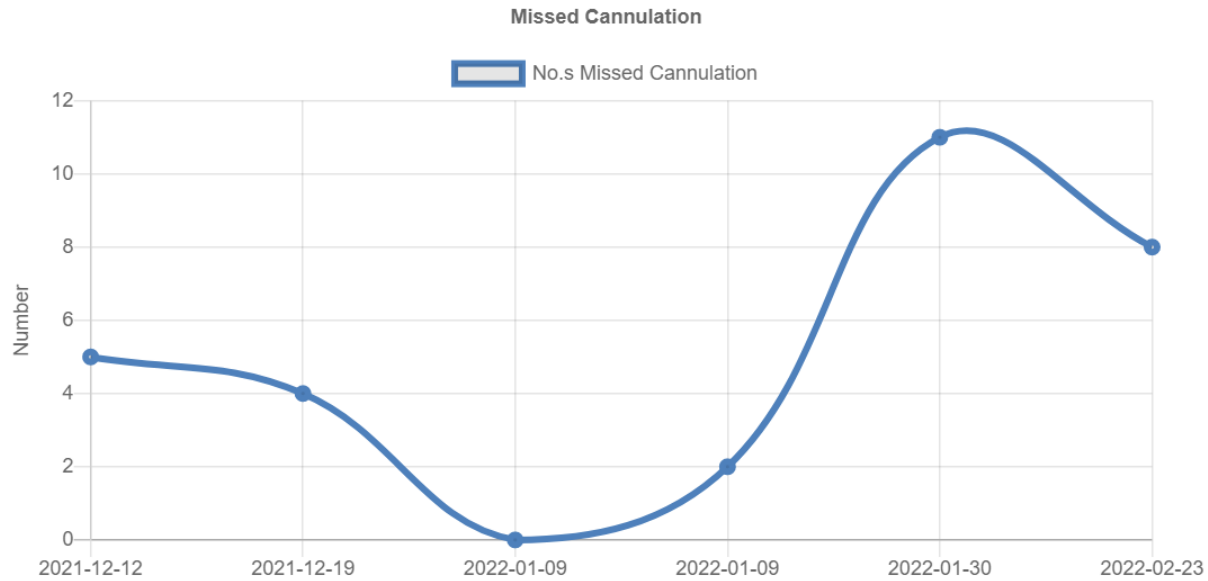
- Lost momentum in some of the units @ Imperial
- Reduced support for those units about to start

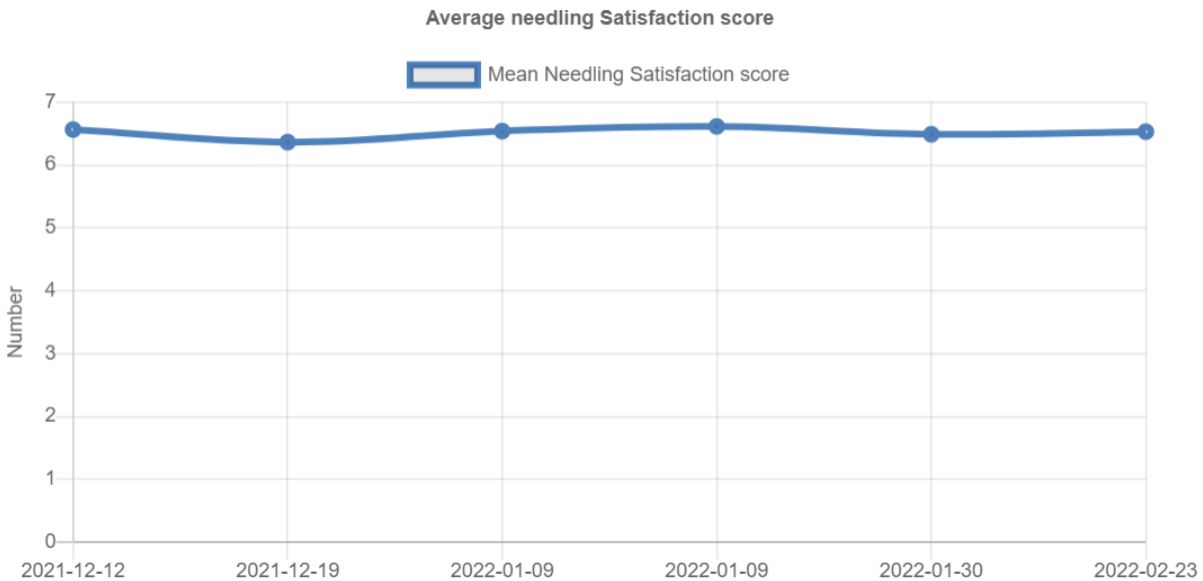
Successes @ Imperial

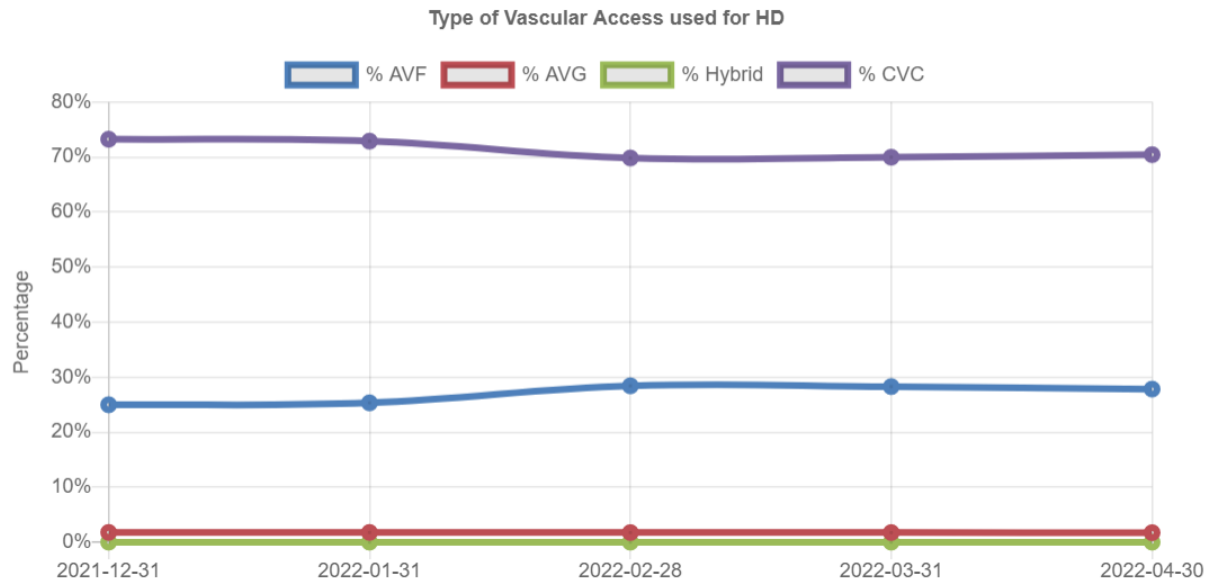
- 8 units have produced 6 sets of baseline data – some have produced more but for thesake if the platform I have only entered the six complete sets – the other data will be interrogated locally.
- We are now ready to move to the first intervention - on-line training. Initially 30 of our nurses will be enrolled with more to follow. Some constraints around the time taken to enrol everyone.
- We will introduce button-hole needling in one of our units.

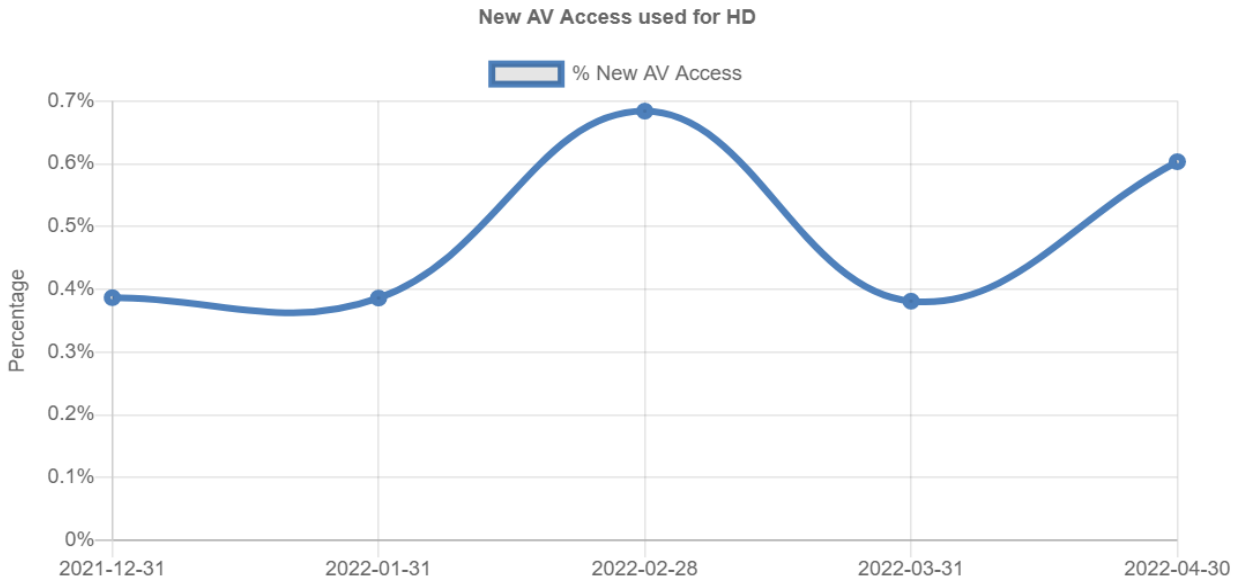
Imperial Change

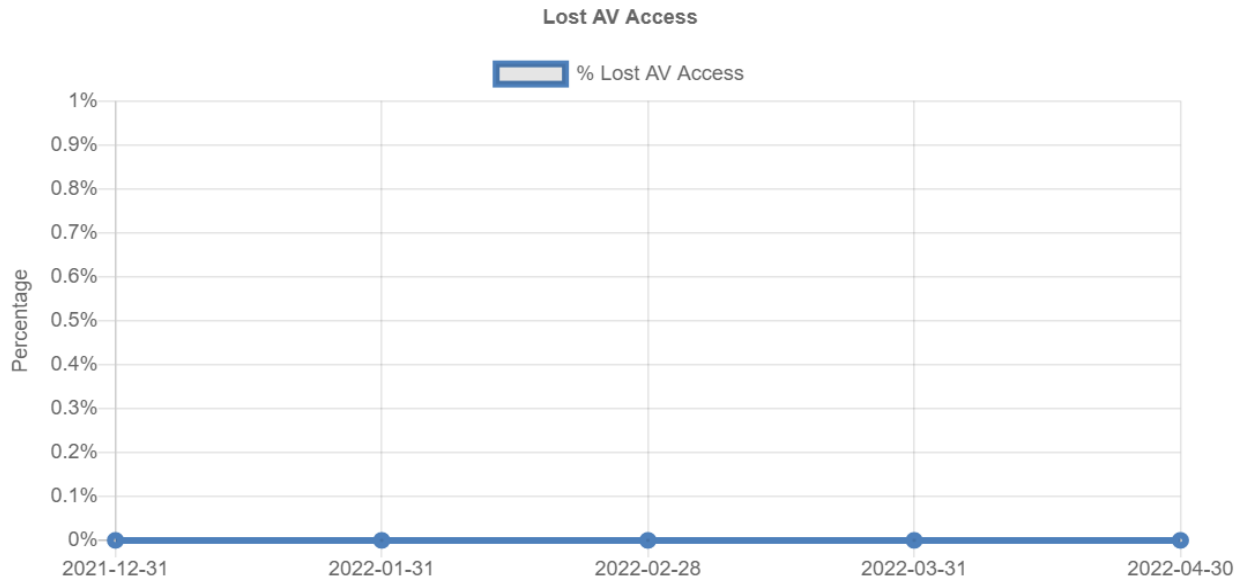


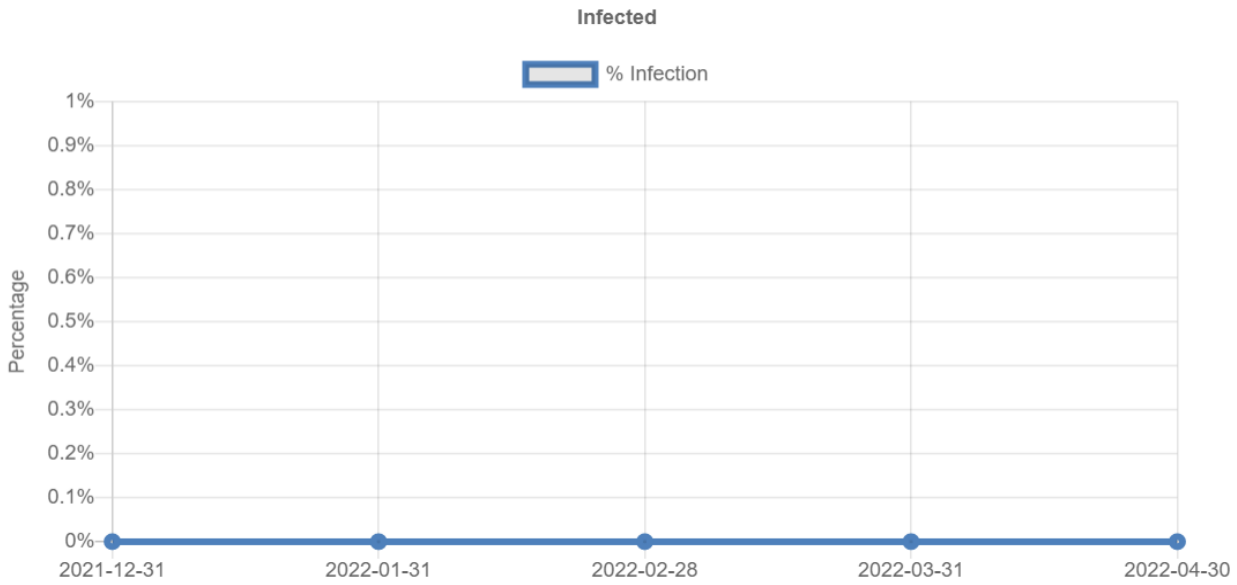


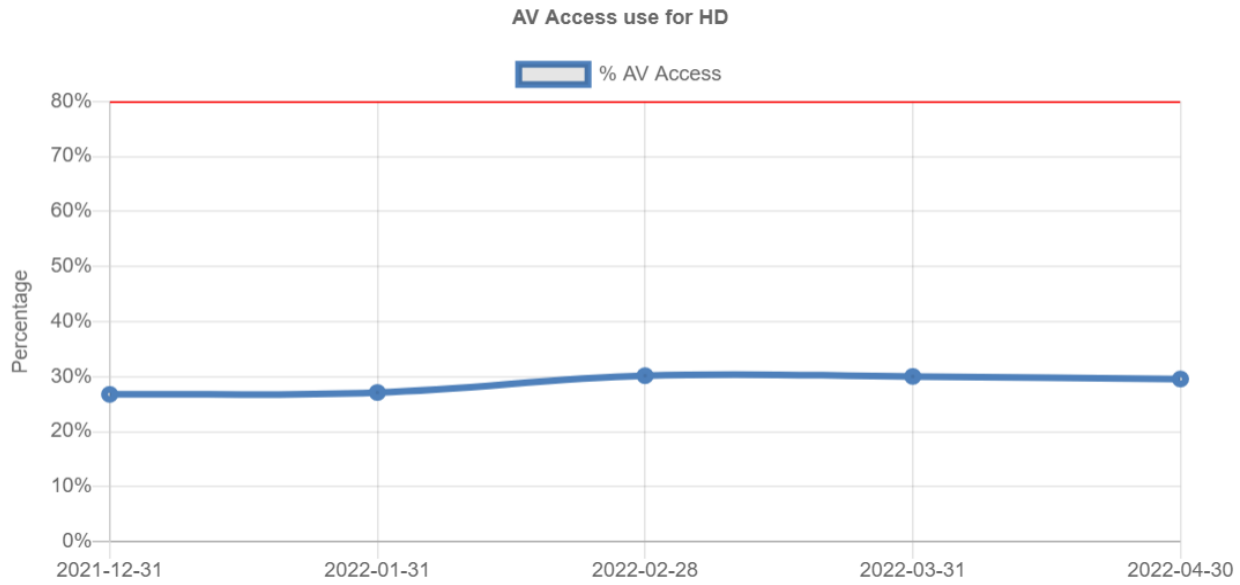





New AV Access used for HD
% New AV Access
Percentage
0.7%
0.6%
0.5%
0.4%
0.3%
0.2%
0.1%
0%
2021-12-31
2022-01-31
2022-02-28
2022-03-31
2022-04-30


Lost AV Access
% Lost AV Access
Percentage
1%
0.9%
0.8%
0.7%
0.6%
0.5%
0.4%
0.3%
0.2%
0.1%
0%
2021-12-31
2022-01-31
2022-02-28
2022-03-31
2022-04-30


Infected
% Infection
Percentage
1%
0.9%
0.8%
0.7%
0.6%
0.5%
0.4%
0.3%
0.2%
0.1%
0%
2021-12-31
2022-01-31
2022-02-28
2022-03-31
2022-04-30


AV Access use for HD
% AV Access
Percentage
80%
70%
60%
50%
40%
30%
20%
10%
0%
2021-12-31
2022-01-31
2022-02-28
2022-03-31
2022-04-30

What the data tells us so far

- Prevalence of area needling – 50%
- Low missed cannulation rate – not necessarily a good thing
- High patient satisfaction score - subject to bias
- High CVC use – 70%

What's missing:

- Conversion from CVC to AVF in prevalent patients
- Infection rates

What’s next?

Commence on-line learning in all units that have taken part, anticipating this will take longer than the suggested two months

Identify any learning needs not meet by the on-line package ie: using ultrasound

Try and bring the Covid HD Unit back on board

Move to monthly data collection to free up time for on-line learning

Enter missing data onto the platform

Provide individual units with their own results via excel

Along side the on-line education introduce as a pilot in one unit – button-hole needling, mainly for those patients who have short AVFs where the only alternative is area needling.

Continue with local access clinics run frequently.