



Clinical Safety & Effectiveness Cohort # 26

Team # 2

*Improving Access for the ESRD dialysis
Patient to Vascular Services*



The Team

- Division

- Team Member Christopher Mitromaras, MD, FACS, RPVI
- Team Member Maria DeHoyos AGNP-C, DNP
- Team Member Qi Yan, MD
- Team Member Arturo Alvarado, MBA-HM, BSN, RN
- Co-Facilitator Norma Garza, MBA, RDMS, RVS
- Co-Facilitator Sherry Martin MEd, MT(ASCP)SC

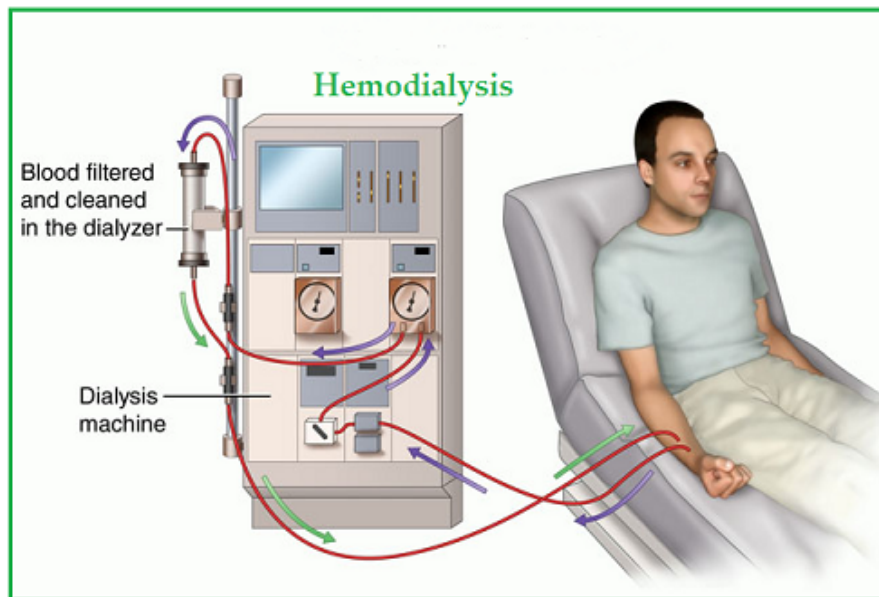
- Sponsor

Mark G. Davies, MD, PhD, MBA – Vascular Surgery Medical Director



Background Dialysis Patients

Mon-Wed-Fri



Tues-Thurs-Sat

- End stage renal disease (ESRD) patients with potential compromise of dialysis access due to delay of prompt vascular intervention.
- Delayed patient access to Vascular Surgery Clinic providers for intervention
- Establish better communication methods between dialysis Centers and vascular clinicians.

Prevalence

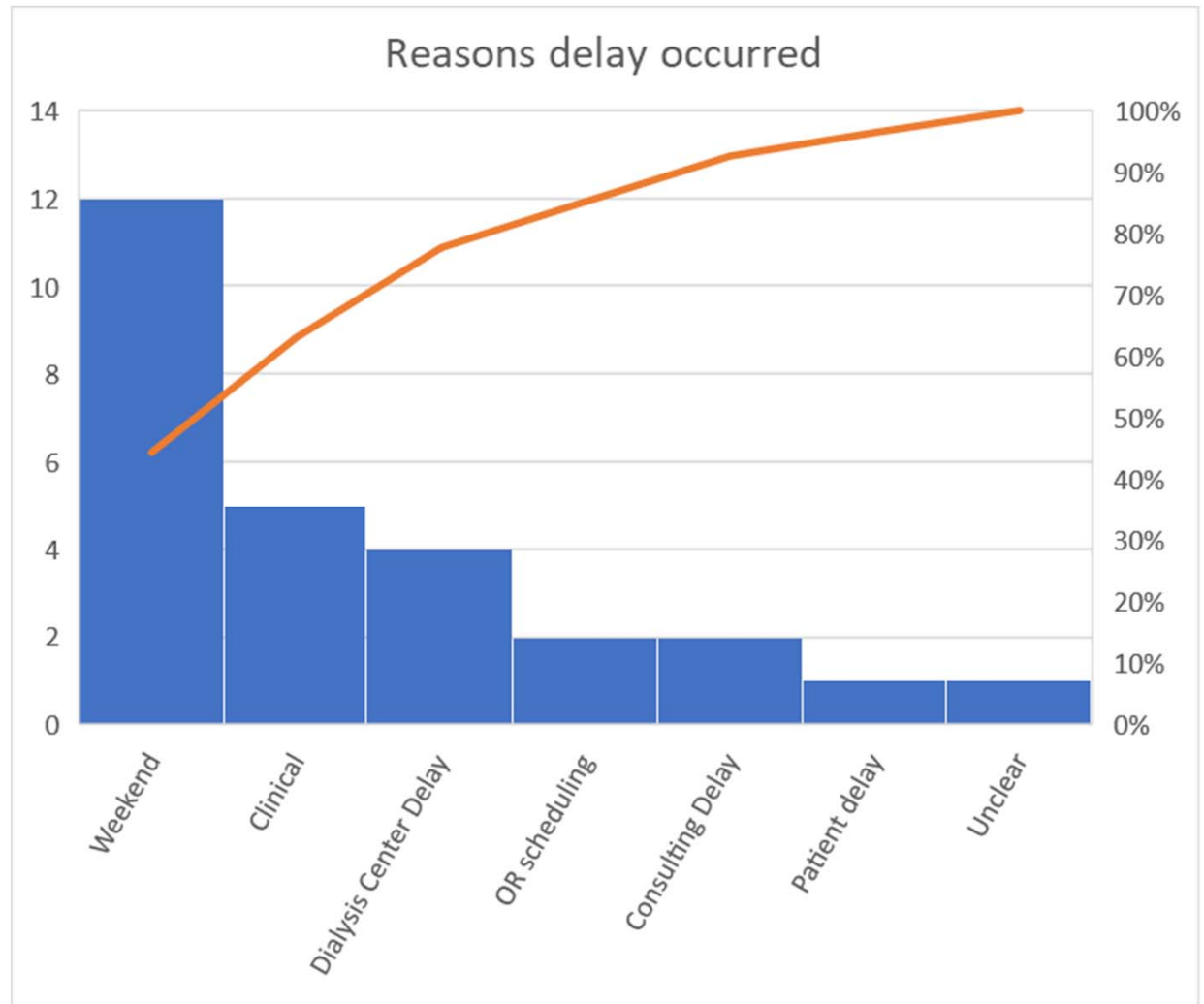
- Approximately 430,000 patients in the United States are dependent on hemodialysis
- Arteriovenous fistula thrombosis occurs approximately 0.1-0.5 times per year and arteriovenous graft thrombosis occurs 0.5-2.0 times per year
- Access thrombosis accounts for 65-85% of access loss

Interventions	181
	2019
Mon	29
Tue	47
Wed	20
Thu	42
Fri	18
Sat	9
Sun	16



Background Data

Delay occurred in 37% of cases.



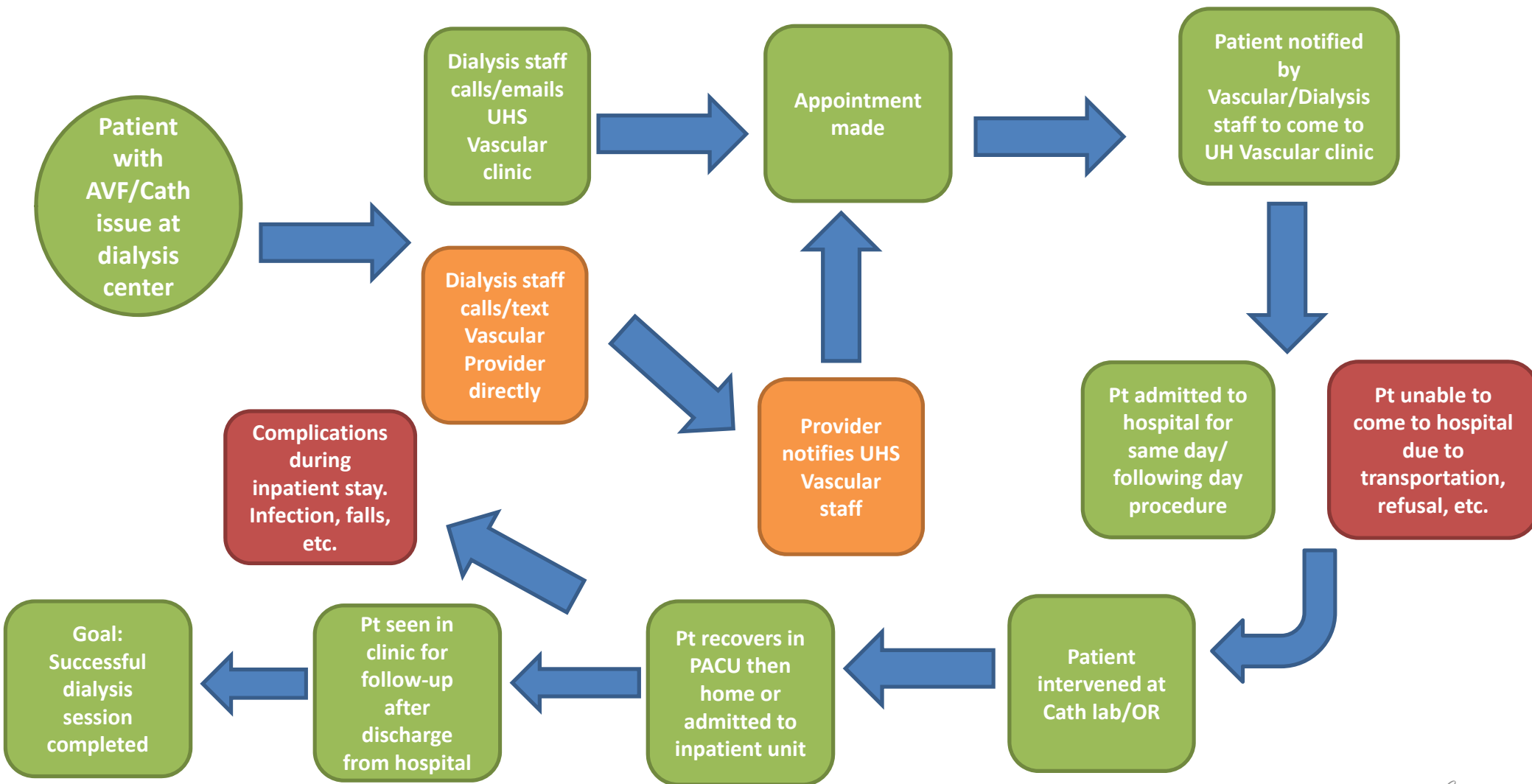
What We Are Trying to Accomplish?

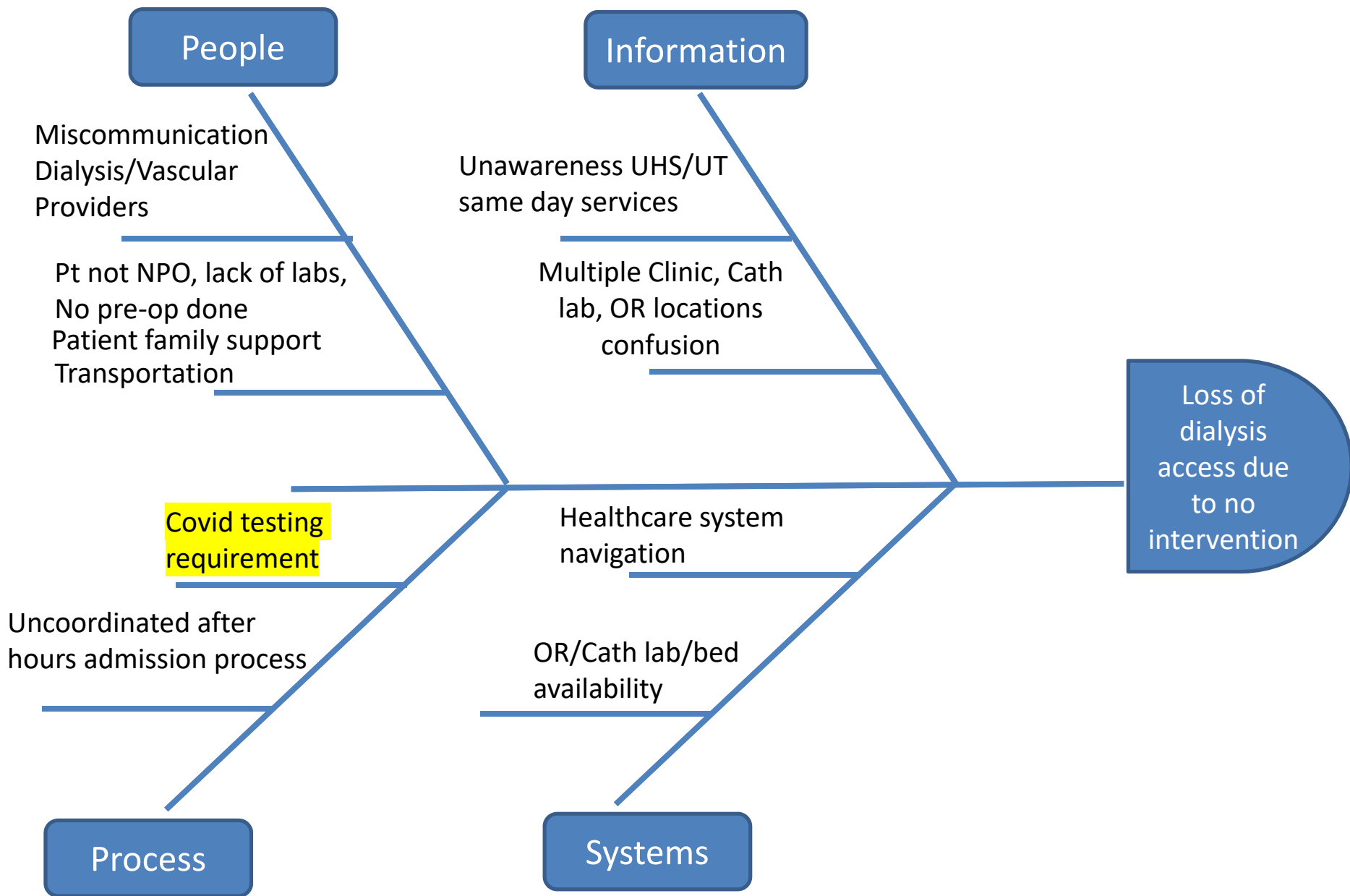
OUR AIM STATEMENT

To increase the proportion of ESRD patients with a non-functional hemodialysis access that receiving vascular intervention without delay to 80% by March 31, 2021.

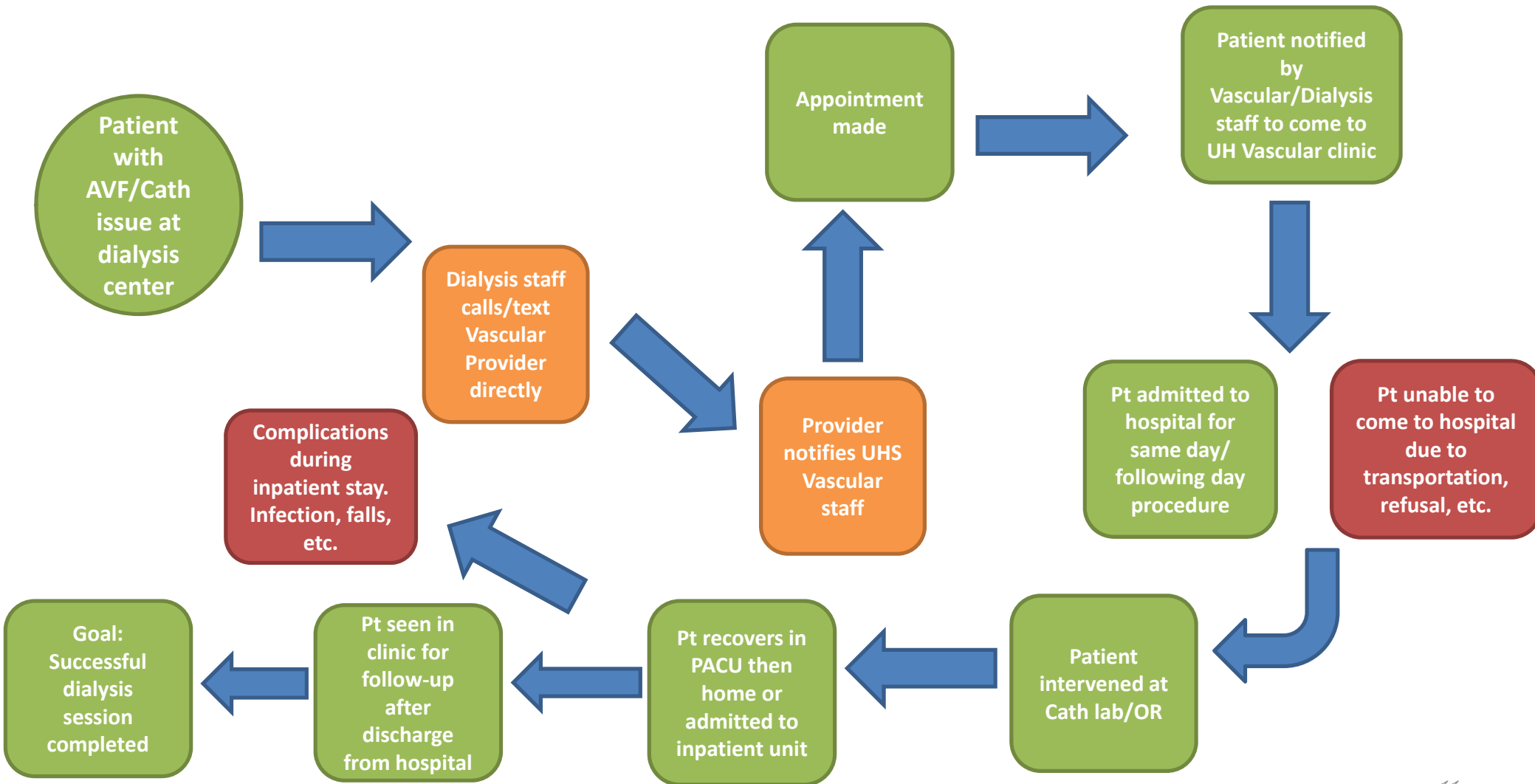
Delay is defined by not undergoing intervention to re-establish functional access by the next day of the normal dialysis schedule.

Current process- MAP





Improved process- MAP



How Will We Know That a Change is an Improvement?

- Types of measures :

Review of past data using (epic reporting)

- How we measured:

Monthly review of percentage of patients seen within 24 hrs.

Monthly meeting with dialysis and vascular stakeholders.

- Specific targets for change:

Greater than 80% patients seen within 24 hrs. by Vascular provider by 3/31/21

Stakeholder Engagement Tool

Stakeholder group Who are they?	Degree of Influence How much influence do they have? H or L	Degree of impact How much will they be impacted by /care about the project? H or L	Needs , issues or concerns Why do you need them? What will you do to support them? What do you want them to do?	Value proposition What is in it for them?	Approach/strategy for involvement What will you do to keep them engaged? How will you manage resistance?
Dialysis Patients	L	H	Reason for project to improve their access . Keep them engaged to improve their dialysis by keeping their AVF functional	Quality of Life	Provide access for this critical life issue. RELATIONSHIP CLOSELY - Educate the patient on proper hand hygiene. Ask the patient to watch for compliance
Dialysis Centers	H	H	Need them to understand the positive and protective intent of others if they are questioned Need them to practice proper hand hygiene, teach patients / visitors	Smooth Dialysis for patients Less delays of dialysis	Keep them informed of the process and ask for feedback to improve Anticipate no resistance since their tasks will improve with improved dialysis for the patients
Vascular Center UHS	L	H	Access to clinic visits for patients with occlusion of AVF	Better patient experience , care of patients	Staff at the Center are engaged with dialysis patients Building relationships with each one.
Dr. Davies Med Dir	H	L	Champion as the Medical Director and Chief of Vascular	Success in access for this type of patient	Communication Weekly on the progress and asking for feedback
Vascular Testing	L	L	Vascular Testing preformed by Vascular Technologists	Quality of fistulas imaging	Keep them informed of the process and any interventions

Stakeholder Engagement Tool

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Surgeons, and	H	L	Surgeons to preform the operation.	Patients and revenue	Organization to be able to easily perform the cases
anesthesiologist,	H	L	Anesthesiologist to provide required anesthesia.	Revenue	The patients can be done under block or local
facility	H	L	Operating room or cardiac catheterization laboratory and necessary equipments.	Revenue	Use of the facility when the time is open

Data Collection Plan

Type of Measure	Measure	Data Elements	Data Category	Data Source	Data Frequency	Data Steward
Outcome Measure						
	% of patients w/o delay	# of patients w/o delay and total patients meet criteria	Manual	EMR	Every month	Qi
	# of access related surgery	# of access related surgery daily	Automated	Galaxy	Every month	Norma

Intervention

Your Turn <ul style="list-style-type: none"> • 4-6 key drivers • 2-4 interventions to achieve each • Include measures where appropriate • Name of person responsible and date 	Goal	Primary Drivers	Interventions	Measure	Responsible
	Write your project goal here.	List the main drivers identified in your diagnostic journey that influenced your goal. Use a verb to describe the driver.	List the actions, processes, or interventions that, when performed correctly, will lead to a positive effect on the associated driver.	Where appropriate, list a measure.	Who is responsible for this intervention and by when?
	Obtain Imaging resource for Urgent Dialysis intervention	Important resource to perform the intervention for Dialysis patient	Available imaging	within 24hrs	Arturo
	Same Day COVID testing for Urgent cases	Turnaround time currently is 8-12 hrs and inconvenient for patients in wheelchairs or stretchers to go to pavilion	Training for RN and APNP to obtain	Testing results	Arturo
			Testing done at UHS Lab	Within 4-6 hrs	Edward
	After hours and weekend coverage for Urgent Dialysis issues	Currently there is no process for taking care of cases timely on the weekends	Solicit the assistance of Adm. OR	Done with 24hrs	Maria
			Develop a Dialysis code team		
	Improved communication from dialysis center to the vascular provider	Dialysis center staff may not know the best way of reaching out to vascular team or that the vascular team provides expedited service for nonfunctional fistulas	Communication with dialysis center		Maria

Implementing the Change

Do

- Personal communication by Service to all dialysis centers in the vicinity. Access to phone numbers
- Group agreement to expedite interventions
- Stake holder meeting with OR staff
- Bracelet for patients with contact information and to save the veins for Dialysis access



SATURDAY CLOTTED FISTULA INSTRUCTIONS

Gather all the patient information for report: Name, MRN, Last time patient had HD, how much of the HD treatment did the patient complete, location AVF, location of Permcath. – Have this information ready before calling provider.



Contact a Vascular Team Member by telephone, text, email.
M. DeHoyos (210)-957-9988
R. Whittaker (210)-262-4825
C. Sanchez (210)-836-6435



*Place order for COVID 19 Screening Testing into Epic for the patient.
Patient test preformed in house or at The Pavilion.
Results will generate 5-6 hours and only good for 72 hours.
UHS requires patient to have screening prior any intervention
The Pavilion Phone #: 210-358-8910
Hours of operation: Sunday: 0700-1200
Instruct the patient.



*Place an order in Epic for a Ultrasound (HEM) of the AVF appropriate extremity



Patient is to follow Strict Renal Diet. Patient May Not have anything to eat or drink Sunday after Midnight.
– Nada/ Nothing- not even a taco.



On Monday the patient is to present to UHS Vascular Clinic (210)-743-7303 at 0800. Patient is to take Elevator “B” Rio Tower to the 3rd floor.



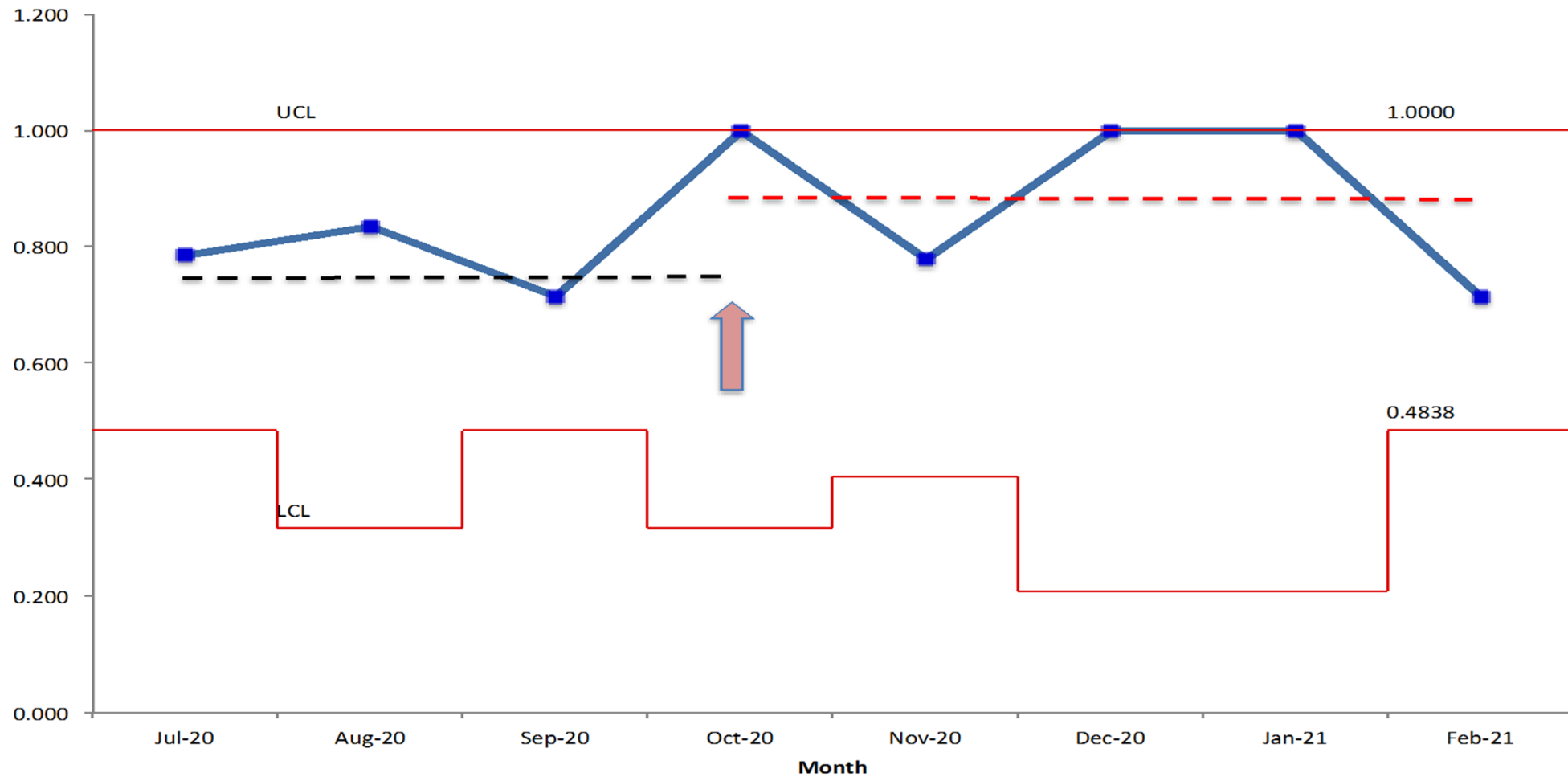
Thank You / Gracias
Maria DeHoyos

Results/Impact

Check

	2019	2020	
Total	181	200	110%
Mon	29	24	83%
Tue	47	50	106%
Wed	20	32	160%
Thu	42	33	79%
Fri	18	32	178%
Sat	9	19	211% ★
Sun	16	10	63% ★

Measure



Return on Investment

Early Vascular intervention produces returns in the form of reducing healthcare costs for dialysis patients, and increases revenues by keeping providers available for clinic operations.

Reduced Costs

ROI = Change in Operations Cost / Costs of Project savings/ \$500)

Savings	Fistula intervention average costs
Potential for \$25,338.64 in savings per patient receiving early vascular intervention	2 to 3 day admission \$21,010.60
	AV Fistula creation procedure \$3,916.00
	In-house Dialysis patient treatment average at about \$412.04/UOS
	Activation of on-call team premium hourly wages \$\$\$
	Communications costs to coordinate urgent procedure \$\$\$
	Patient transportation costs \$\$\$

Therefore, the total dollars saved for **200 patients/year is 5,067,600**

Return on Investment

Increased Revenues

ROI = Change in Revenue / Costs of Process Development and Implementation

Provider available in clinic will result in increased revenue from clinic visits/diagnostic imaging orders

Change in revenue	Cost of process development
Increased facility (\$450) and professional (\$\$\$) fees driven by sustaining daily clinic operations (20 patients daily census average)	\$500 project cost
Increased number of vascular imaging orders \$369.00 - \$3013.00 per clinical encounter	

For every 10 Fistulas saved, equals \$253,000.00 in savings

- Our reduced cost and increase in revenue equals **=\$ 39,000 per clinical day**

Sustainment and Expansion of Our Implementation

Action plan

Continue to improve Dialysis Occlusion access in the system.

shorten the access time to the OR or cath lab with the availability of new Cath Rooms @ UHS

Provide contact numbers for the weekend cases

Vascular Surgeons on call with second surgeon available for back up

What's Next

We are planning to conduct patient and stakeholder satisfaction surveys and ensure this is communicated to administration so more resources can be allocated to the clinic.

Lessons Learned

- Early and regular check once changes have been implemented
- Early engagement of stakeholders
- Continued communication is needed

Past CSE Projects Sponsored by Dr. Davies

- Reduce LOS by multidisciplinary approach to Limb salvage
 - ROI : Priceless saving a limb, LOS \$250,000 annually
- Decrease the amount of inappropriately ordered CTAs in the MICU / 5th Floor Medical and the ED by mid-December 2016.
 - ROI \$558,229 annually. Appropriate Ordering of CTA in the Diagnostic Workup of Pulmonary Embolism Improves the Quality of Care by Reducing Harmful Radiation Exposure, and Treatment Costs
- Improving the Transition of Care for the DVT Patient
 - ROI: Avoid Death with PE
- Improve Management of Foot Ulcers (in ED and on the Clinical Floors – Vascular Surgery

We like to thank Dr. Davies, Dr. Martin, and Ms. Garza, and the clinical staffs for their help with the project!

Thank you!

