

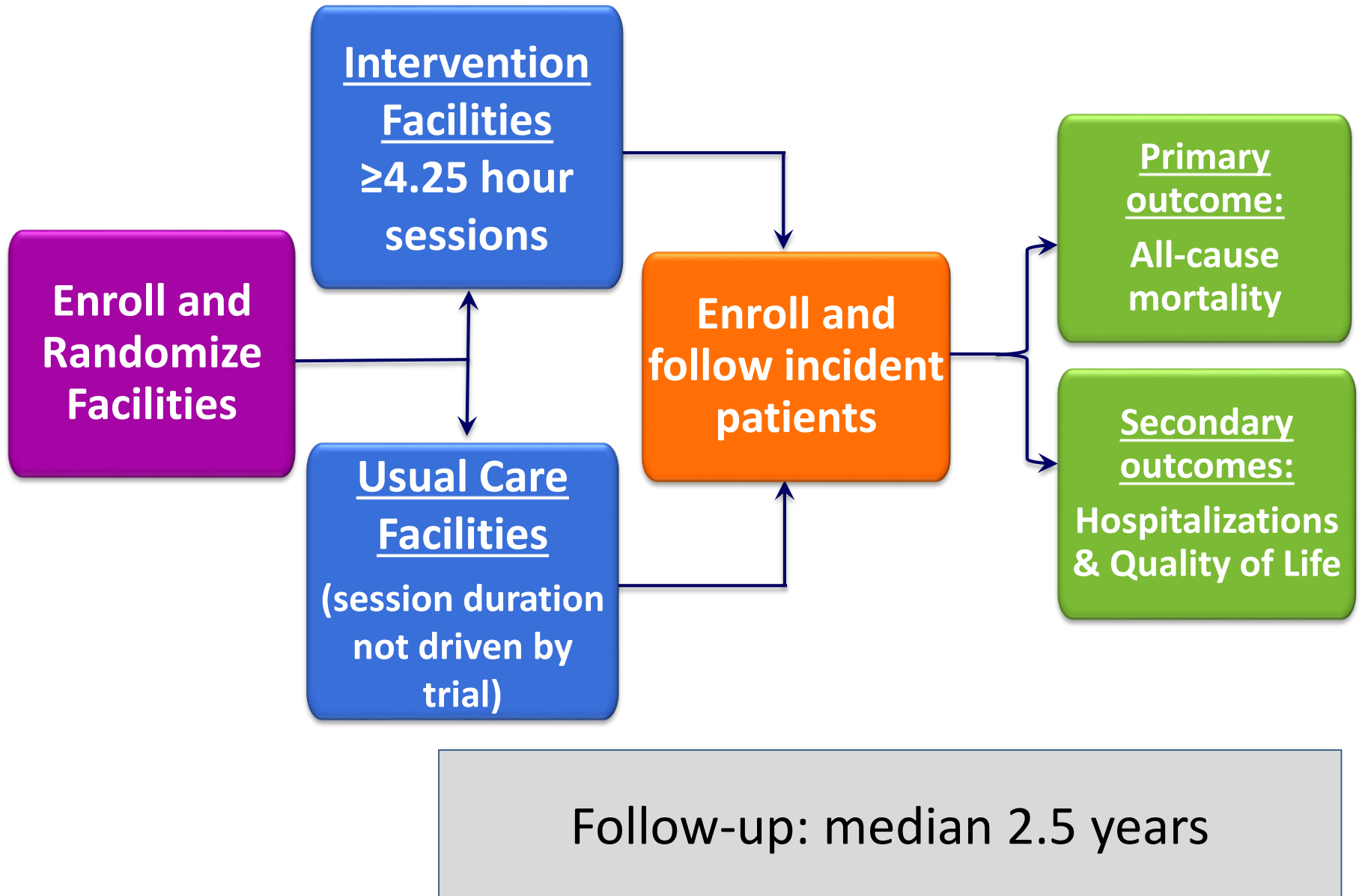
Embedding Research into Clinical Care Delivery

Lessons from the TiME Trial

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Steering Committee Meeting
May 9, 2016

TiME

TiME Trial Design

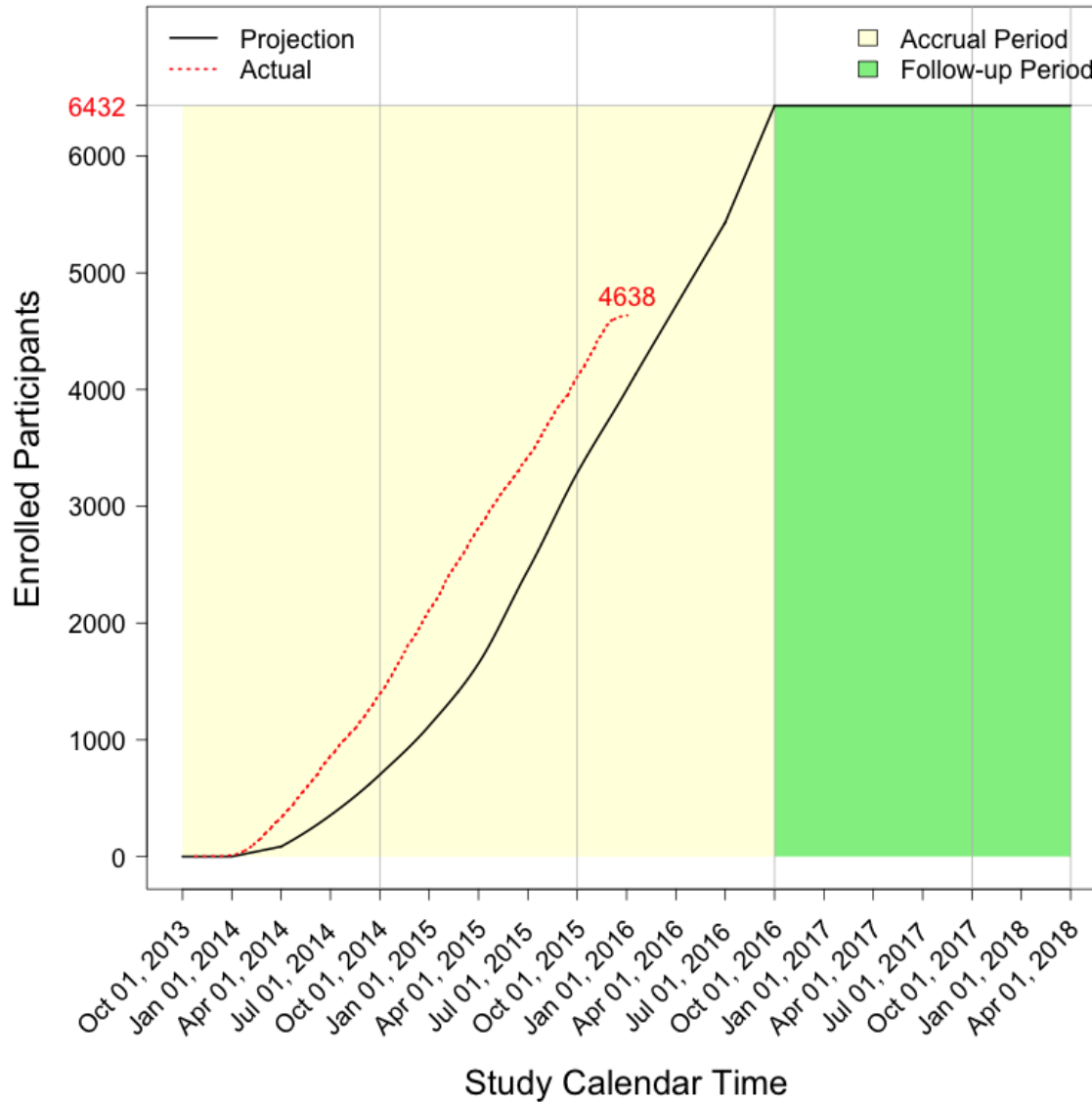


Barrier	Level of Difficulty				
	1	2	3	4	5
Enrollment and engagement of patients/subjects					
Engagement of clinicians and Health Systems					
Data collection and merging datasets					
Regulatory issues (IRBs and consent)					
Stability of control intervention					
Implementing/Delivering Intervention Across Healthcare Organizations					

Enrollment/Engagement of Subjects

- Lesson: Enrollment and engagement are not the same
 - Participant enrollment has been relatively easy
 - Opt-out approach
 - Participation does not require accepting intervention
 - Participant engagement is difficult to assess and to influence
 - No direct interaction between researchers and participants

Patient Enrollment



Barrier	Level of Difficulty				
	1	2	3	4	5
Enrollment of patients	X				
Engagement of patients				X	
Engagement of clinicians and Health Systems					
Data collection and merging datasets					
Regulatory issues (IRBs and consent)					
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Engagement of Clinicians and Health Systems

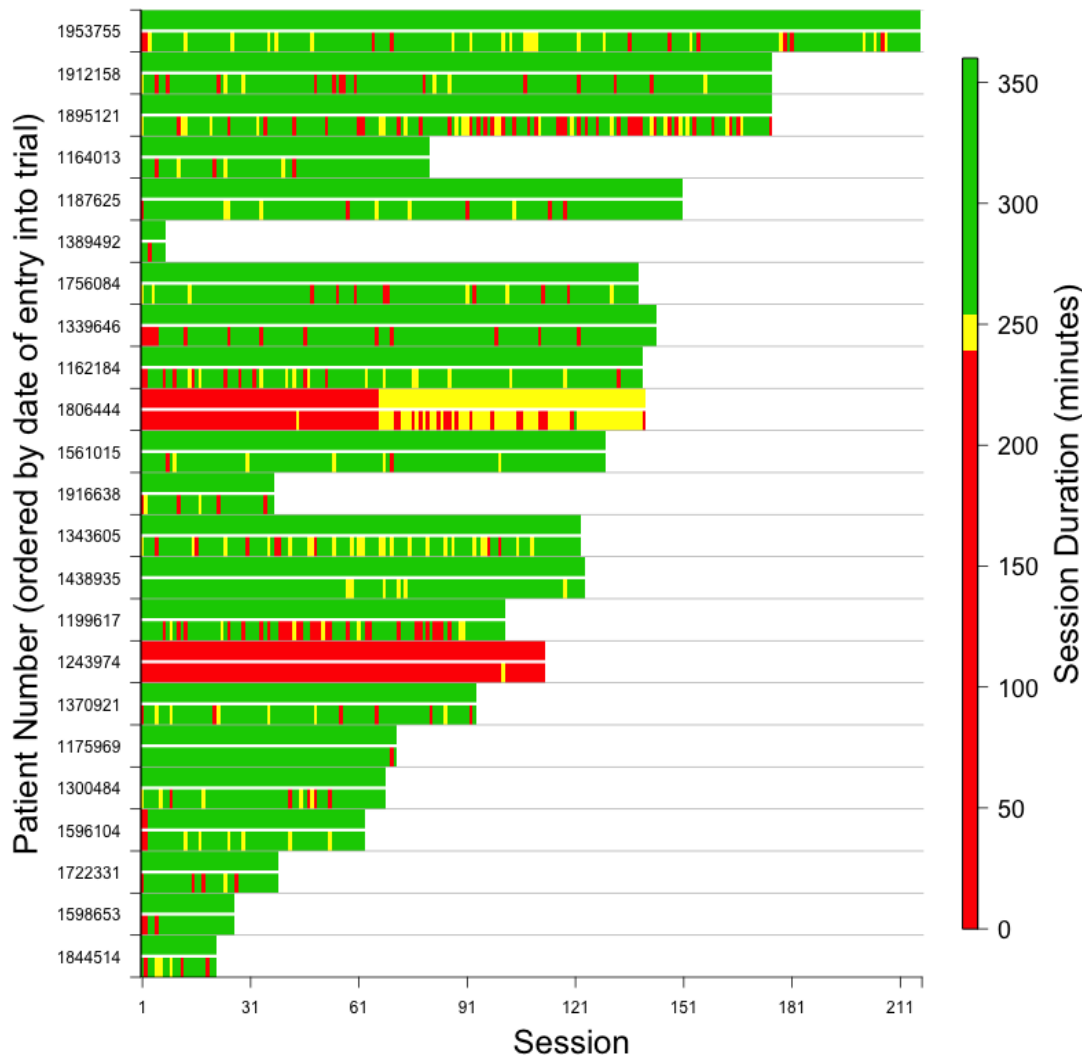
- Lesson – willingness to participate is not the same as full buy-in
 - Active, ongoing interaction with clinicians and health system staff is critical
 - Systems for interacting with clinicians is inefficient
 - Staff turnover, changing priorities need to be anticipated

Barrier	Level of Difficulty				
	1	2	3	4	5
Enrollment of patients	X				
Engagement of patients				X	
Engagement of clinicians and Health Systems				X	
Data collection and merging dataset					
Regulatory issues (IRBs and consent)					
Stability of control intervention					
Implementing/Delivering Intervention Across Healthcare Organizations					

Data Collection and Merging Datasets

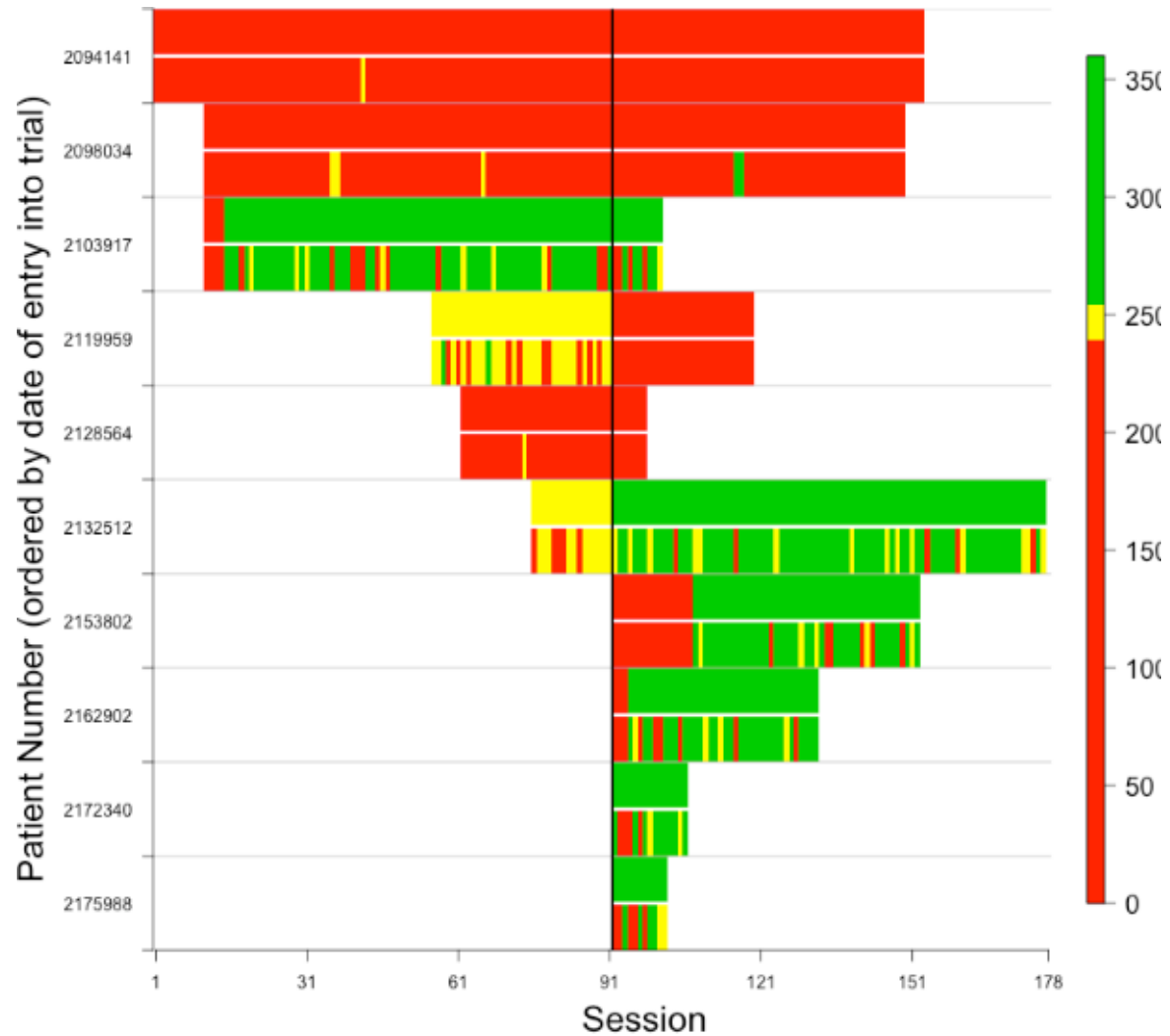
- Collaborative approach between IT teams at data coordinating center and health systems has served trial well
- Ongoing data review has been useful for identifying strategies to improve implementation of the intervention and educate practitioners

Monitoring Facility Performance



- 18 patients (sequence based on trial entry date)
- Green ≥ 4.25 hour
- Red < 4 hours
- 1st row in each pair is ordered session duration
- 2nd row for each pairs is delivered session duration
- Individual sessions represented along X axis

Before and After Joining Facility QI Meetings



Barrier	Level of Difficulty				
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Enrollment of patients	X				
Engagement of patients				X	
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Regulatory issues (IRBs and consent)					
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Regulatory / IRB Issues

- Uncertainties about acceptability of opt-out approach delayed not only trial initiation but provider willingness to approach facilities for enrollment
 - Necessitated change to implementation plan such that facility enrollment and patient enrollment were concurrent rather than sequential
 - Implications for number of clusters and variability in cluster size

Revised Power Calculations

Row	Enrollment Time/Total Study Time (mos)	# Clusters	SD for Cluster Size (1° Analysis Population)	ICC for Mortality	Annual Loss to F/U	Annual Mortality Rate	Sample Size for 1° Analysis Population	Total Sample Size	Power to detect HR 0.85
1	12/36	402	0	0.03	5%	18%	4020	6432	80%
2	36/54	256	10	0.015	10%	18%	4020	6432	78%
3	36/54	256	16	0.015	10%	18%	4020	6432	76%
4	36/54	256	10	0.012	10%	18%	4020	6432	80%
5	36/54	256	16	0.012	10%	18%	4020	6432	78%
6	36/54	256	10	0.015	10%	18%	4250	6800	80%
7	36/54	256	16	0.015	10%	18%	4250	6800	77%
8	36/54	256	10	0.012	10%	18%	4250	6800	82%
9	36/54	256	16	0.012	10%	18%	4250	6800	80%

1. Change in enrollment period and study duration
2. Smaller cluster number and larger cluster size SD
3. Greater loss to f/u
4. Smaller ICC

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Engagement of clinicians and Health Systems				X	
Data collection and merging dataset	X				
Regulatory issues (IRBs and consent)			X		
Stability of control intervention					
Implementing/Delivering Intervention Across Healthcare Organizations					

Stability of Control Intervention

- Lots of national attention to dialysis session duration
 - 4-hour treatments *almost* became a CMS clinical performance measure
 - New clinical practice guidelines include a maximum ultrafiltration rate (usually necessitates a longer session duration)
 - Session duration in Usual Care facilities has increased since planning stage
- We could not have dictated Usual Care session duration and still viewed trial as minimal risk

Barrier	Level of Difficulty				
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Data collection and merging dataset	X				
Regulatory issues (IRBs and consent)		X			
Stability of control intervention				X	
Implementing/Delivering Intervention Across Healthcare Organizations					

Implementing/Delivering Intervention Across Health Systems

- This is our biggest challenge
- We are studying an intervention that is difficult to implement

One Health Provider Organization = Thousands of Health Care Providers

- Buy-in and support from leadership is necessary but not sufficient
- Enrollment sites are made up of individuals with:
 - Different opinions
 - Different concerns
 - Different personalities
 - Different roles
- At facility level we need buy-in from:
 - Administrator
 - Medical Director
 - Every nephrologist
 - And..... the patients!

Timely Quote

“Next time we’re going to do something simpler.”

--Lynn DeBar

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Implementing/Delivering Intervention Across Healthcare Organizations					X

Sustainability

- If the intervention works there will be external pressures to adopt it broadly
 - clinical practice guidelines
 - clinical performance measures - pay for performance
 - shared risk models (ESCOs)

Lessons Learned

1. A highly developed and centralized health care delivery infrastructure does not obviate the need for activity at the local level
2. What we view as a small change to work flow or IT system may be viewed by health system personnel as prohibitively burdensome.
3. Questions that can be answered quickly reduce threat of competing initiatives or policies, secular changes, clinician burn-out
4. Interventions that do not require buy-in from “all parties” are easier to implement

The TiME Trial is an Experiment

- Does longer session duration provide important benefits to patients?
- How can we conduct pragmatic clinical trials in the dialysis setting: what works and what doesn't work?