

Scheduling: Solving a Core Organizational Problem

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Dream

- Fix Scheduling
- Implement Clinic Management
- Drive to aggressive Access Goals
 - Offer patients an appointment for any problem, urgent or non-urgent “today” in Primary Care
 - Offer patients an appointment within 2 weeks in Specialty Care

Current State: VHA Clinic Facts

- ~125,000 providers listed in VistA, we think about 85K are active providers
- 143,718 “clinics” in VistA Scheduling
- VA Makes 85M appointments/year and completes 55M per year.
- Most appointments (~ 60%) are Specialty
- About 55,000 employees schedule, approximately 25,000 are schedulers

3 serious scheduling flaws

- Unable to measure appointment supply
- Unable to measure capacity wait times
- Unable to measure/manage clinic resources

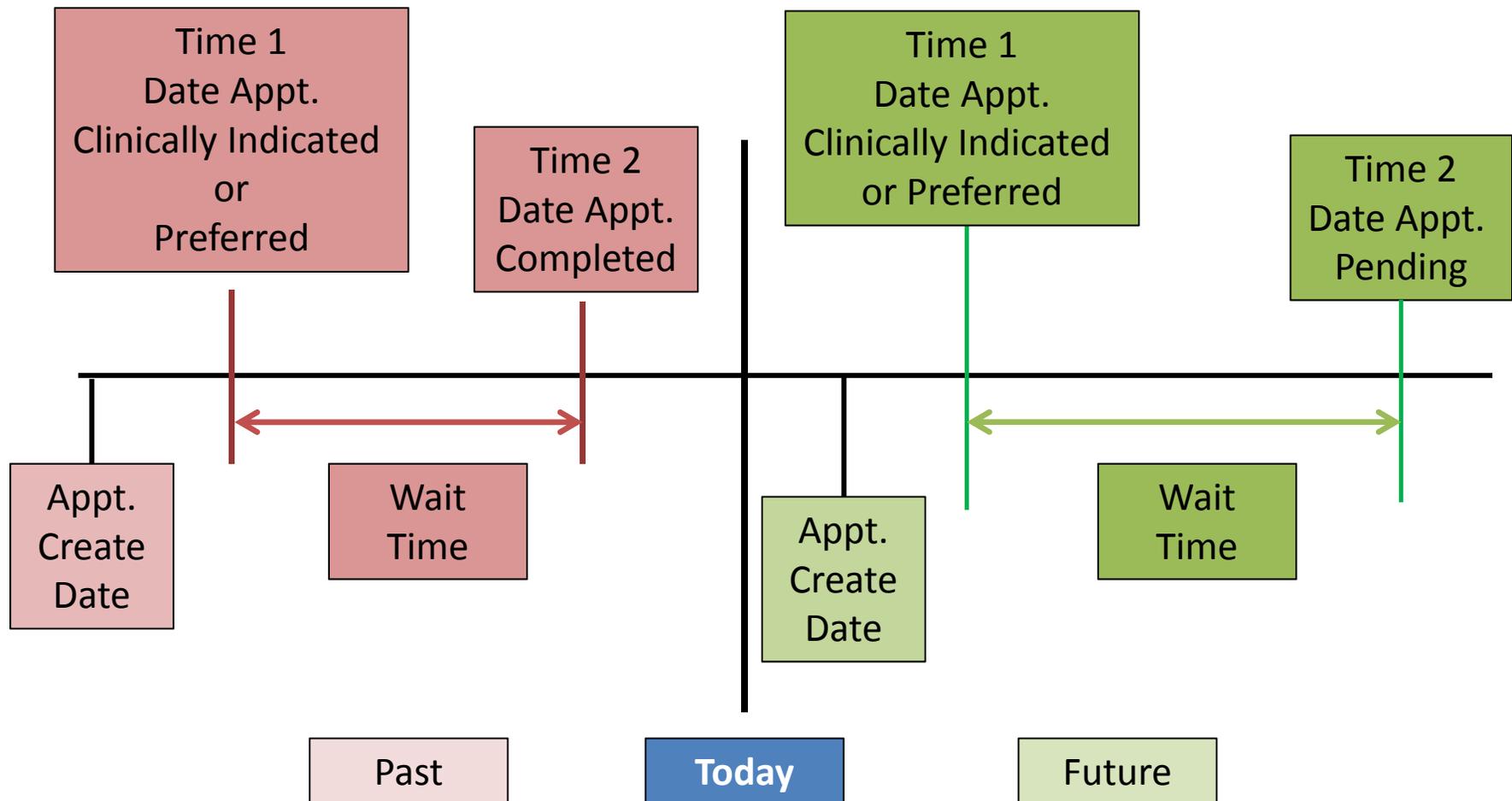
Other scheduling problems

- Multiple keystrokes; error prone; business rules have to be taught and followed
- Multiple “lists” don’t communicate with each other
- Multiple “clinics” make it difficult to coordinate time

Legacy VistA Scheduling Clinics or Grids

DivisionName	Sta6a	Medical Service	Noncount ClinicFlag	ProviderName	Default Provider Flag	PrimaryStopCode Name
VAMC PROVIDENCE RI	650	PSYCHIATRY	N	Provider #1 Psychiatry	Y	PTSD CLINICAL TEAM PTS IND
VAMC PROVIDENCE RI	650	PSYCHIATRY	N		Y	PCT-POST TRAUMATIC STRESS-GRP
VAMC PROVIDENCE RI	650	PSYCHIATRY	N		Y	PCT-POST TRAUMATIC STRESS-GRP
MIDDLETOWN (650GD)	650GD	PSYCHIATRY	N		Y	PTSD CLINICAL TEAM PTS IND
VAMC PROVIDENCE RI	650	PSYCHIATRY	N		Y	PTSD CLINICAL TEAM PTS IND
HYANNIS	650GB	PSYCHIATRY	N		Y	PTSD CLINICAL TEAM PTS IND
NEW BEDFORD	650GA	PSYCHIATRY	N		Y	PTSD CLINICAL TEAM PTS IND
NEW BEDFORD	650GA	PSYCHIATRY	N		Y	PCT-POST TRAUMATIC STRESS-GRP
VAMC PROVIDENCE RI	650	PSYCHIATRY	N		Y	PCT-POST TRAUMATIC STRESS-GRP
VAMC PROVIDENCE RI	650	PSYCHIATRY	N		Y	PCT-POST TRAUMATIC STRESS-GRP
VAMC PROVIDENCE RI	650	PSYCHIATRY	N	Y	MENTAL HEALTH CLINIC - IND	
VAMC BROCKTON DIVISION 7/1/99	523A5	SURGERY	N	Provider #2 Optometry	NULL	OPTOMETRY
VAMC BROCKTON DIVISION 7/1/99	523A5	SURGERY	N		Y	OPTOMETRY
VAMC BROCKTON DIVISION 7/1/99	523A5	SURGERY	N		Y	OPTOMETRY
VAMC BROCKTON DIVISION 7/1/99	523A5	SURGERY	N		NULL	OPTOMETRY
VAMC BROCKTON DIVISION 7/1/99	523A5	SURGERY	N		NULL	OPTOMETRY
VAMC BROCKTON DIVISION 7/1/99	523A5	SURGERY	N		Y	OPTOMETRY
VAMC BROCKTON DIVISION 7/1/99	523A5	SURGERY	N		Y	OPTOMETRY
VAMC BOSTON	523	SURGERY	N		NULL	TELEPHONE/OPTOMETRY
VAMC BROCKTON DIVISION 7/1/99	523A5	SURGERY	N		Y	OPTOMETRY
VAMC BOSTON	523	SURGERY	N		NULL	OPTOMETRY
VAMC BROCKTON DIVISION 7/1/99	523A5	SURGERY	N		Y	OPTOMETRY
VAMC BROCKTON DIVISION 7/1/99	523A5	SURGERY	N		NULL	OPTOMETRY
VAMC BROCKTON DIVISION 7/1/99	523A5	SURGERY	N		NULL	OPTOMETRY
VAMC BOSTON	523	SURGERY	N		NULL	OPTOMETRY
VAMC BOSTON	523	MEDICINE	N	Provider #3 Medicine	Y	INFECTIOUS DISEASE
VAMC BOSTON	523	MEDICINE	N		Y	TELEPHONE/MEDICINE
VAMC BOSTON	523	MEDICINE	N		Y	INFECTIOUS DISEASE
VAMC WEST ROXBURY DIVISION 7/1/99	523A4	MEDICINE	N		Y	INFECTIOUS DISEASE
VAMC BOSTON	523	MEDICINE	N		Y	INFECTIOUS DISEASE
VAMC BOSTON	523	MEDICINE	N		Y	HEPATOLOGY CLINIC

Time Stamp Method to measure Wait Times = T2-T1



Placeholder for VistA Scheduling Demo

Clinic vs. Resource

- 1 grid for each “appointment type” results in 3-7 grids for each provider
- Unable to measure Appointment Supply, utilization or wait time capacity measures
- One grid for each provider
- Manages all resources:
 - Provider Time
 - Rooms
 - Equipment
 - Support Staff

Resource/Capacity Method: Wait Times = Third Next Available

	Monday	Tuesday	Wednesday	Thursday	Friday	
Morning	8:00	AAAA	AAAA	AAAA	AAAA	
	8:20	BBBB	BBBB	BBBB		
	8:40	CCCC	CCCC	CCCC	CCCC	
	9:00	DDDD	DDDD	DDDD	DDDD	
	9:20	EEEE	EEEE	EEEE	EEEE	
	9:40		FFFF	FFFF	FFFF	
	10:00	GGGG	GGGG	GGGG	GGGG	GGGG
	10:20	HHHH	HHHH	HHHH	HHHH	HHHH
	10:40	IIII	IIII	IIII	IIII	IIII
	11:00	JJJJ	JJJJ	JJJJ	JJJJ	JJJJ
	11:00	KKKK	KKKK	KKKK	KKKK	KKKK
	11:20	LLLL	LLLL	LLLL	LLLL	LLLL
11:40	MMMM	MMMM	MMMM	MMMM	MMMM	
Afternoon	1:00	NNNN	NNNN	NNNN	NNNN	
	1:20	OOOO	OOOO	OOOO		
	1:40	PPPP	PPPP	PPPP	PPPP	
	2:00	QQQQ	QQQQ	QQQQ	QQQQ	QQQQ
	2:20	RRRR	RRRR	RRRR	RRRR	RRRR
	2:40	SSSS	SSSS	SSSS		
	3:00	TTTT	TTTT	TTTT	TTTT	TTTT
	3:20	UUUU	UUUU	UUUU	UUUU	UUUU
	3:40	VVVV	VVVV	VVVV	VVVV	VVVV
	4:00	WWWW	WWWW	WWWW	WWWW	WWWW

3 open slots

Four Scheduling Solutions

- Fix Legacy VistA bugs
 - Numerous errors had not been fixed for about a decade
- **Enhance legacy VistA**
 - **Improve roll-scroll interface with GUI**
- Develop Apps
 - User-friendly access to care
- **Acquire MASS**
 - **Changes paradigm of capabilities**
 - **Solves the 4 problems**
 - **Positions VA for the future**

Tasks System Reports Help

Name: Patient Type: DOB: Make Appointment Time Scale
New 30-Minute
Walk In
No Show View Mode
Check In Week
Check Out
Search: [] Clear Select Patient Actions Arrangement Pending Appointments Special Needs/Preferences

REQUEST TYPE WAIT TIME >=90 Days PT NAME MRTC SSN SCVisit TELEPHONE PRIORITY DESIRED/RECALL DATE ENTERED/RR NO DATE REQUESTOR REQUESTED BY

Resources Schedules Nearby

January - 2015

PACT TEAM

Day Week Month Timeline Fixed view-size

January 26, 2015

SMITH,BOB 26 Monday
PROVIDER,SELFSCHEDULE 26 Monday
DREW,NANCY 26 Monday

08:00
09:00
10:00

PATIENT, NINETEEN (VQH74LY2)
PATIENT, SIXTEEN (GXH74DRW)

PATIENT, NINETEEN (VQH74LY2)
PATIENT, SIXTEEN (GXH74DRW)

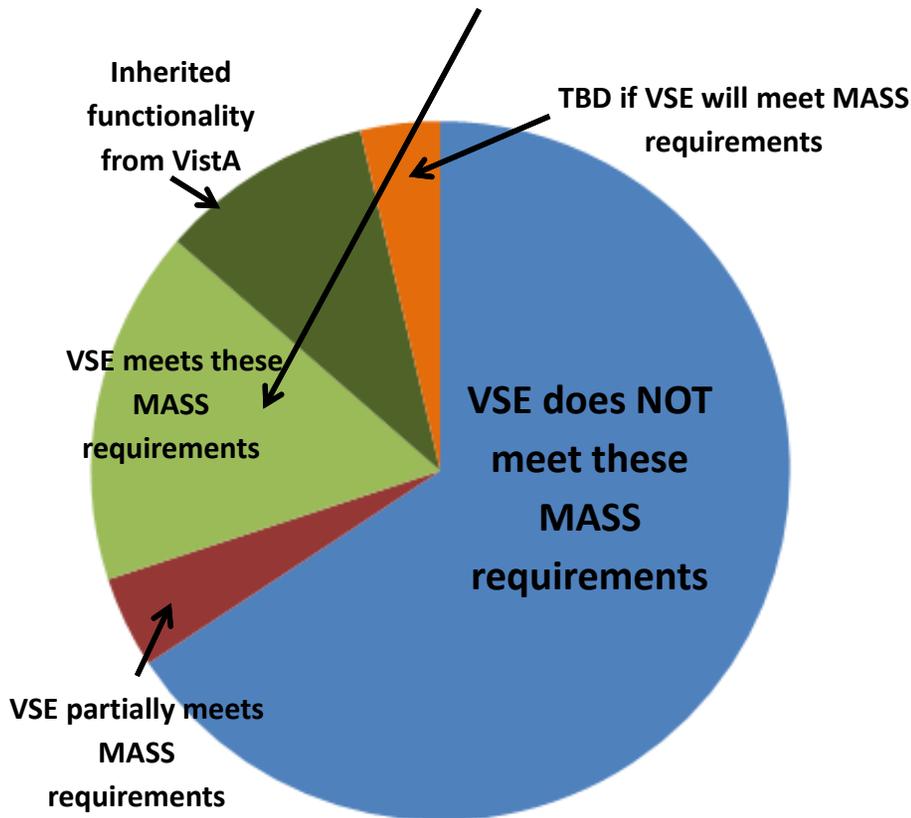
PATIENT, NINETEEN (VQH74LY2)
PATIENT, NORMAN (GXM74DRW)
PATIENT, SIXTEEN (GXH74DRW)

Scheduled Walk In No Show Check In Check Out

VSE Does Not Meet VA's Requirements

VSE = "Clinic" based; MASS = "Resource" based

Percent of MASS requirements met by VSE



- VSE is not resource based
 - Cannot manage provider "supply" or rooms/equipment/support staff
- Cannot schedule across enterprise
- Is not configurable to enforce policy, oversight, accountability
- Cannot be upgraded to meet mandates without significant investment/rebuild

MASS has State-of-the-art Capabilities

- **Best of Breed, Proven and mature COTS medical scheduling solution**, with a large active user base
- Proven VistA Integration and success with large scale implementations
- **More than 96% of all business requirements met out-of-the-box with built-in industry standard business rules**
- **Veteran-facing portal and mobile applications** enables self-scheduling, preferences and special needs
- Proven reduction in no shows and increase in productivity
- **Enterprise-Wide scheduling** enables Veterans to schedule anywhere and VA to load-balance across the nation
- Real-time point of service and predictive analytic capabilities
- Automated deployment and remote monitoring results in high availability and reliability

MASS has a Positive Business Case

- **Reduce no-shows increases relative supply of appointments**
 - 35% improvement = 2.9M appts/year
- Combine current grids into one **increases supply of appointments**
 - 1 more appointment/day in 30,000 practices = 1.3M appts/year
- Make never scheduled appointments visible in order to **increase supply of appointments**
 - 1 more appointment/week in 30,000 practices = .74M appts/year
- **Software and patient facing app improves scheduler efficiency:** Less time to make appointments results in better appointments
 - 2 min savings per appt = 2000 to 3000 scheduling FTEE per year

Additional gains:

- Better appointment coordination
- Ability to schedule the right provider to right problem
- Short notice call list (to bring in patients willing to come on short notice)
- Telemedicine scheduling improved (enables better load leveling across nation)
- Integration of appointment and non-appointment care into one grid in order to improve overall time management of providers
- Ability to measure room/support staff/equipment utilization

Placeholder for MASS Demo

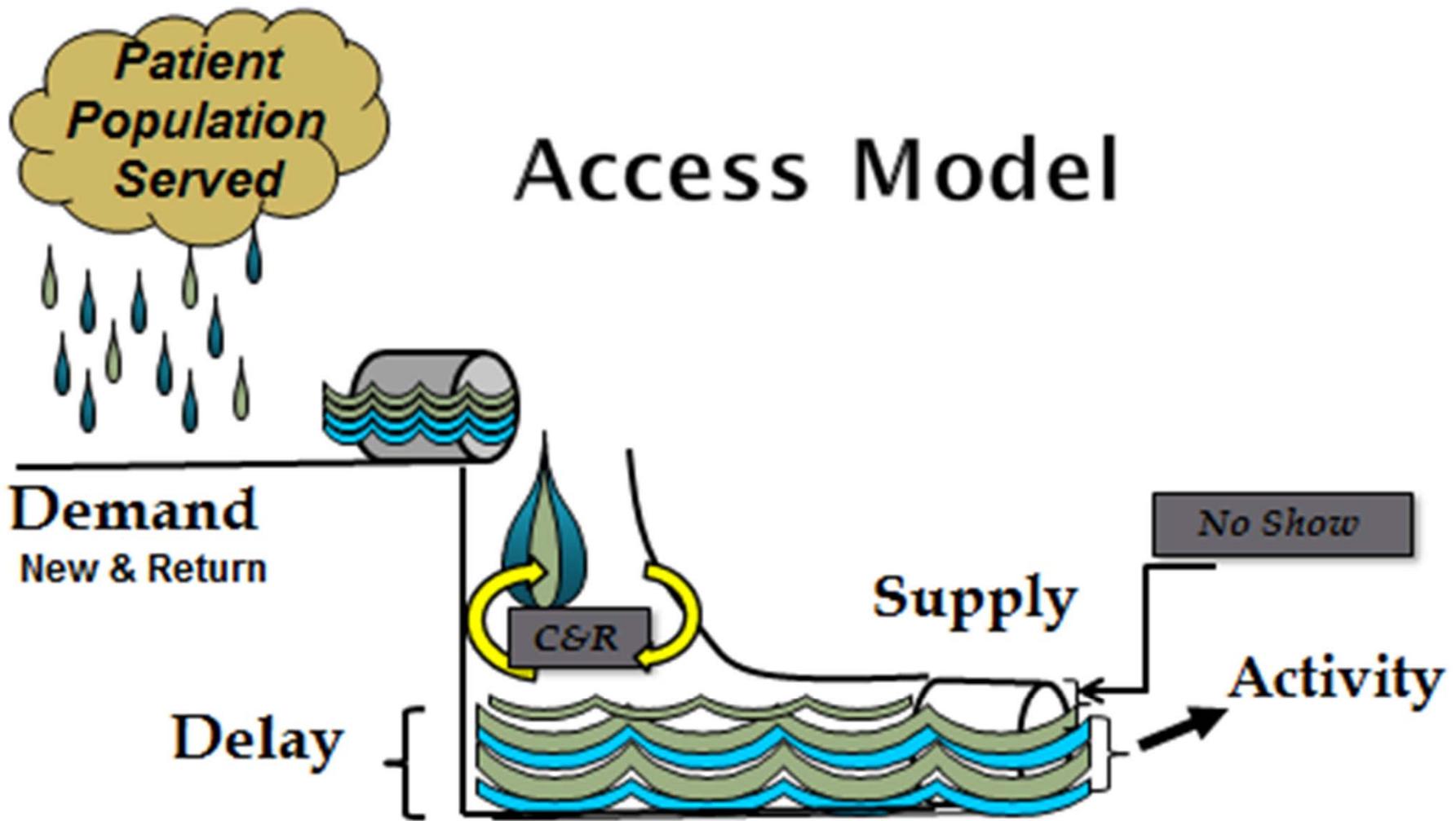
Big Picture: Clinic Management, MASS, VSE Projected Incremental Benefit

Strategy	Cost	People/Process	Technology	
		Clinic Mgt.	MASS	VSE
Deploy provider time better	Low	+++	+++	0
Manage clinic supply better	Low	++	++++	++
Teams use ACA principles & changes	Low	++++	+++	+
Increase Support staff clinical help	Low	++	++	0
Increase Rooms	Med	++	++	0
Make better appointments	Low	++	++++	++
Decrease No-shows & C&R	Low	+	++++	?
Patients make appointments	Low	0	++++	0
Telemedicine assists staff shortages	Low	+	++++	0

Analytics Advances

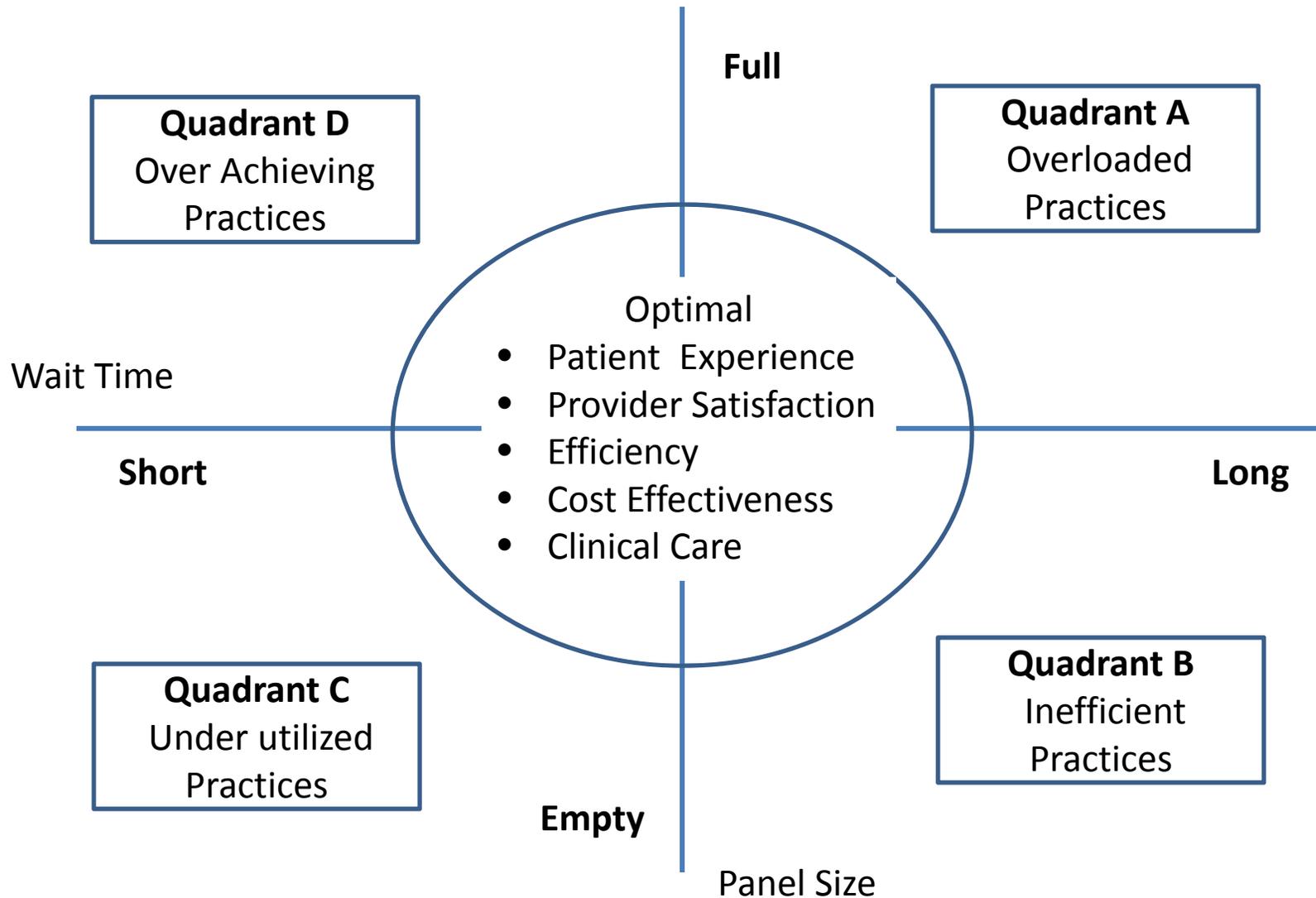
- Scheduling Trigger Tool: Big data “sniffer” to help identify scheduling irregularities
- Access Index: Allows providers to see demand and supply for first time
- Access Glidepath: Designed for leaders to see an overview of access
- Access Operations Dashboard
 - Identifies types of problems with access and provides data to inform the solution

Access Model



- *Advanced Access: Reducing Waiting and Delays in Primary Care*; Mark Murray, D.M. Berwick, *The Journal of the American Medical Association*, February 2003, Vol. 289, No. 8
- *VA Experience in Implementing Patient-Centered Medical Home Using a Breakthrough Series Collaborative*; Balmatee Bidassie, PhD1, Michael L. Davies, MD2, Richard Stark, MD3, and Barbara Boushon, RN,BSN1, *J Gen Intern Med* 29(Suppl 2):S563–71 DOI: 10.1007/s11606-014-2773-5

Operationalizing the Concept in Primary Care



Distribution of 6455 Primary Care Practices

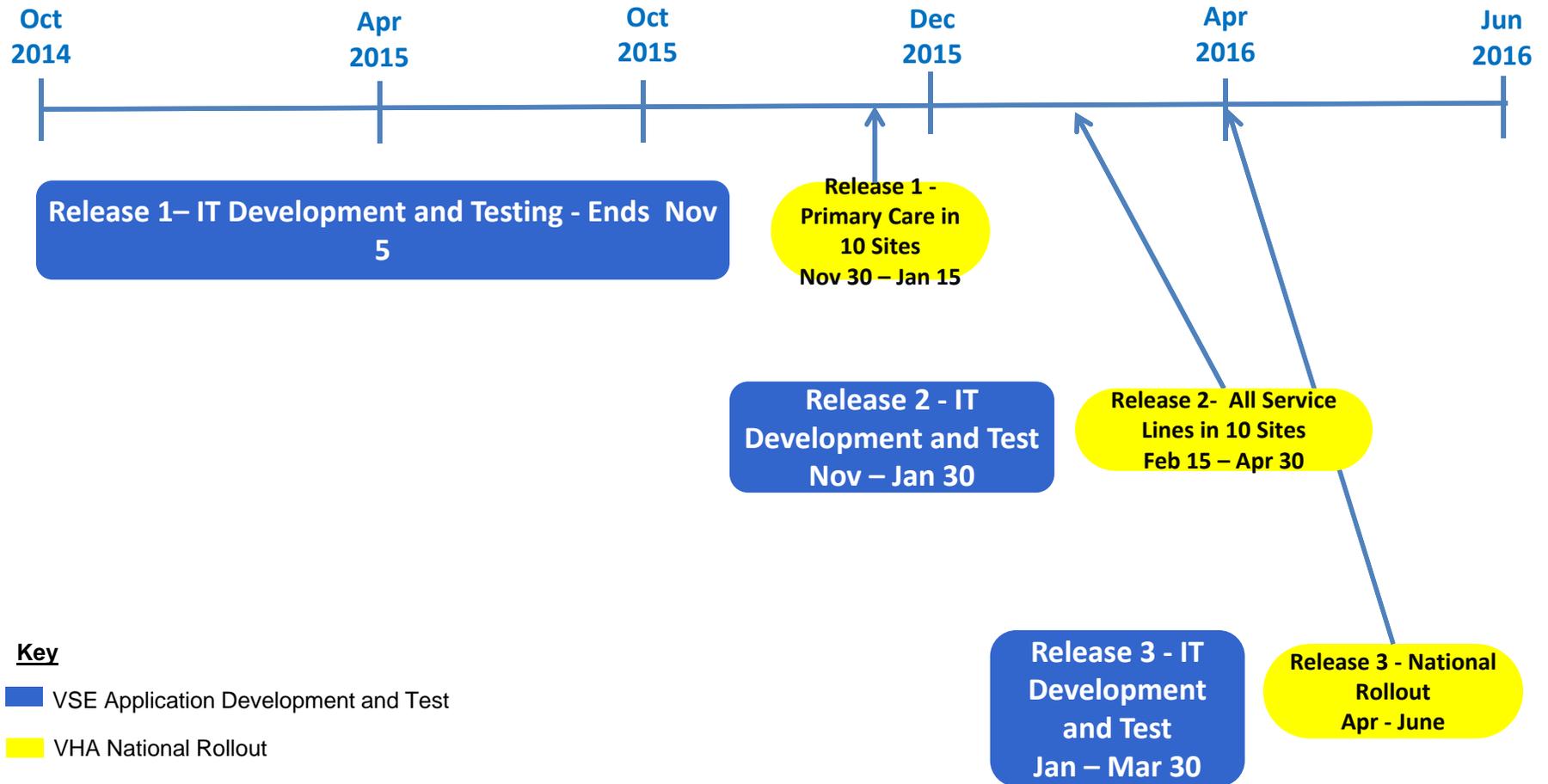
Optimal	Third Next Available is < 14 days. Panel size is 92% to 100%	Optimal	12%
Quadrant A	Panel is at or over 100% capacity. Third Next Available is greater than 14 days	Overloaded	27%
Quadrant B	Panel is under 90% capacity. Third Next Available is greater than 14 days.	Inefficient	18%
Quadrant C	Panel is under 95% capacity. Third Next Available is under 14 days.	Underutilized	36%
Quadrant D	Providers panel > 100 % capacity. Third Next Available is below 14 days.	Overachieving	7%

Other Access & Clinic Administration Efforts

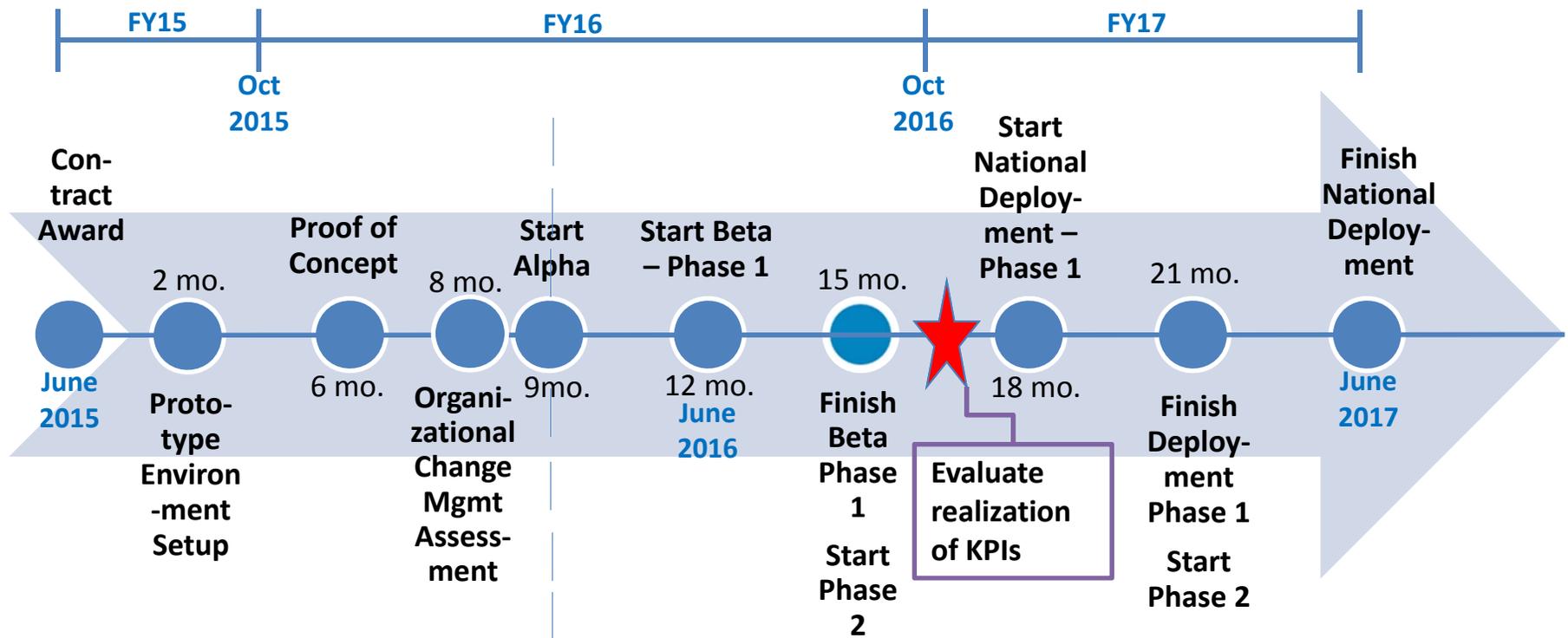
- Consult Improvements
 - Consult Policy, Handbook, and SOP's
 - Consult oversight
- Scheduling Policy, Handbook and SOP's
 - Scheduling Oversight
- Decrease No-Shows
- Scheduler education
- Access Policy, Handbook and SOP's
- Improve Telephone Access

Backup Slides

VistA Scheduling Enhancement (VSE) Release Timeline



Notional MASS Timeline (FY15-FY17)



Big Picture: Clinic Management, VSE, MASS: Possible Benefit

Strategy	People/Process	Technology	
	Clinic Mgt.	VSE	MASS
Deploy provider time better	+++	0	+++
Manage clinic supply better	++	++	++++
Teams use ACA principles & changes	++++	+	+++
Increase Support staff clinical help	++	0	++
Increase Rooms	++	0	++
Make better appointments	++	++	++++
Decrease No-shows & C&R	+	?	++++
Patients make appointments	0	0	++++
Telemedicine assists staff shortages	+	0	++++

VistA Scheduling Enhancements (VSE)

VSE is an *incremental* change, intended to address the immediate need for improvement.

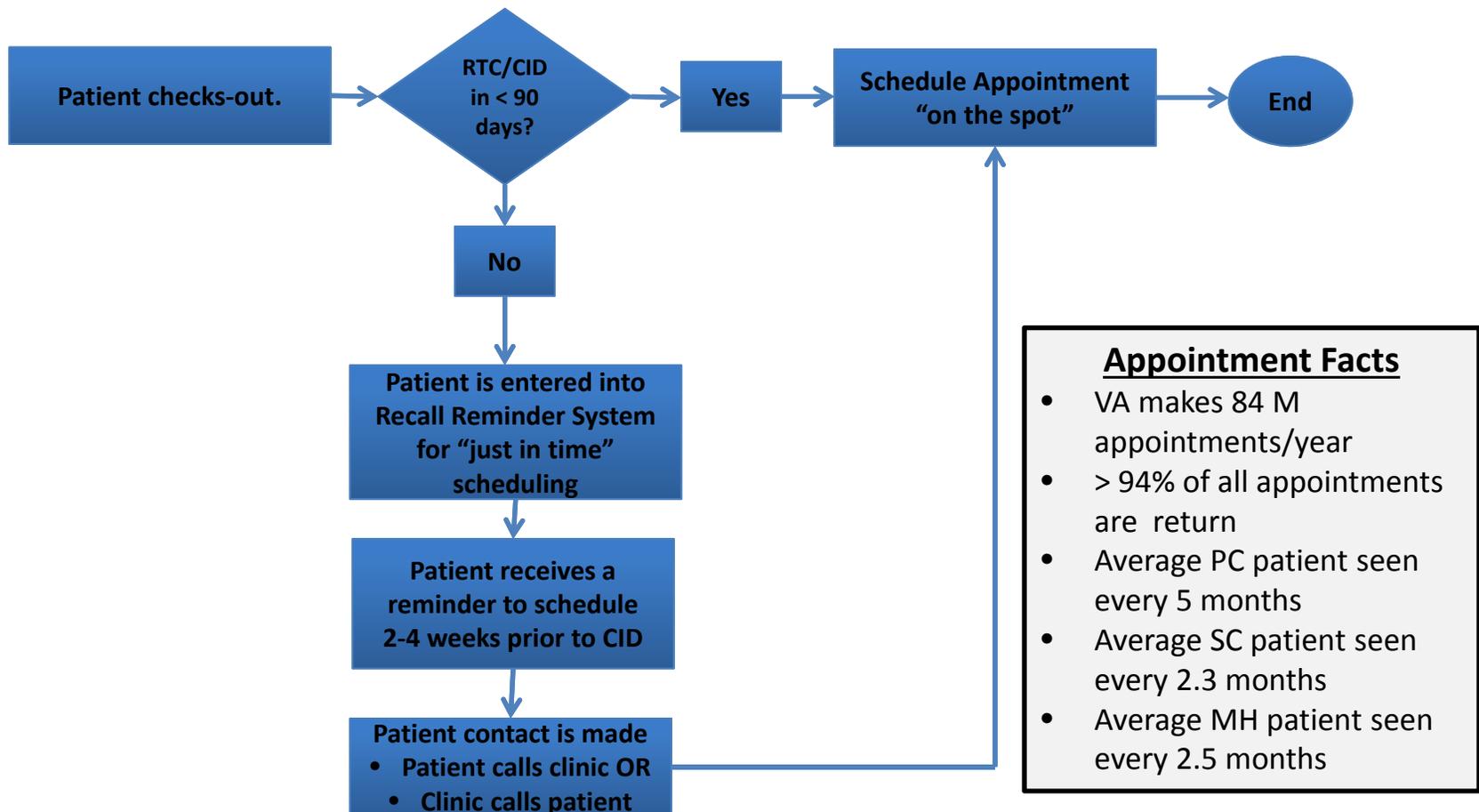
- Enhancement 1: Provider time in a single view and using a graphical user interface (GUI)
- Enhancement 2: Consolidated list of wait queues
- Enhancement 3: Dashboard of provider supply and demand for care for clinic manager use
- Enhancement 4: VistA changes to support current processes to include preparation for mobile apps

The Job: Appointment Making

Scheduler – Veteran (& Family) – Technology

- Negotiate appointments
FOR the right time
 - Make appts *for the right LENGTH of time*
 - *Coordinate* with other appts & any prework
 - *Customer Service*
- Schedulers must consider patient needs and preferences
 - Schedulers find correct profile
 - Providers need open slots & accurate representation of supply
 - “Red zone” (appointment) length
 - Awareness & intentional logical linkage of pt. journey
 - Communicate arrival time
 - Respectful & courteous
 - Awareness of behavior & consequences (ABC’s of communication)

The Process for Scheduling Return Appointments



Current State

As-Is Software (VistA)

- Error-prone user interface
- Inability to enforce or monitor policy
- Inability to manage provider supply (or other key resources)
- Multiple “lists” or request queues (EWL, Recall, NEAR)
- No ability for Veterans to make appointments

Resulting Outcomes

- Overly complicated scheduling process
- Lack of available appointments to meet patient requests
- Inability to efficiently manage requests for care
- Wait times measures problematic
- High no-show rate
- Inefficient management of resources
- Poor Veteran service experience
- No visibility into sister VA’s scheduling system