Implementation of Measurement Based Care using PROMIS PROs at the Behavioral Health *Point-of-Care*

June 5th, 2019 – Healthmeasures User Conference

Sheppard Pratt
HEALTH SYSTEM

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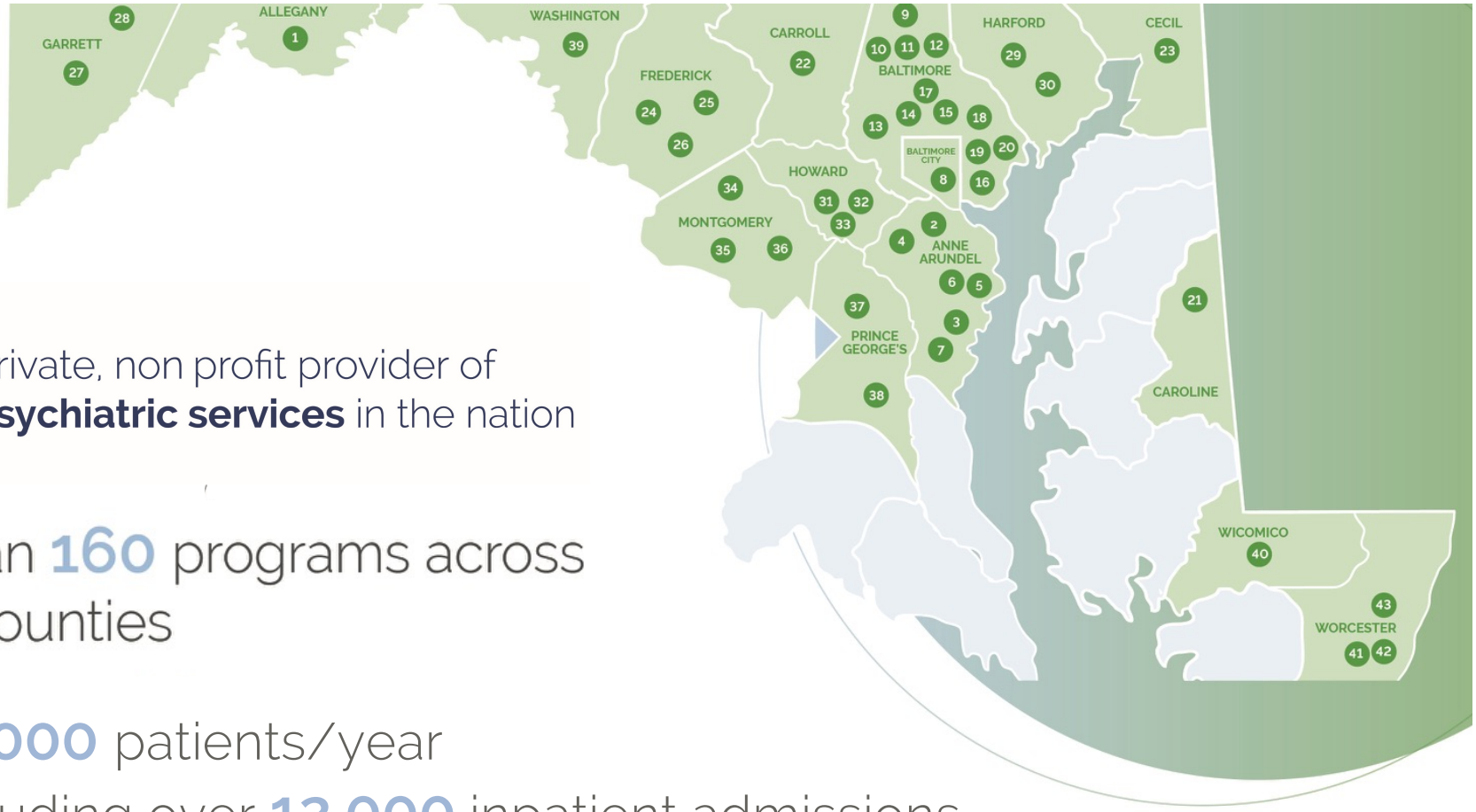
about
Sheppard Pratt Health System



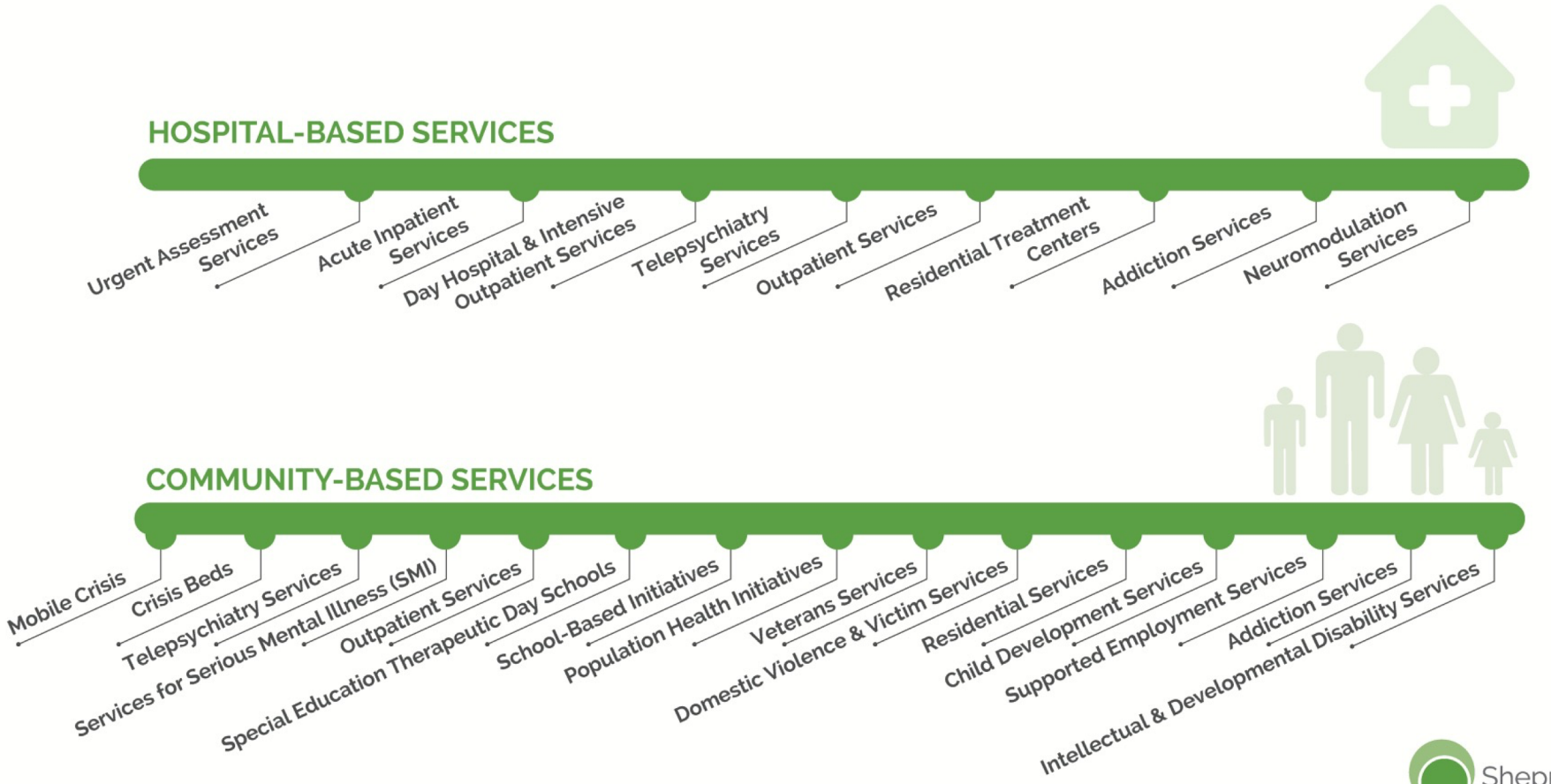
#1 private, non profit provider of **psychiatric services** in the nation

more than **160** programs across **16** counties

over **80.000** patients/year

including over **12.000** inpatient admissions

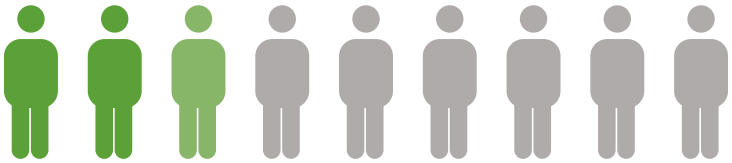
Sheppard Pratt Health System: Providing the Most Comprehensive Continuum of Psychiatric and Community Services in the Nation



Sheppard Pratt
HEALTH SYSTEM

Systematic use of PROs in behavioral healthcare has many benefits….

Patient Reported Outcomes in Behavioral Health



Standard of Care

Measurement-based Care

*… but PROs are **underutilized** in behavioral healthcare.*

only

18% psychiatrists

11% psychotherapists

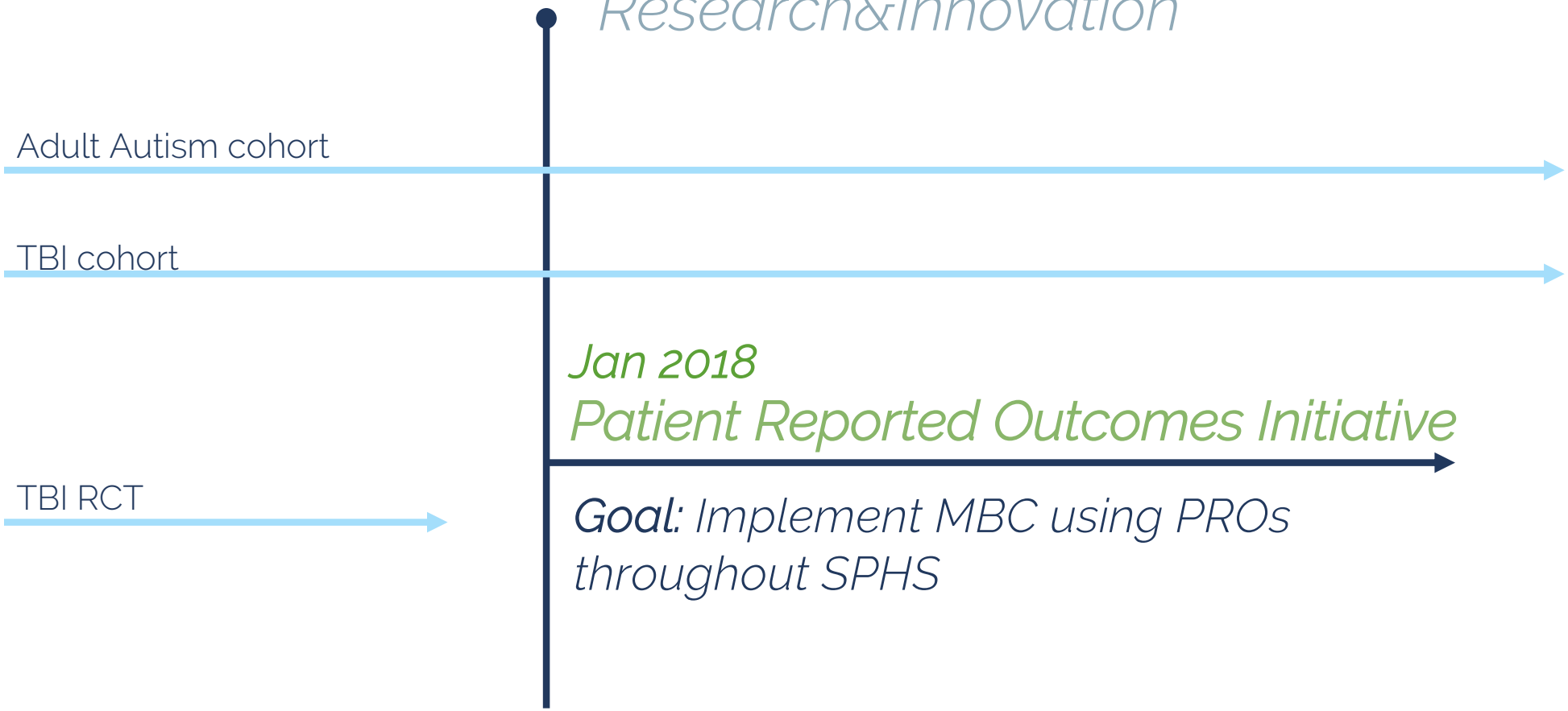
use symptom rating scales to monitor treatment

- new Joint Commission requirements for PROs in behavioral health
- America Psychiatric Association Measurement Based Care efforts
- CMS QPP and other value-based care efforts

Sheppard Pratt Health System is using data to optimize treatment and outcomes.

Point of Care

Research&Innovation



Patient Reported Outcomes Initiative

Phase1: 13 programs

	type	population age	population	LOS	avg. caseload
Program1	day program	adult	general	weeks	39
Program2	day program	C&A	general	1 week	21
Program3	IOP	adult	general	1 week	7
Program4	inpatient unit	adult+C&A	subspecialty	weeks	70
Program5	day Program	adult+C&A	subspecialty	weeks	35
Program6	IOP	adult+C&A	subspecialty	weeks	15
Program7	RTC	adolescents	general	months	57
Program8	day program	adult	general	weeks	19
Program9	inpatient unit	adult	general	weeks	22
Program10	RTC	adult	general	month	4
Program11	day program	adult	subspecialty	weeks	20
Program12	outpatient	adult	subspecialty	long-term	>2500
Program13	outpatient	adult	general	long-term	>4500

Vision for Patient Reported Outcomes at the Point-of-Care:

collection

utilization

Implementation *of Measurement Based Care using Patient Reported Outcomes at the Point-of-Care.*

collection

utilization

Implementation of MBC at the Point-of-Care must ***minimize burden*** *to patients, staff and providers and* ***ensure clinical utility****.*

Point-of-Care Implementation

↓ **burden**
workflow-time-effort

↑ **clinical utility**
relevance-current-available-interpretable

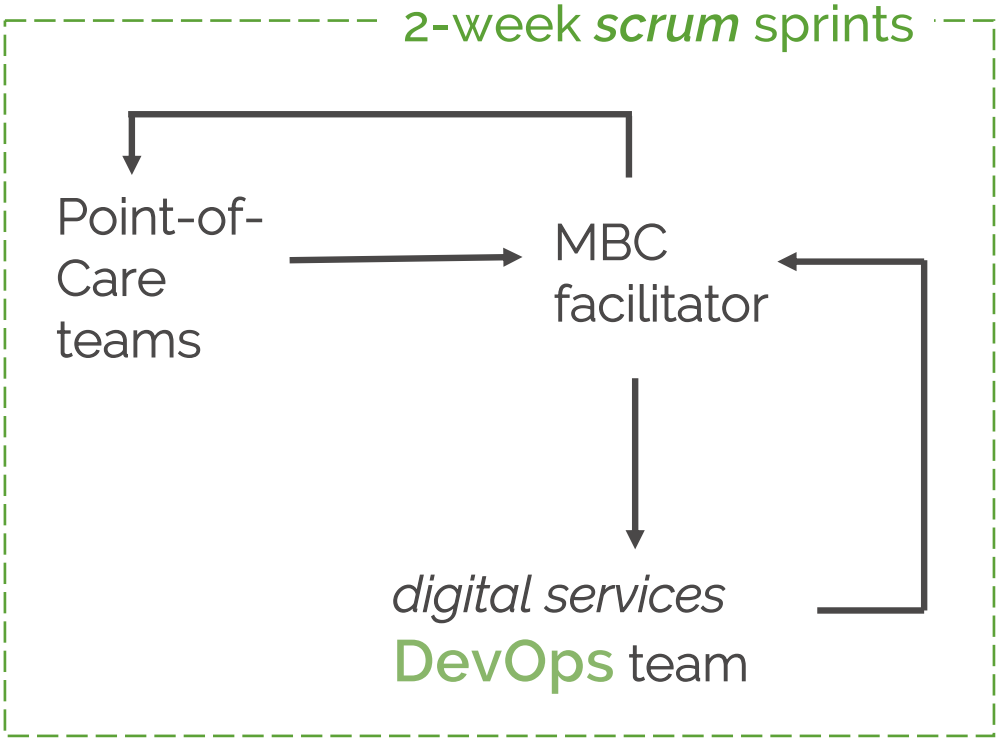
- *psychiatry specific challenges*
- *SPHS specific challenges*

We use DevOps processes based on LEAN, theory of constraints, agile software development, safety culture and similar frameworks

optimal
workflow

fast
feedback

continuous
learning



our implementation process

also ISOQOL, 2015

We develop our solutions using open source technology and our solutions are also open-source and freely available.

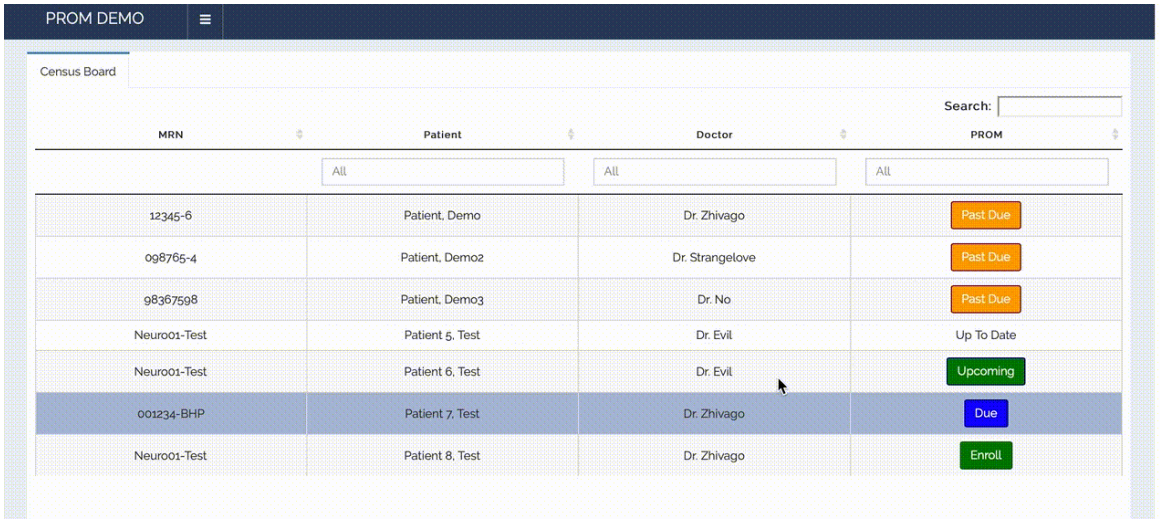
Point-of-Care
- Dashboards
- Automation
- Reporting *Toolkit*

Why not build inside the EHR?

- too slow
- poor interoperability (APIs)
- poor UI/UX
- tightly vs loosely coupled architecture
- soon to be disrupted

sidecar? middleware? prototyping tool? strangulation pattern?

Dashboards



***dashboards** facilitate **coordination** of PROM data collection.*

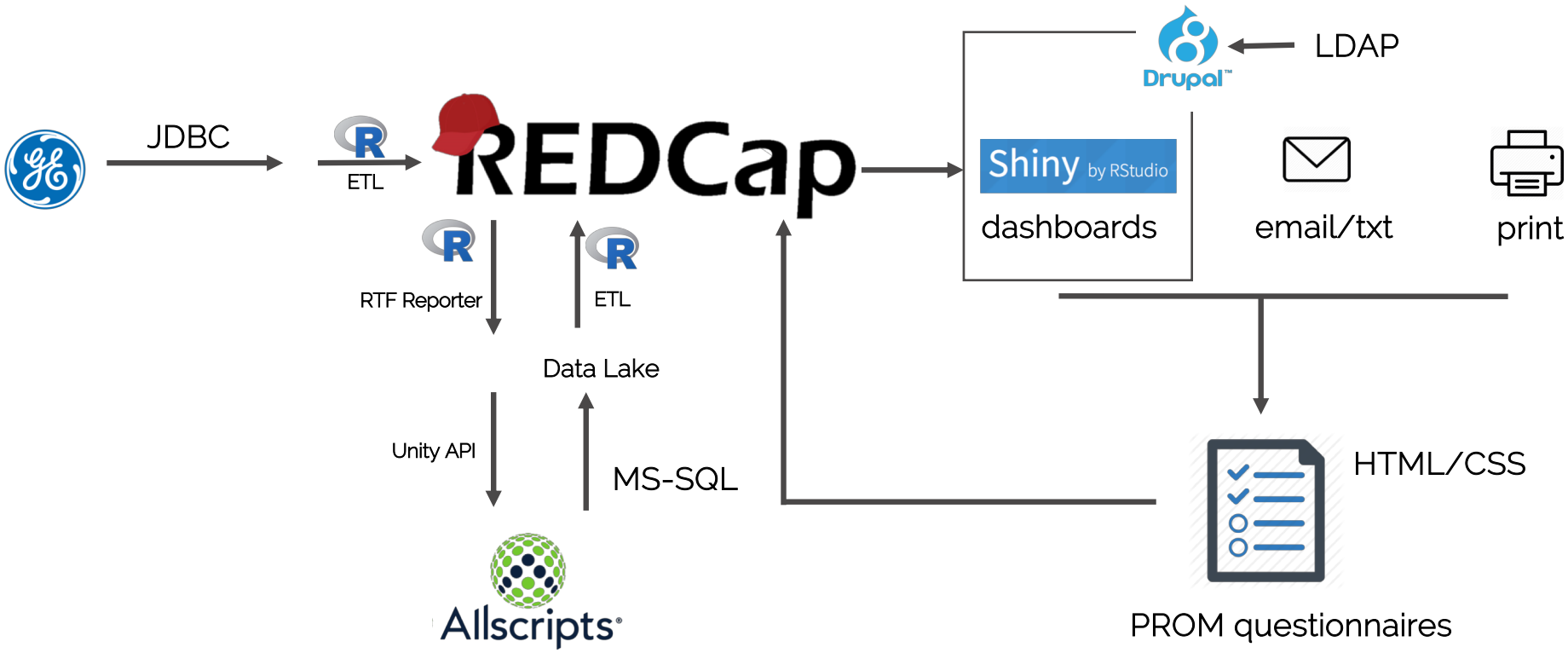
print

email/txt

kiosk

tablet

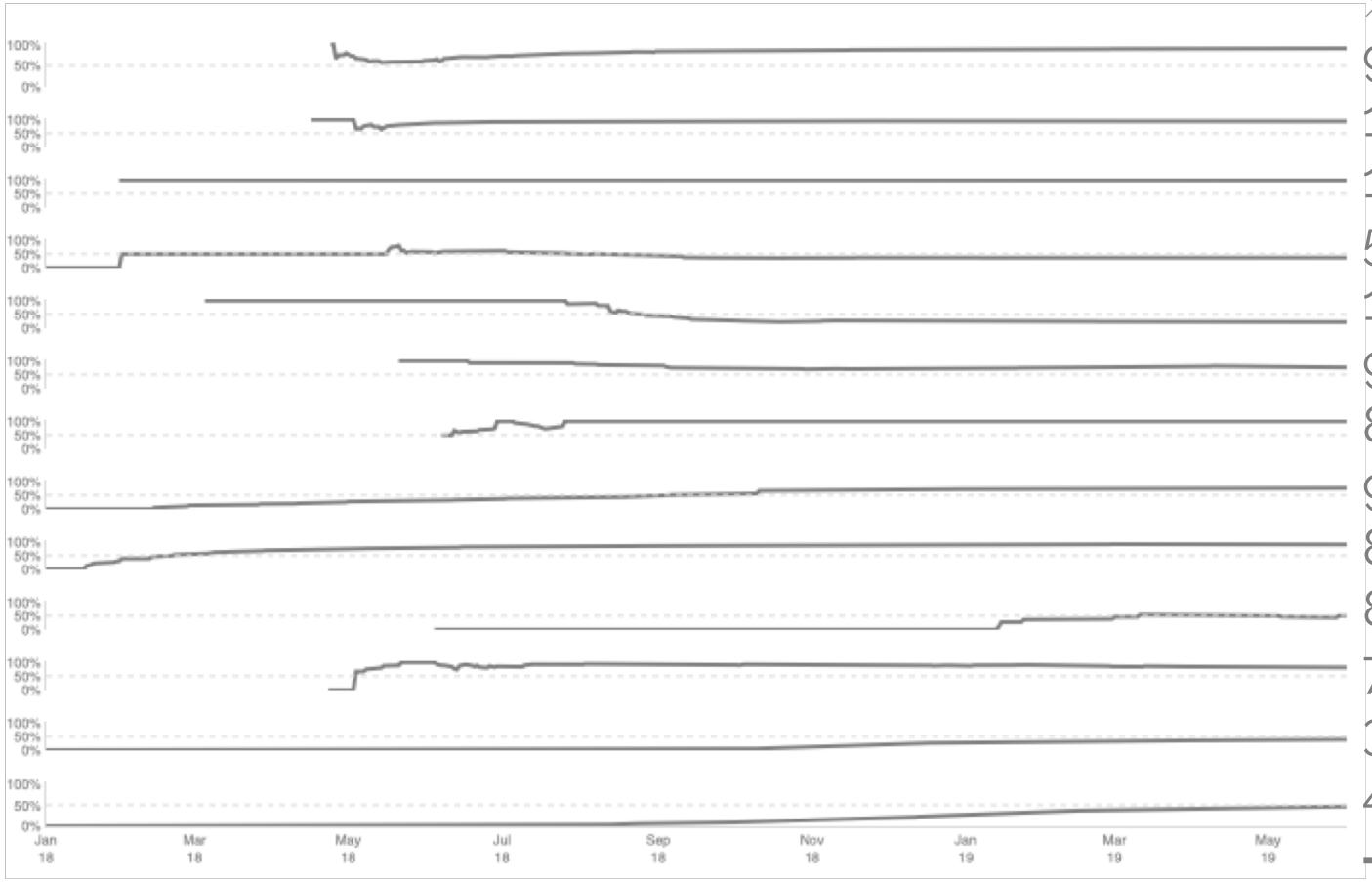
Automation & Integration



wide range of needs/requirements to optimize workflow integration

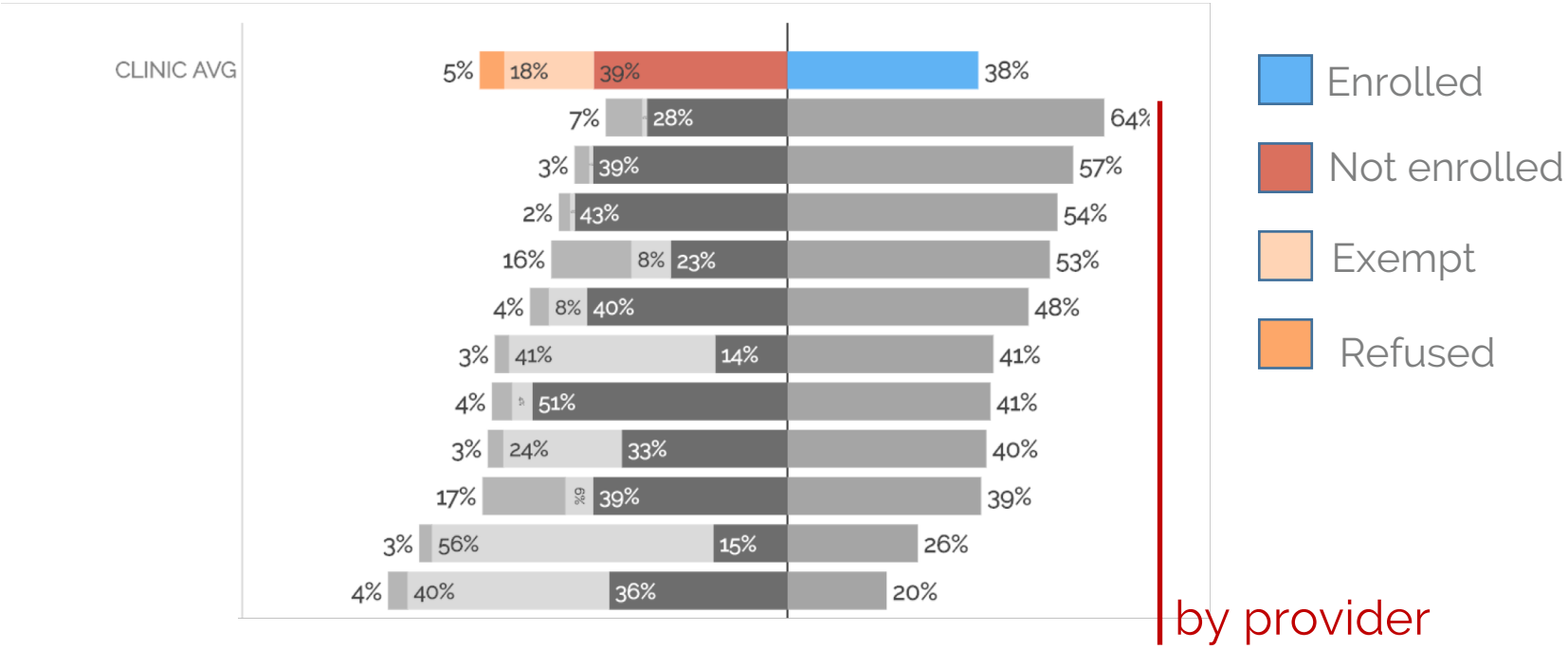
	access	mode	user	frequency	PROs	PROMIS
Program1	dashboard	KIOSK	patient	adm-wk-dsc	9	8
Program2	print	tablet	RN	adm-dsc	2	2
Program3	dashboard	chromebook	RN	adm-dsc	4	3
Program4	dashboard	tablet	MHW	adm-2wk-dsc	3	2
Program5	dashboard	tablet	MHW	adm-2wk-dsc	3	2
Program6	dashboard	tablet	MHW	adm-2wk-dsc	3	2
Program7	dashboard	tablet	LCSW	adm-2wk-dsc	4	3
Program8	print	tablet	RN	adm-wk1-dsc	1	
Program9	dashboard	chromebook	MHW	adm-2wk-dsc	2	
Program10	dashboard	chromebook	MHW	adm-2wk-dsc	2	
Program11	dashboard	tablet	RN	adm-2wk-dsc	5	4
Program12	Email/txt,	tablet	patient*	120d	13*	12
Program13	dashboard	tablet	LCSW	182.5d	1	1

Enrollment by program



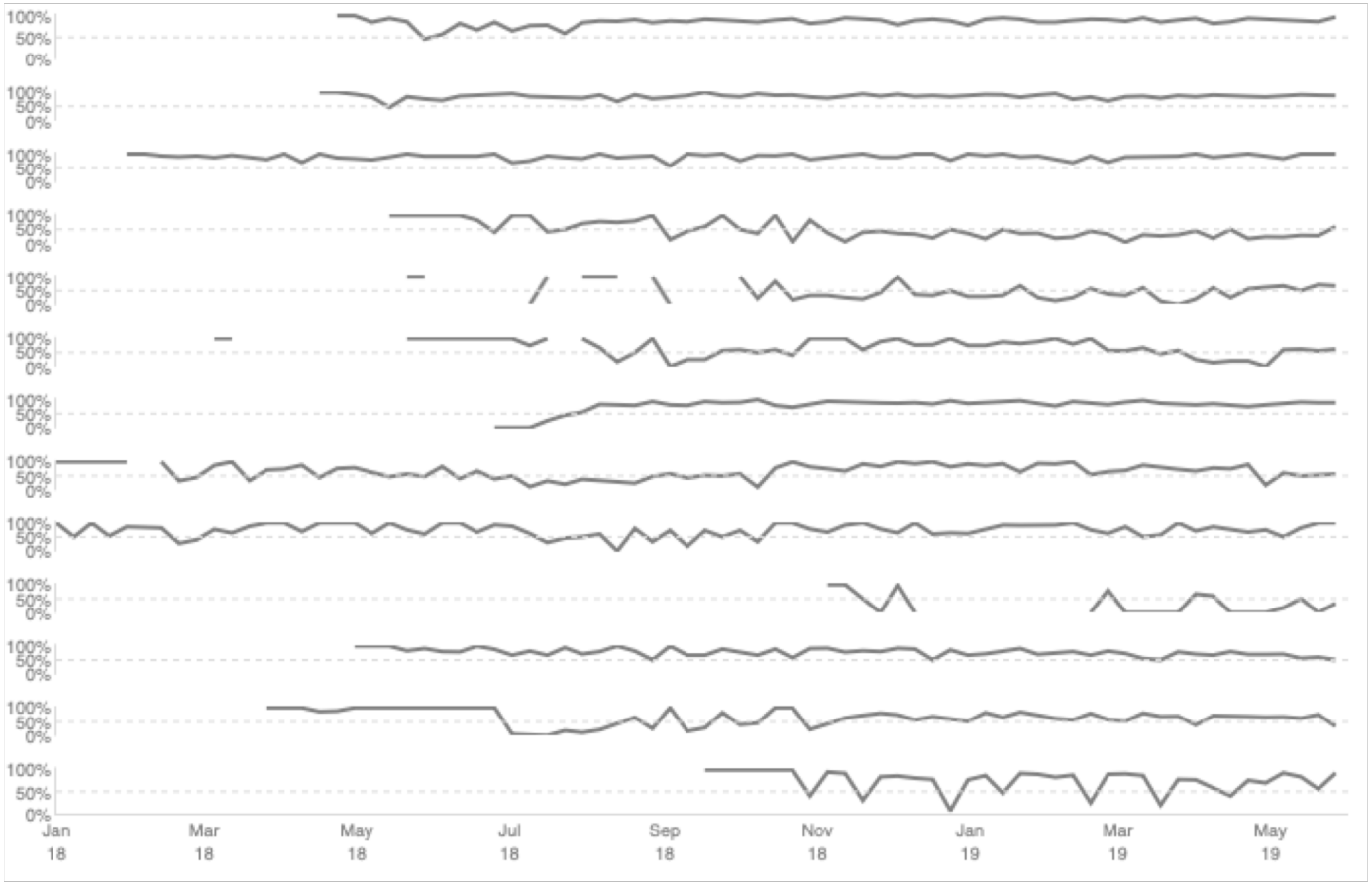
	% (current)	*total (last 12m)*
Program1	92%	1024
Program2	100%	955
Program3	100%	368
Program4	55%	205
Program5	15%	102
Program6	92%	96
Program7	89%	167
Program8	94%	546
Program9	86%	152
Program10	88%	10
Program11	73%	197
Program12	39%	1111
Program13	43%	2137
	74%	**7070**

Enrollment details (example Progam12)



- "requires assistance" – **4% of enrolled**

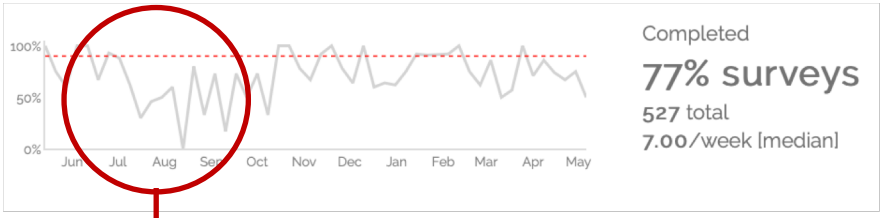
Completion rate by program



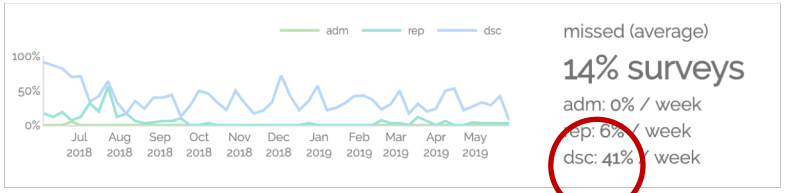
% (last 12m)	*total (last 12 month)*	
86%	3,032	Program1
86%	1,664	Program2
90%	664	Program3
47%	236	Program4
47%	107	Program5
67%	257	Program6
64%	780	Program7
79%	1,169	Program8
72%	379	Program9
43%	22	Program10
76%	428	Program11
89%	1111	Program12
59%	2,543	Program13
70%	**12,392**	

Completion detail - monitoring

Report	Program	Status	Type	Service	Active	Total	Enrolled	Completion	Missing
	Adult Day Hospital	active	Partial Hospitalization	Adult	45	977	45/46	85%	5%
	Behavioral Health Partners	active	Outpatient	Outpatient	2095	2110	2095/6348	100%	0%
	Child & Adolescent Day Hospital	active	Partial Hospitalization	Child & Adolescent	22	966	22/22	84%	6%



know when the champion leaves



identify the constraint

Reporting

*Reporting tools allow **visual** and **text** **based reports** of PRO data.*

Patient Reported Outcome Measures

Summary

Arial 10 100%

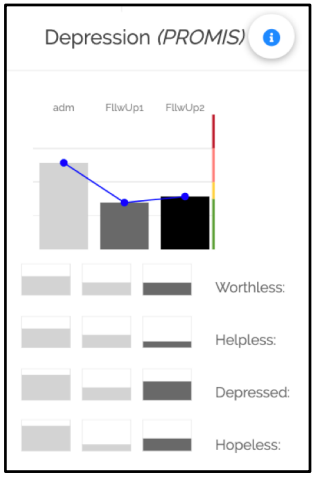
Thursday May 09, 2019 (Follow-up 2)
✗ Depression: mild 56 [≈ unchanged | trend:66 → 54 → 56]
✗ Anxiety: **moderate** 61 [↑ increase 5 | trend:71 → 56 → 61]
✓ Sleep Disturbance: *normal* 48 [↓ decrease 4 | trend:54 → 52 → 48]
✓ Alcohol Use Screen: *negative* 0 [≈ unchanged | trend:0 → 0 → 0]
✗ Emotional Support: mild 40 [≈ unchanged | trend:44 → 40 → 40]
✓ Life Meaning And Purpose: **moderate** 38 [↑ increase 5 | trend:25 → 33 → 38]
✗ Life Satisfaction: **moderate** 33 [≈ unchanged | trend:23 → 34 → 33]

Key:
✓ - improving or in normal range
✗ - worsening or not in normal range
≈ - unchanged
... - missed timepoint
↑ - increase in score
↓ - decrease in score
trend - assay scores over time

Do the results of the PROM affect the current treatment plan? ○ No ○ Yes

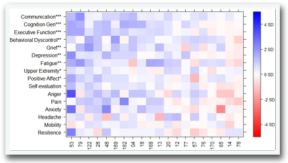
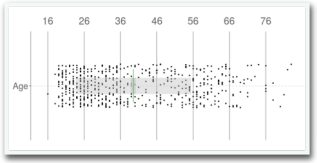
Comments

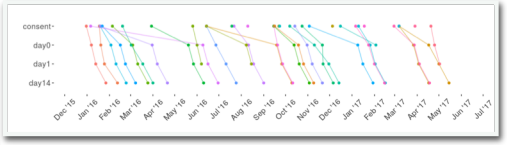
EMR integration via RTF document

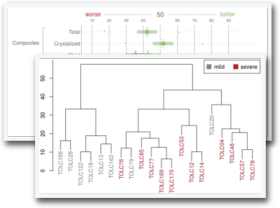
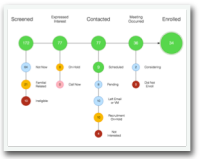
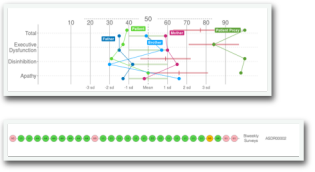


Visualizations

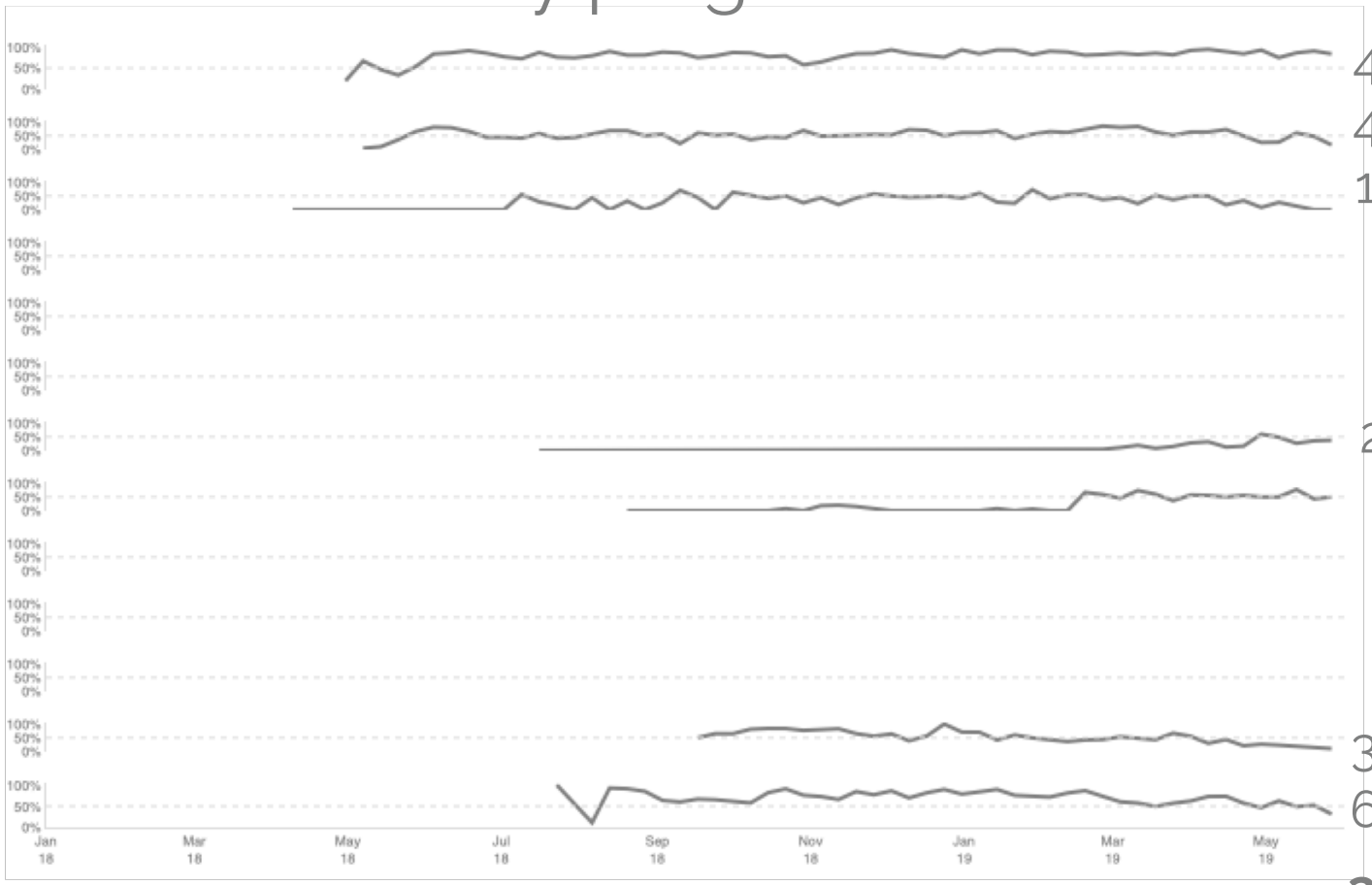
Gallery



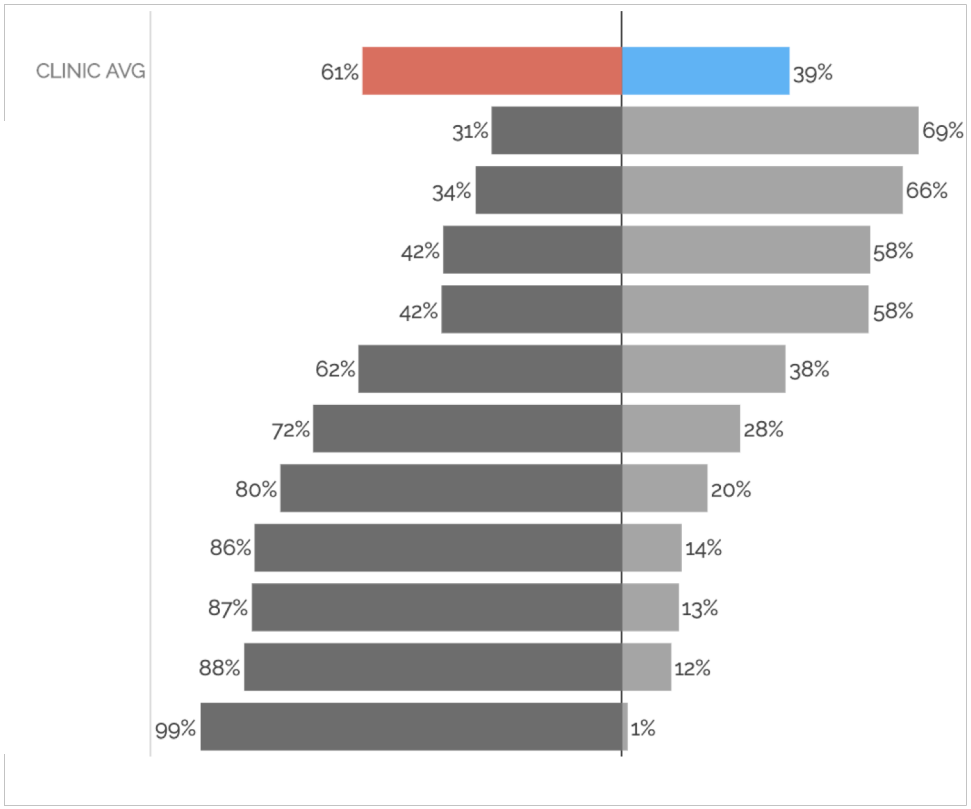
Utilization rate by program



% (last 12m)

43%	Program1
47%	Program2
10%	Program3
	Program4
	Program5
	Program6
21%	Program7
5%	Program8
	Program9
	Program10
	Program11
39%	Program12
67%	Program13
33%	

Utilization details (example program 12)



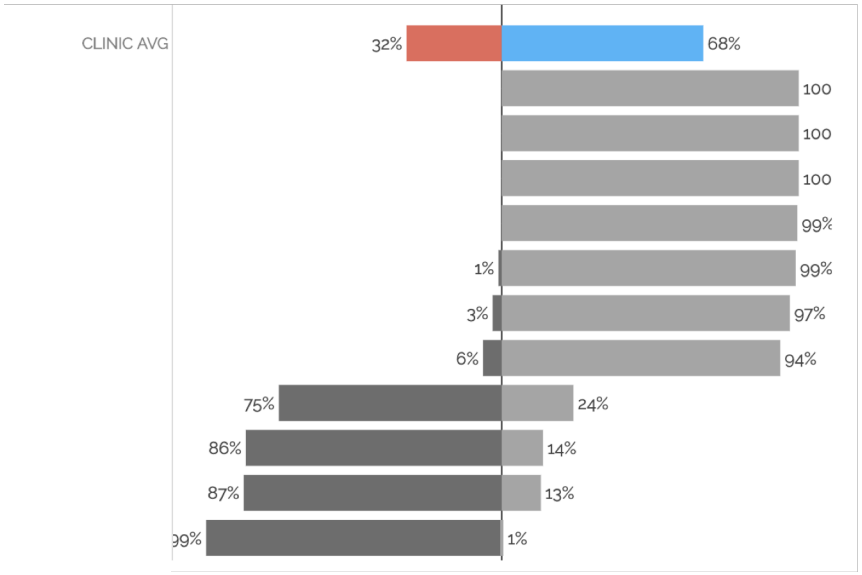
documented PRO use

missing

by provider

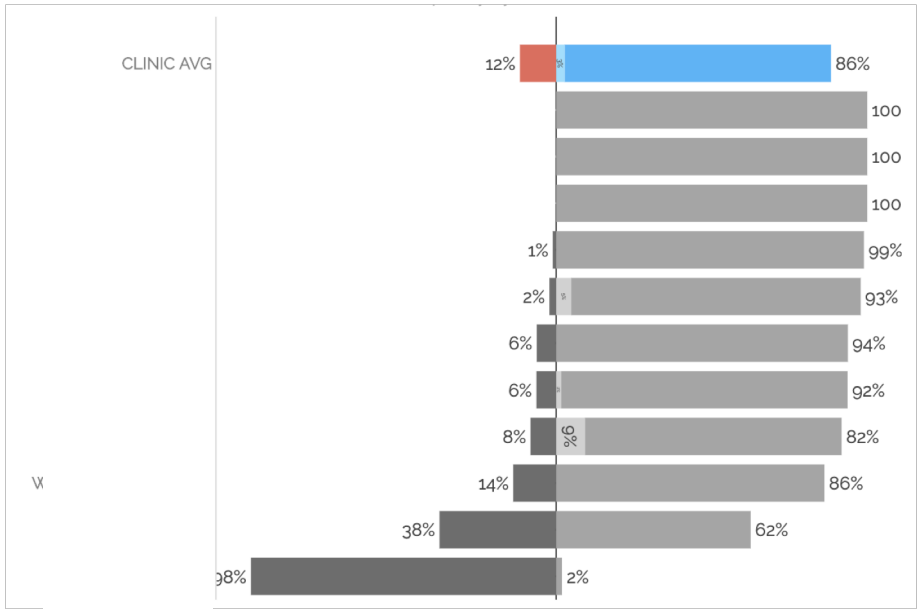
Utilization details (example program 12)

Do the results of the PROM affect the current treatment plan? ○ No ○ Yes



no yes

Comments



missing complex simple

Utilization details (comments from EHR)

stable, good. Patient has MDD, recurrent so hopefully onset of a future episode can be detected earlier with PRO

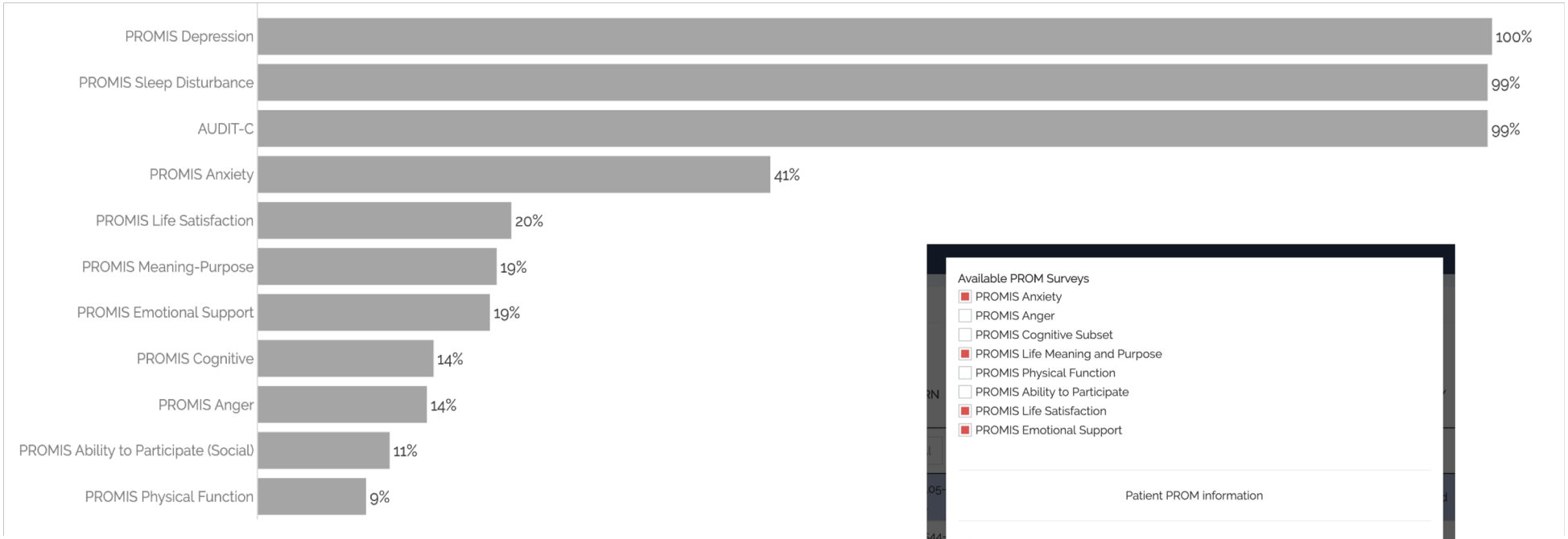
PROM results are consistent with what client is reporting to clinician in session. Mood and anxiety will continue to be monitored and skills/supports developed.

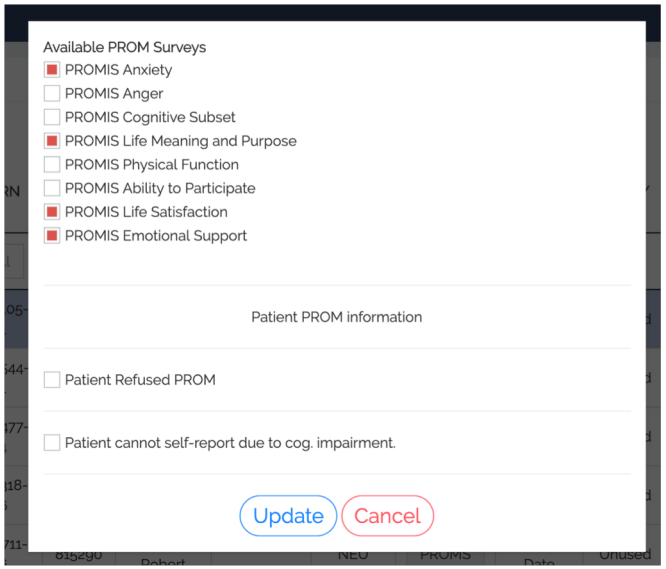
Ct PROMS score indicating "moderate impairment" in emotional management; ct's treatment goals seek to improve his mood through increasing coping skills and illness management which should contribute to increased PROM score.

CL is diagnosed with Anxiety and her data solidifies the stress that she relays she wants to begin to address in session. She describes noticing that she is in stress at home most often, and wants to learn ways of coping with her own needs recognizing she cannot control others. She is open for feedback and tools to help her better manage.

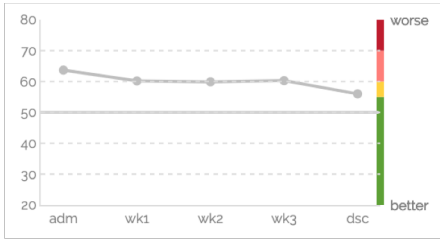
continue
client
plan
patient
stress
mtp
safety
promis
pt.
survey
discussed
incorporated
plan.
coping
anxiety
goals
prom
patient.
reports
work
stated
symptoms
reported
results
planning
provision.
treatment.
states
program
level
diagnosis
current
normal
skills
therapist
monitor
progress
outcome
monitored
tx
responses
options
clinical
depression
moderate
emotional
stress.
issues
concerns
data
discuss
medication
review
suicidal
mood
family
change
consistent
accounted
care
denies
continues
feeling
manage
outcomes
noted.
scale.
support
today
today.
sleep
wellness
thoughts
supports
session.
working
strategies.
reported.
phq-9
mild
utilized
score
managing
reporting
talk
feels
learn
making
psychological
recommendations
management
positive
therapy
stressors
self
pharmacotherapies
psychiatric
improve
note
pt

Utilization details – survey selection (program 12 only)



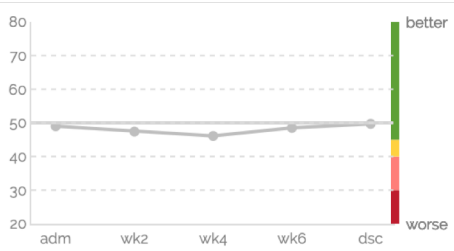


PRO data - population level



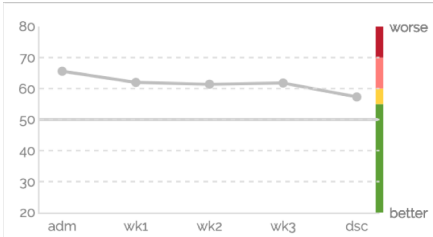
Depression *(PROMIS)*

means: adm 63.53 | dsc 55.99 [Δ 7.54]
effect size (d): 0.88 large | p: < 0.01*
avg. duration: 27.95 seconds



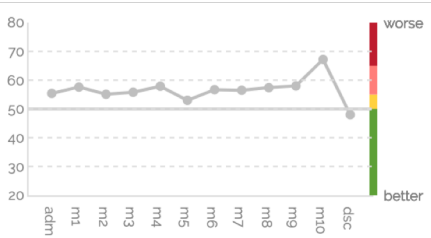
Emotional Support *(PROMIS)*

means: adm 48.72 | dsc 49.88 [Δ 1.16]
effect size (d): 0.21 small | p: 0.01*
avg. duration: Insuff.



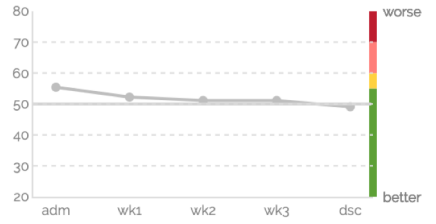
Anxiety *(PROMIS)*

means: adm 65.5 | dsc 57.35 [Δ 8.15]
effect size (d): 0.97 large | p: < 0.01*
avg. duration: 31.57 seconds



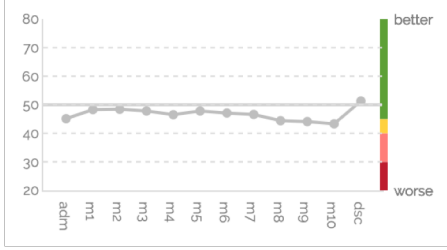
Pediatric Anger *(PROMIS)*

means: adm 57.03 | dsc 48.02 [Δ 9.01]
effect size (d): 0.84 large | p: < 0.01*
avg. duration: Insuff.



Sleep Disturbance *(PROMIS)*

means: adm 55.5 | dsc 49.15 [Δ 6.35]
effect size (d): 0.71 medium | p: < 0.01*
avg. duration: 27.15 seconds



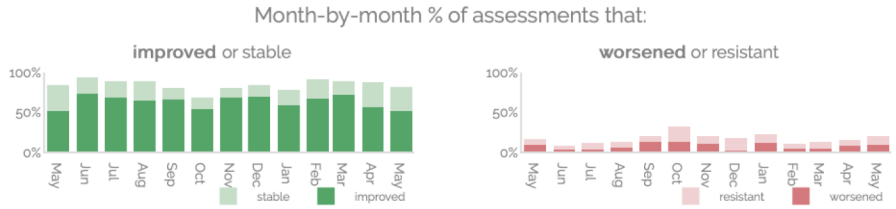
Ped. Life Meaning & Purpose *(PROMIS)*

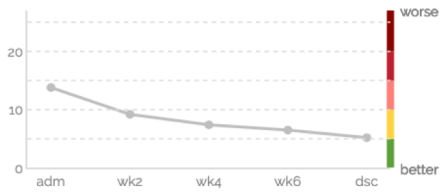
means: adm 47.68 | dsc 51.32 [Δ 3.64]
effect size (d): 0.55 medium | p: 0.02*
avg. duration: 30.24 seconds

PRO data population level (use case quality monitoring)

Pediatric Stress Exp. *(PROMIS)*

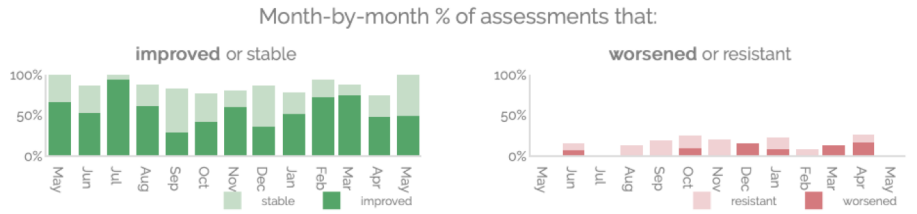
means: adm 63.76 | dsc 56.07 [Δ 7.69]
effect size (d): 0.87 large | p: < 0.01*
avg. duration: 27.01 seconds



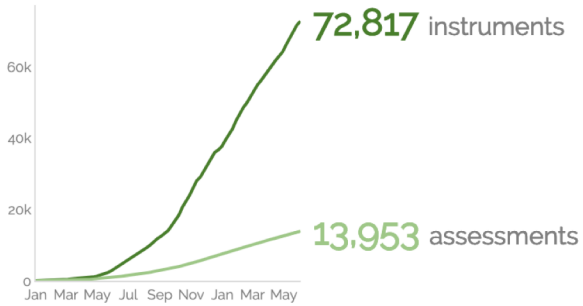


Depression *(PHQ9)*

means: adm 13.99 | dsc 5.63 [Δ 8.36]
effect size (d): 1.4 large | p: < 0.01*
avg. duration: 99.05 seconds



Conclusions&Future Directions



future directions

- *scale&sustain*
- *new features: patient engagement, notifications, clinical decision making…*
- *Predictive Analytics*

Thank you!

team

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P-o-C stakeholders
Sheppard Pratt IT
Sheppard Pratt LEAN transformation
Healthmeasures
…and many more

Sheppard Pratt
HEALTH SYSTEM

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