Enhancing quality, accountability, and effectiveness in Addiction Care:

The Measurement-based Practice Model

John F. Kelly, PhD

APA SOAP WEBINAR MAY 12 2017

Harvard Medical School

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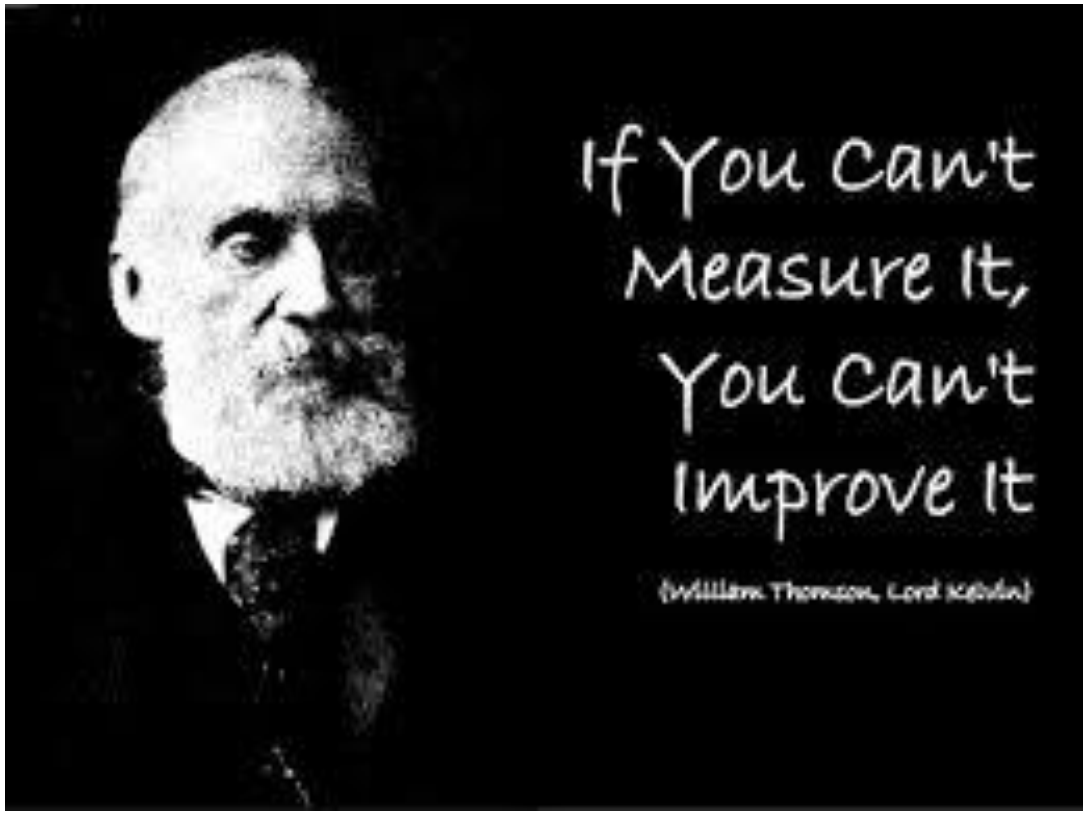

William Thomson (Lord Kelvin)

Outline

- The rationale for measurement-based (MBP) practice
- What are “outcomes” and how/when do we measure them?
- Some advantages and empirical examples of MPB
- Measurement-Assisted Practice System (MAPS™)

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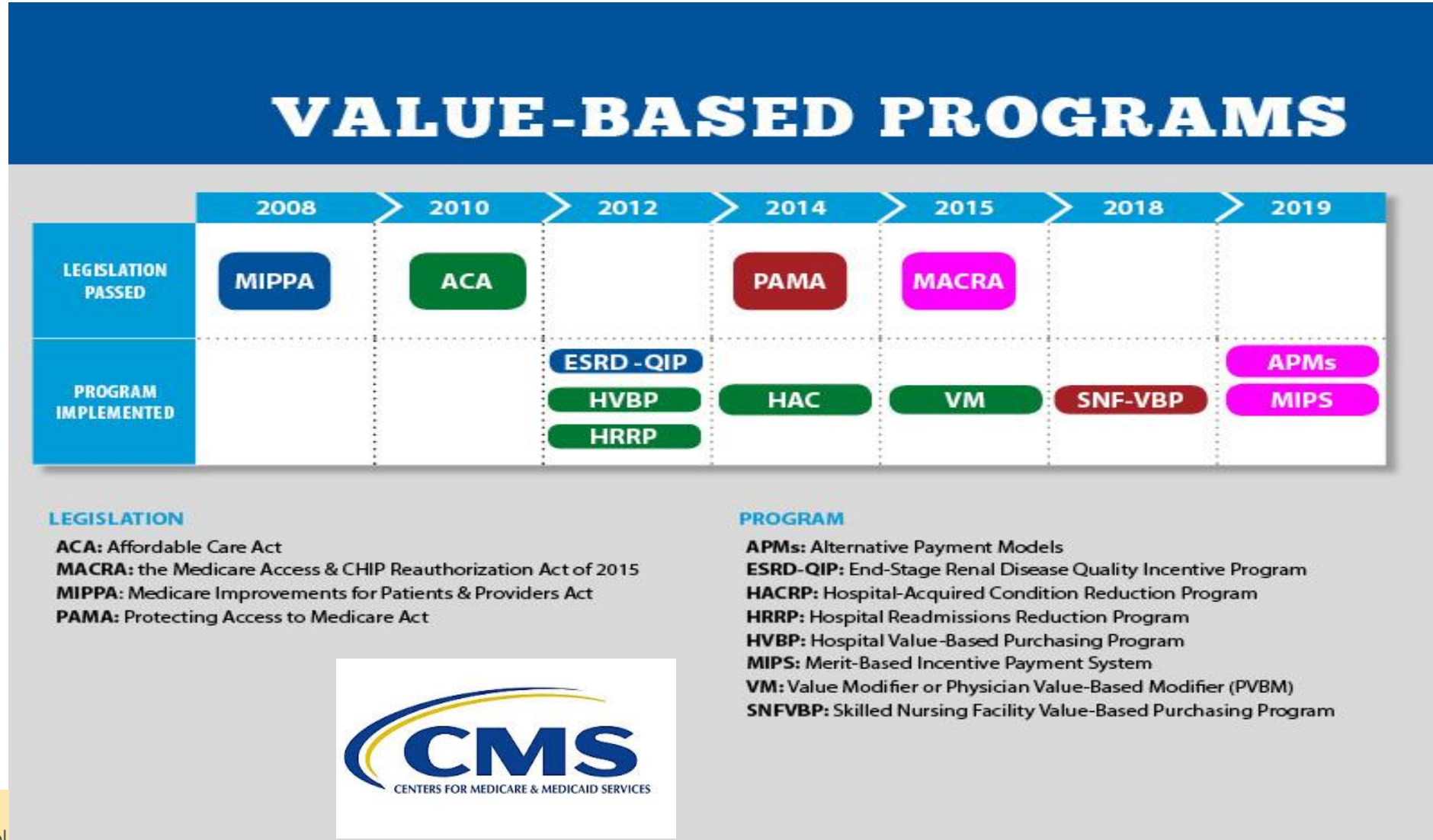
MBP can be conceptually linked to notion of "Value-Based" Health Care…

- Rewards quality rather than quantity
- Better healthcare at lower costs through evidence-based medicine and treatment
- Critical aspect of assessing value is measurement



What Is Value-Based Care? (n.d.). Retrieved January 25, 2017, from http://www.dartmouth-hitchcock.org/about_dh/what_is_value_based_care.html

SUD Stigma and Discrimination

- SUD is top public health problem in United States
- Yet, SUD continues to be stigmatized - adequate insurance coverage for treatment and continuing care remains limited and challenging
- How do we ensure and demonstrate that our SUD treatment system and services have value and are:
  - **Of high quality**? (evidence-based practices? delivered by licensed/qualified staff in dignified, respectful, settings?)
  - **Effective**? (outcomes?)
  - **Accountable**? (auditing/convincingly demonstrate health benefits of treatment?)
- **These (quality, effectiveness, accountability) can all be captured in an MBP model…**

Why MBP? Challenges with standard model: "Evidence-based practice"

- **Long delays** between:
  - A. innovative clinical ideas and efficacy, effectiveness, implementation research studies + publication of findings (5-10yrs)
  - B. proven effectiveness and adoption, dissemination and implementation of novel treatments in real-world settings
- **Generalizability and applicability** of research findings conducted under excellent/ideal/optimal conditions with certain specific patient **case-mixes**

- **Most studies do not test moderators of response**; if they do, typically only one variable (i.e., two-way interactions), when a 2-3 variable profile is more helpful and informative (e.g., "**young women** with **opioid** use disorder", instead of just "gender")

Why MBP? Challenges with standard value based model: “Evidence-based practice”

- Program reports of deployment of “**evidence-based practices**” (“yeah, we do that”) in actuality **may not be delivered with sufficient adherence and competence** with regard to the original empirically-supported protocols resulting in unknown benefit.

- Systemic **inability to ensure programs are implementing “evidence-base**” (cf. JCAHO, CARF)

- Cost and effort of dissemination, adoption, and implementation of “evidence-based/empirically supported” interventions **even when monitored for fidelity**/adherence/competence **may not** actually **result in improved patients’ outcomes** (e.g., for psychosocial interventions) over treatment as usual (e.g., Morgenstern, Blanchard et al, 2001; Smedslund, Berg, et al, 2011).

Why MBP? Challenges with standard value model: Quality of care at Patient/Clinic-Level

- **Lack of patient awareness** of progress, and in what ways they're progressing/not progressing during SUD treatment –disservice to patients (cf. HTN, diabetes)

- **Lack of clinician awareness** of patients' specific status, trends, and patterns, on important clinical variables

- **Poor program** awareness and **knowledge** about own clinical effectiveness (e.g., rates of engagement, retention/dropout, response, "success rates")

Why MBP? Challenges with standard value model: Patient/Clinic-Level

- Inability to identify which **patient sub-groups fail to respond to standard of care** -consequently lowering overall program effectiveness

- **Limited basis for clinical innovation** other than unsystematic hunches; **limited ability to measure effectiveness of any innovation**

- Instead of clinical innovators driving clinical progress there is passivity, perceived impotence, even resentment- **forced to deliver external "evidence-base/what the research shows") that may not result in improved patient outcomes**

Other Health Care example of MBP: Cystic Fibrosis

- Cystic Fibrosis Foundation (CFF) has detailed data from all clinics (k=117) nationally for past 50yrs…. How come?
- Not because "more enlightened" but because physician (LeRoy Mathews), in 1960s Cleveland was claiming a 2% mortality rate (national was 20%+; most dead by age 3yrs)
- In 1964, CFF gave UMN pediatrician Warren Warwick $10,000 to collect reports on every patient treated at the 31 CF centers in US—to test Matthews's claim.
- Mdn age at death for patients in Matthews's center = age 21!! - 7x older than patients treated elsewhere.
- He was found to be trying new procedures based on cumulative aspects of the disease; brought in other international treatment perspectives…
- By 1970s, 95% of patients living past 18th birthday
- His model soon became national standard

Source: The Bell Curve, Gwande, A. 2004

Outline

The rationale for measurement-based (MBP) practice

What are “Outcomes” and how/when do we measure them?

Some advantages and empirical examples of MPB

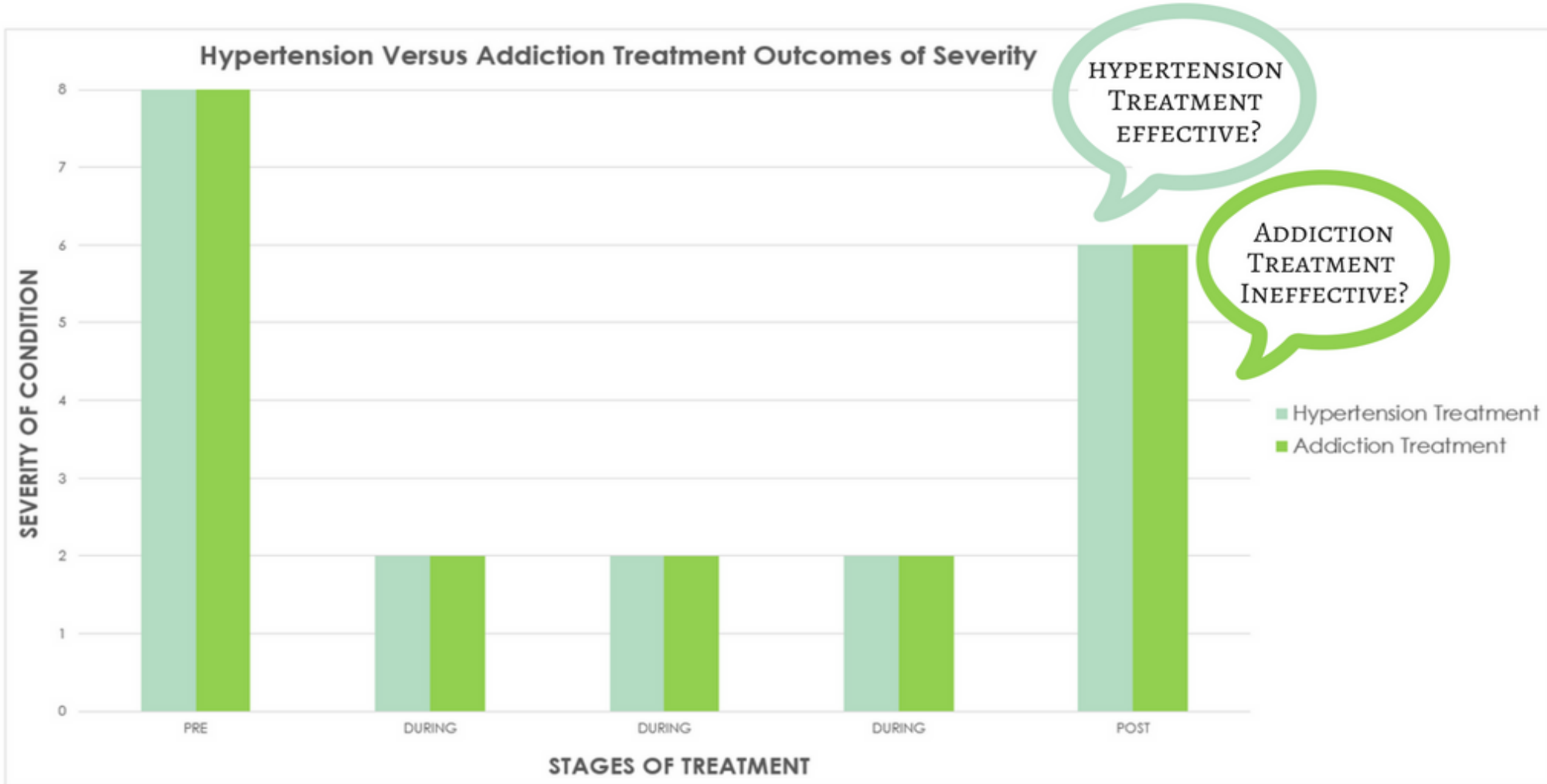
Measurement-Assisted Practice System (MAPS™)

“Outcomes”

- What is the “success rate” of your program?
- What is the “outcome” we’re interested in?
- How/when should we measure outcomes?

Acute Care SUD Treatment Model

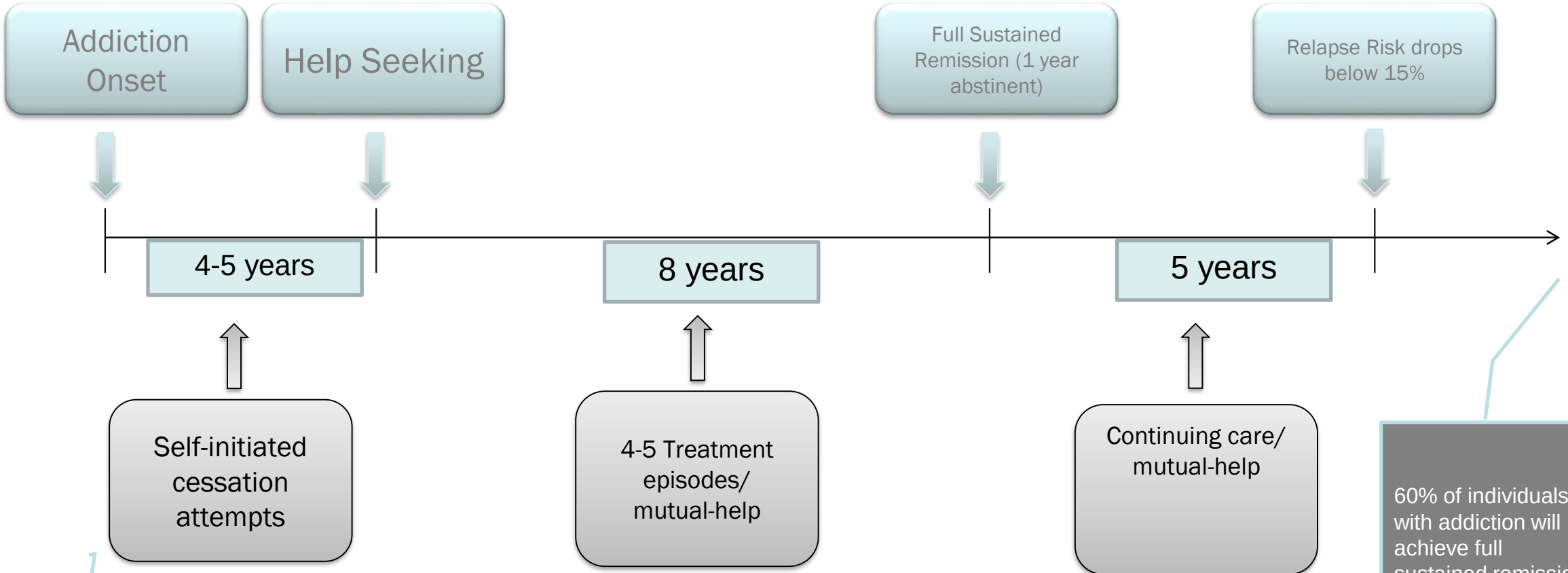
Why are treatments of addiction & hypertension evaluated differently?



The successful treatment of hypertension is seen as an ongoing process.

The successful treatment of addiction is seen as something that begins after treatment stops.

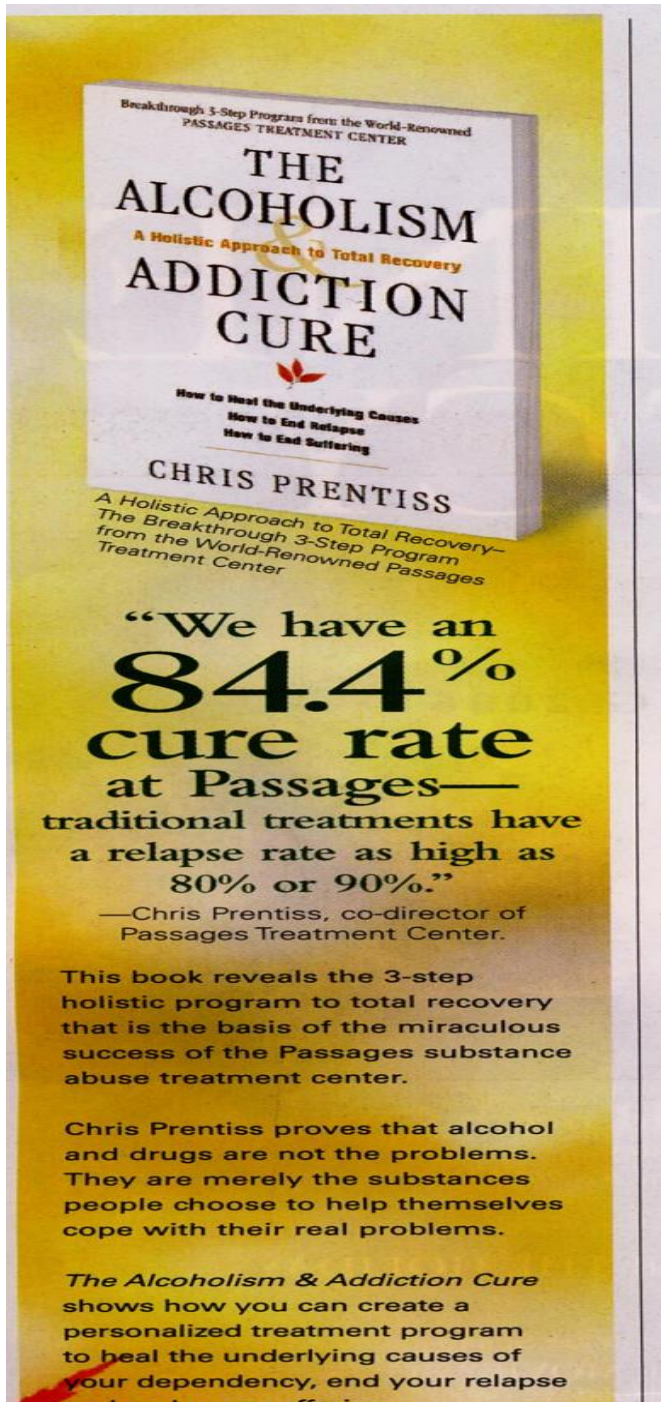
We are treating a chronic illness; clinical course of SUD and achievement of stable remission can take a long time…



MASSACHUSETTS GENERAL HOSPITAL

Challenges in programs' post-treatment "Outcomes" measurement…

- Three Cs
  - **Cost** – to do longer-term post-treatment follow up well ensure high/representative follow-up is expensive, proper measures, analyses
  - **Case-mix** – "success rates" need to be adjusted/related to severity/prognosis demographics of clientele
  - **Credibility** – will anybody believe me if I report my outcomes/suspect bias?



"*The Cure for Alcoholism* is offering readers something that's never been offered before ... A REAL CURE. This book will change the face of alcoholism and rock the rehab industry."
—*Arnold Lazarus, Professor Emeritus, Rutgers*

The Cure *for* Alcoholism

DRINK YOUR WAY SOBER

WITHOUT WILLPOWER,

ABSTINENCE OR

DISCOMFORT

Roy Eskapa, PhD

Foreword by David Sinclair, PhD

Solution= Measurement-based Practice

- Contemporaneous measurement, summarization, and graphic representation of brief, psychometrically validated, patient-reported, clinical variables (outcomes), that have concurrent and predictive real-world utility and validity in assessing patients' progress during treatment and continuing care for SUD ("addiction vital signs")

- Use measures that have clinical utility and that are important to patients, providers, programs, payors

- Encourages within and between-program feedback and comparison; random audit (e.g., JCAHO-like auditing)

Outline

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MBP advantages

- **Enhanced patient awareness** of current status, trends, and patterns, on clinically relevant intermediate/ultimate outcomes (e.g., craving, days of use, pain)

- **Enhanced clinician awareness** of patients' status, trends, and patterns (etc.) that can highlight off-course cases early and raise consciousness and allow adjustments to course and intensify of treatment

- **Enhanced program awareness** of program's effectiveness in engagement, retention, clinical response to delivered care through continuous data aggregation

- **Enhanced ability to detect patient sub-groups failing to respond to standard of care** lowering overall program effectiveness

MBP advantages

- Enhanced awareness of poor patient response for patient sub-groups **facilitates immediate development, testing and evaluation of clinical innovations** NOW to meet needs of vulnerable populations (i.e., constant QI)

- **Clinic/program-level data comparison across collaborating centers and systems** can allow identification of **over-performing programs** (as well as under-performing programs)

- System-wide MBP can allow for continual identification of the most effective programs/practices and clinical innovations that have **real-world ecological validity removing barriers of "research to practice" lags and translation**

- **Identify where exactly in the treatment causal therapeutic chain the treatment fails and thus enhance theories of SUD-related behavior change** identifying the mobilizers, mechanisms, and moderators of such change…

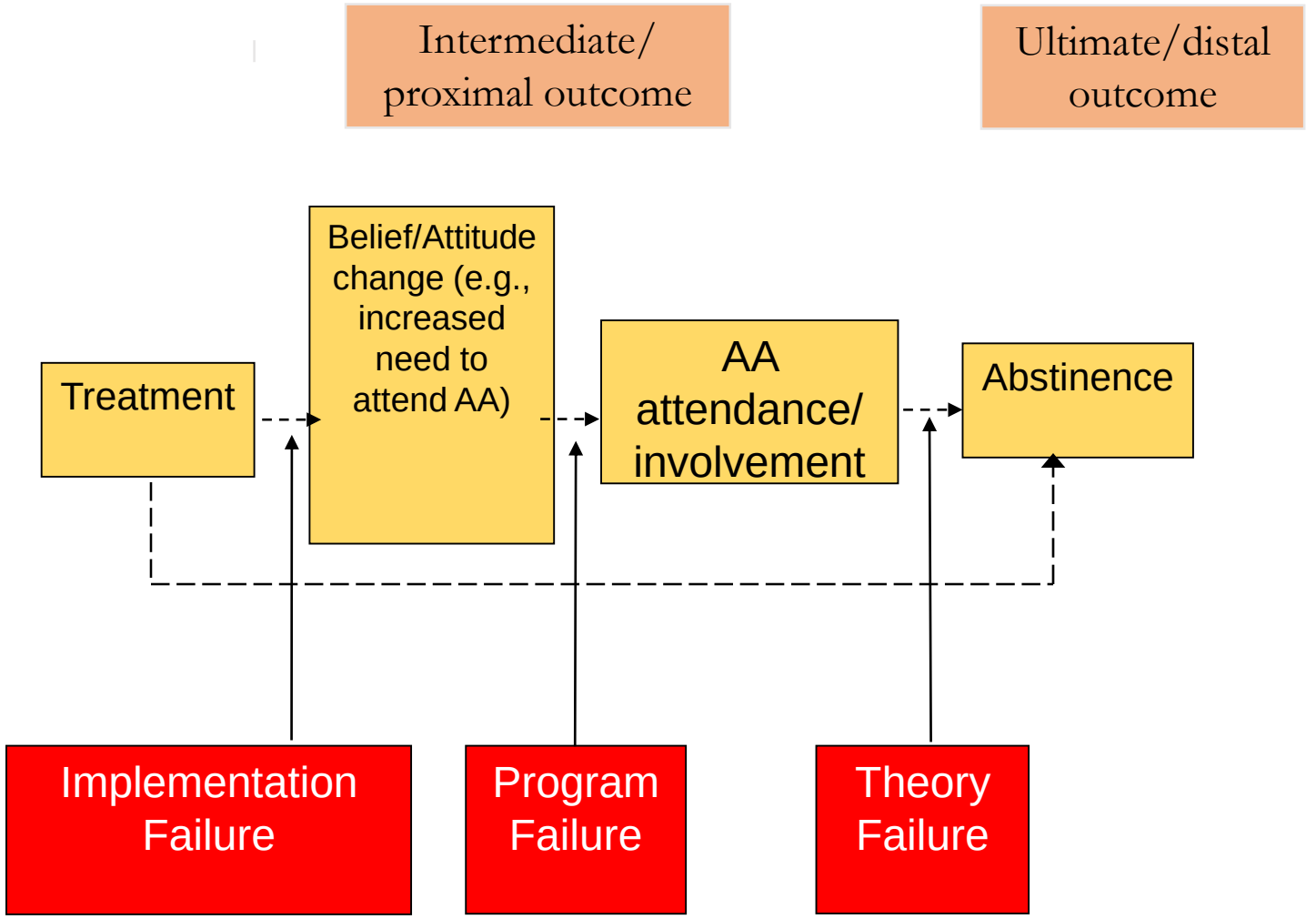
Model for Testing Treatment Theories & Purported Mechanisms

- Possible to evaluate tx models (e.g., 12-step, cognitive-behavioral) by investigating extent to which presumed underlying mechanisms/proximal outcomes, in a particular tx model/theory, are met and relate to long-term outcomes.

- By specifying and testing linkages in the tx process chain, one can find out where, if anywhere, the process breaks down, identify the specific type of failure involved and make targeted improvements (Suchman, 1965; Finney, 1995).

Adapted from: Finney, J.W. (1995) Enhancing Substance Abuse Treatment Evaluations: Examining Mediators and Moderators of Treatment Effects. Journal of Substance Abuse, 7, 135-150.

Model for Testing Treatment Theories & Purported Mechanisms



Adapted from: Finney, J.W. (1995) Enhancing Substance Abuse Treatment Evaluations: Examining Mediators and Moderators of Treatment Effects. Journal of Substance Abuse, 7, 135-150.

MBP examples

- Michael Lambert (OQ45)
- Tom McLellan (Concurrent Recovery Monitoring “Recovery Track”)
- Scott Miller (Feedback Informed Treatment FIT)

Beyond Measures and Monitoring: Realizing the Potential of Feedback-Informed Treatment

- Routine Outcome Monitoring (ROM)
- Evidence suggests the process may:
  - **Double the effect size of treatment and increase the proportion of clients with reliable and clinically significant change;**
  - **Cut dropout rates in half**
  - **Reduce the risk of deterioration by one third**
  - **Shorten the length of treatment by two thirds**
  - **Drive down the cost of care**
- Though there is currently limited research in this area, the existing evidence highlights the importance of a therapist's commitment to using and incorporating the feedback into their practice in a meaningful and self-reflective manner.

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0033-3204/15/$12.00 http://dx.doi.org/10.1037/pst0000031

Beyond Measures and Monitoring: Realizing the Potential of Feedback-Informed Treatment

Scott D. Miller, Mark A. Hubble, Daryl Chow, and Jason Seidel
International Center for Clinical Excellence, Chicago, Illinois

More than a dozen randomized controlled trials and several meta-analyses have provided strong empirical support for routine outcome monitoring (ROM) in clinical practice. Despite current enthusiasm, advances in implementation, and the growing belief among some proponents and policymakers that ROM represents a major revolution in the practice of psychotherapy, other research has suggested that the focus on measurement and monitoring is in danger of missing the point. Any clinical tool or technology is only as good as the therapist who uses it. Failing to attend to the therapist's contribution, the long neglected variable in psychotherapy outcome, ensures that efforts to create, research, and refine new outcome measurement systems will inevitably fall short. Research from the field of expertise and expert performance provides guidance for realizing the full potential of ROM.

EFFECTS OF USING ASSESSMENT INSTRUMENTS ON SUBSTANCE-ABUSE OUTPATIENTS' ADHERENCE TO TREATMENT

SAMPLE

Baseline participants(n=280) were randomized into either intention-to-treat (n=116; control n=111) or per-protocol (n=100; control n=111) treatment groups. Participants were individuals with multiple substance use disorders who were a part of one of the five outpatient drug treatment centers in Belgium.

METHOD

The experimental group were informed about the intervention and of subsequent assessments plus feedback that would happen after each session. Assessments were given with the Readiness to Change Questionnaire (RCQ) and the Personal Resources Diagnostic System (PREDI). In the control group, individuals received

The Effect of Using Assessment Instruments on Substance-abuse Outpatients' Adherence to Treatment: a Multi-centre Randomised Controlled Trial

Veerle Raes[1*], Cor AJ De Jong[2], Dirk De Bacquer[3], Eric Broekaert[4] and Jan De Maeseneer[5]

Abstract

Background: Drop-out is an important problem in the treatment of substance use disorder. The focus of this study was to investigate the effectiveness of within treatment assessment with feedback directly to patients with multiple substance use disorder on outpatient individual treatment adherence. Feedback consisted of personal resources' and readiness to change status and progress that facilitate or hinder change, thereby using graphical representation.

Methods: Informed consent was obtained from both the control and experimental groups to be involved in research and follow-up. Following Zelen's single consent design, baseline participants (n = 280) were randomised (sample-size-estimation: 80%power, p=.05, 2-sided) and treatment consent was obtained from those allocated to the experiment (n = 142). In both groups, equal numbers of patients did not attend sessions after allocation. So, 227 persons were analyzed according to intention-to-treat analysis (ITT: experiment n = 116;control n = 111). Excluding refusals 211 participants remained for per-protocol analysis (PP: experiment n = 100; control n = 111). The study was conducted in five outpatient treatment-centres of a large network (De Sleutel) in Belgium. Participants were people with multiple substance use disorder -abuse and dependence- who had asked for treatment and who had been advised to start individual treatment after a standardised admission assessment with
y Index.
nsisted of informing the patient about the intervention and of subsequent
wing a protocol within the first seven sessions. Assessments were made with the
aire and the Personal Resources Diagnostic System. The control group received the
treatment assessment with feedback. The most important outcome measure in this
vel of adherence to treatment at and beyond eight sessions.
at included assessment with feedback increased adherence to treatment at and
,95%CI:1.2-2.2). Benefit was also found at and beyond twelve sessions, which was
d to complete 90% of the assessments with feedback in practice (RR = 1.6,95%

feedback in routine practice improved adherence to treatment. More research is
social functioning and motivation to change in outpatient treatment of substance
ective measures

Individuals in the experiment group which included assessment with direct feedback had increased adherence to treatment at and beyond eight sessions as well as at and beyond twelve sessions.

EFFECTS OF ASSESSMENTS ON ADHERENCE TO TREATMENT

In both conditions (intention-to-treat and per-protocol group), individual treatment where assessment and direct feedback were given *improved* adherence to treatment at or beyond eight sessions.

Table 3 Adherence at and beyond eight and twelve sessions in intention-to-treat and per-protocol analysis

	> = 8 sessions	> = 12 sessions
Intention-to-treat (n = 227)		
experimental	53.4%	33.6%
control	34.2%	20.7%
Risk ratio (RR)	1.6	1.6
95%CI	1.2-2.1	1.0-2.5
Per-protocol (n = 211)		
experimental	56.0%	36.0%
control	34.2%	20.7%
Risk ratio (RR)	1.6	1.7
95%CI	1.2-2.2	1.1-2.7

EFFECTS OF INDIVIDUAL PATIENT-LEVEL FEEDBACK IN OUTPATIENT TREATMENT PROGRAMS

SAMPLE

Patients (n=304), Clinicians (n=38) had patients complete assessments.

METHOD

During Phase I, administered self-report questionnaires(OQ-45) to track patient progress in tx. During Phase II, same patients given OQ-45, and the clinicians received immediate feedback. In the case the patient was "off-track", the clinician was able to use clinical support tools to suggest improvements

OUTCOMES

For patients who were "off-track", feedback to counselors led to superior treatment outcomes compared to no feedback. The effects of feedback were evident on general psychiatric symptoms and alcohol and drug use.

Published in final edited form as:
J Subst Abuse Treat. 2012 April ; 42(3): 301–309. doi:10.1016/j.jsat.2011.09.003.

A Preliminary Study of the Effects of Individual Patient-Level Feedback in Outpatient Substance Abuse Treatment Programs

Paul Crits-Christoph, Ph.D.[a,*], **Sarah Ring-Kurtz, M.S.**[a], **Jessica L. Hamilton, B.A.**[a], **Michael J. Lambert, Ph.D.**[b], **Robert Gallop, Ph.D.**[c], **Bridget McClure, M.A.**[d], **Agatha Kulaga, M.S.W.**[d], and **John Rotrosen, M.D.**[d]

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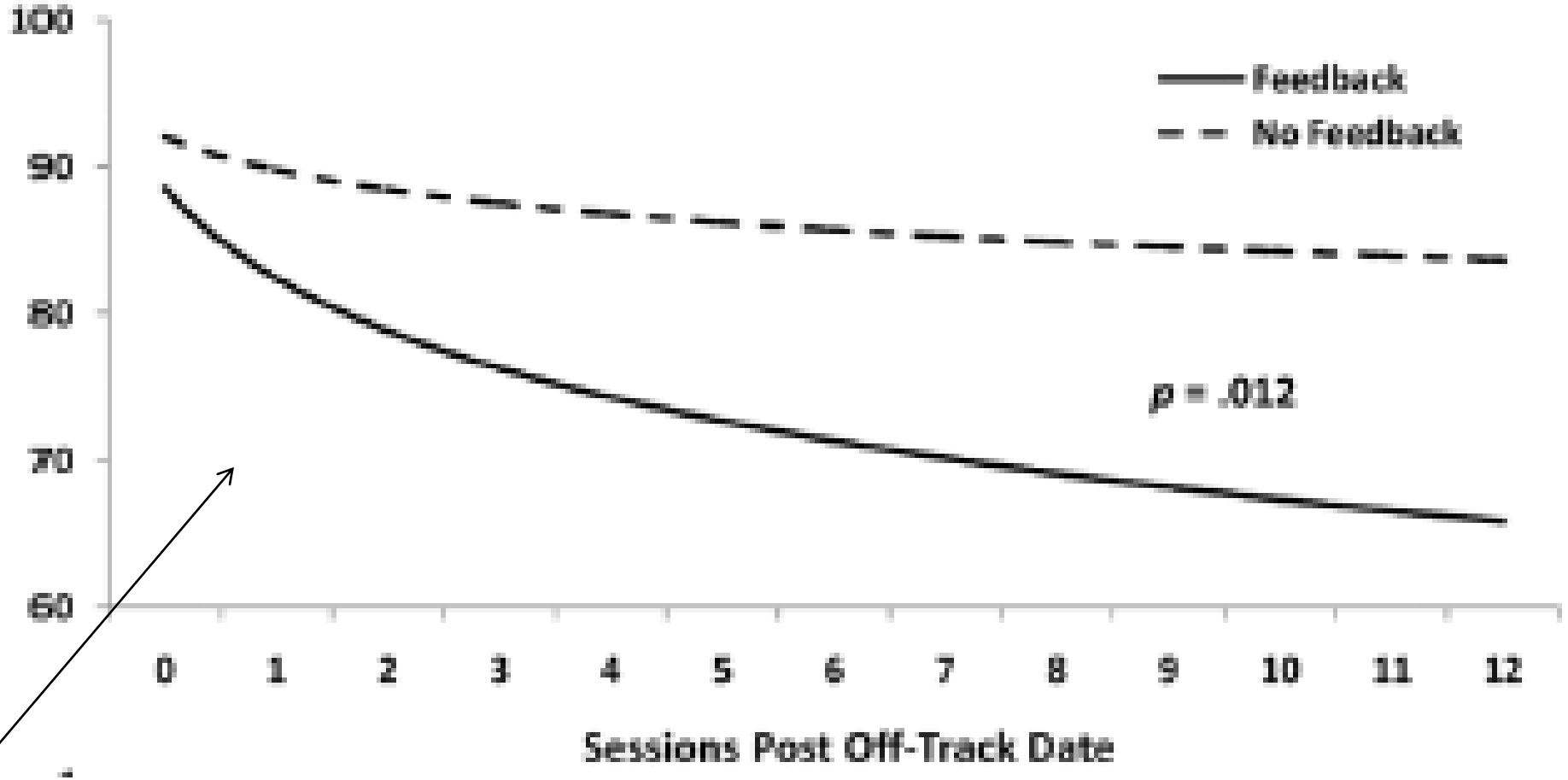
Abstract

The purpose of the current study is to examine the effects of feedback provided to counselors on the outcomes of patients treated at community-based substance abuse treatment programs. A version of the Outcome Questionnaire (OQ-45), adapted to include drug and alcohol use, was administered to patients (*N*=304) in three substance abuse treatment clinics. Phase I of the study consisted only of administration of the assessment instruments. Phase II consisted of providing feedback reports to counselors based on the adapted OQ-45 at every treatment session up to session 12. Patients who were found to not be progressing at an expectable rate (i.e., "off-track") were administered a questionnaire that was used as a second feedback report for counselors. For off-track patients, feedback compared to no feedback led to significant linear reductions in alcohol use throughout treatment and also in OQ-45 total scores and drug use from the point of the second feedback instrument to session 12. The effect for improving mental health functioning was evident at only one of the three clinics. These results suggest that a feedback system adapted to the treatment of substance use problems is a promising approach that should be tested in a larger randomized trial.

THE EFFECTS OF FEEDBACK ON OFF-TRACK PATIENTS



High scores on the OQ-45 indicates greater levels of symptoms and poorer functioning.

RECONSIDERING THE EVALUATION OF ADDICTION

During treatment, measure at beginning of sessions to evaluate progress and make care decisions … shows potential for timely and clinically relevant and accountable evaluation ("concurrent recovery monitoring" (CRM).

CRM data allow clinicians better sense of patients' recovery process and customize tx plans for each patients.

HORIZONS REVIEW

Reconsidering the evaluation of addiction treatment: from retrospective follow-up to concurrent recovery monitoring

A. Thomas McLellan[1,2], James R. McKay[1,2], Robert Forman[1,2], John Cacciola[1,2] & Jack Kemp[3]

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final version accepted 19 July 2004

ABSTRACT

Historically, addiction treatments have been delivered and evaluated under an acute-care format. Fixed amounts or durations of treatment have been provided and their effects evaluated 6–12 months after completion of care. The explicit expectation of treatment has been enduring reductions in substance use, improved personal health and social function, generally referred to as 'recovery'. In contrast, treatments for chronic illnesses such as diabetes, hypertension and asthma have been provided for indeterminate periods and their effects evaluated during the course of those treatments. Here the expectations are for most of the same results, but only during the course of continuing care and monitoring. The many similarities between addiction and mainstream chronic illnesses stand in contrast to the differences in the ways addiction is conceptualized, treated and evaluated. This paper builds upon established methods of during-treatment evaluation developed for the treatment of other chronic illnesses and suggests a parallel evaluation system for out-patient, continuing-care forms of addiction treatment. The suggested system retains traditional patient-level, behavioral outcome measures of recovery, but suggests that these outcomes should be collected and reported immediately and regularly by clinicians at the beginning of addiction treatment sessions, as a way of evaluating recovery progress and making decisions about continuing care. We refer to this paradigm as 'concurrent recovery monitoring' and discuss its potential for producing more timely, efficient, clinically relevant and accountable evaluations.

KEYWORDS Addiction, monitoring, outcomes, recovery, treatment.

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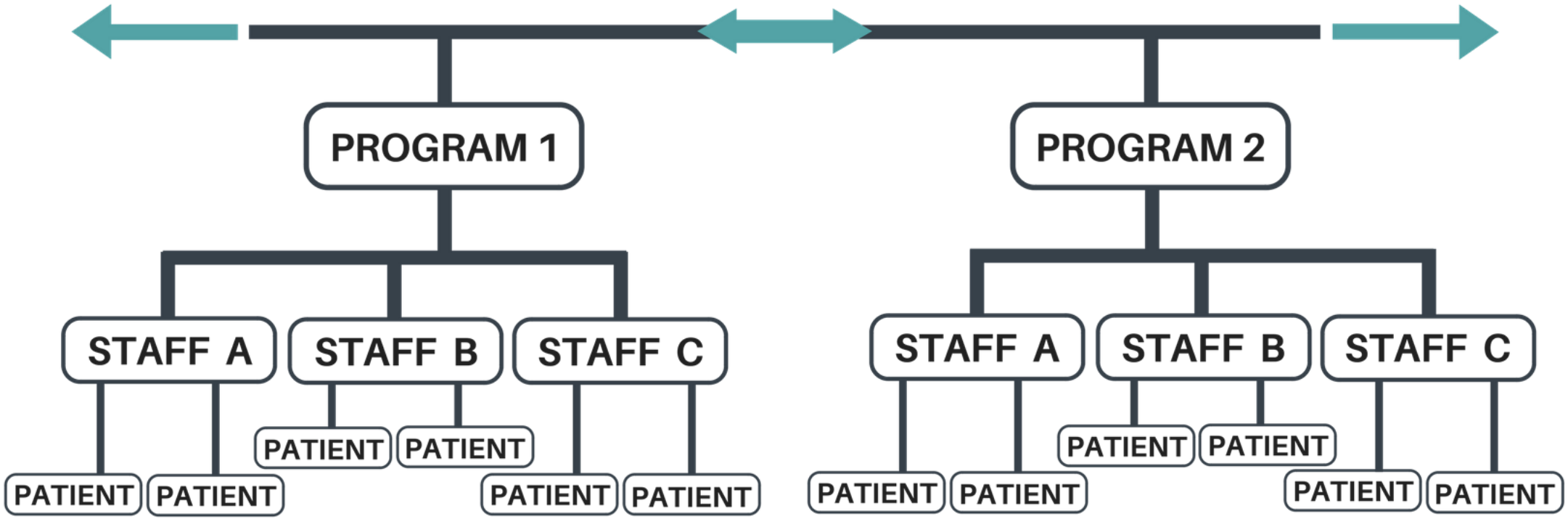
Measurement Assisted Practice System

Quality *Accountability* *Effectiveness* *Empowerment*

MEASUREMENT ASSISTED PRACTICE SYSTEM (MAPS)™



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Engagement/Retention

Abstinence self-efficacy

Recovery Motivation

Frequency bothered Mental health symptoms

IV drug use

Craving

Frequency of intoxication

Pain

Coping

Frequency substances/MH symptoms affected functioning

Frequency of use

Mutual-help attendance

Medication Compliance

PATIENT MEASURES

MEASURED CONSTRUCTS	INTAKE (BASELINE)	FOLLOW UP (WEEKLY)
DEMOGRAPHICS	✓	
MEDICAL HISTORY	✓	
NEEDLE USE/OVERDOSE	✓	✓
SUBSTANCE USE & RELATED FUNCTIONING	✓	✓
MEDICATION HISTORY & COMPLIANCE	✓	✓
MENTAL HEALTH SYMPTOMS & RELATED FUNCTIONING	✓	✓
ABSTINENCE SELF-EFFICACY & BEHAVIORAL INTENTION	✓	✓
ADDICTION SEVERITY	✓	
CRAVING & PAIN	✓	✓
RECOVERY MOTIVATION	✓	

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MAPS Overview

Patient Access

- Patients have access to their unique, auto-generated survey via Tablet (HIPAA Compliant)
- Patients not able to resubmit survey or see additional information

Administrative Access

- Administrators have access to set up Patients, add/edit clinics, appointments, and set up Patient surveys
- Clinicians have access to see aggregate reports of all their Patients
- Directors have access to see aggregate reports of all Patients and by staff
- System has access to see aggregate reports of programs

Patient Survey Access

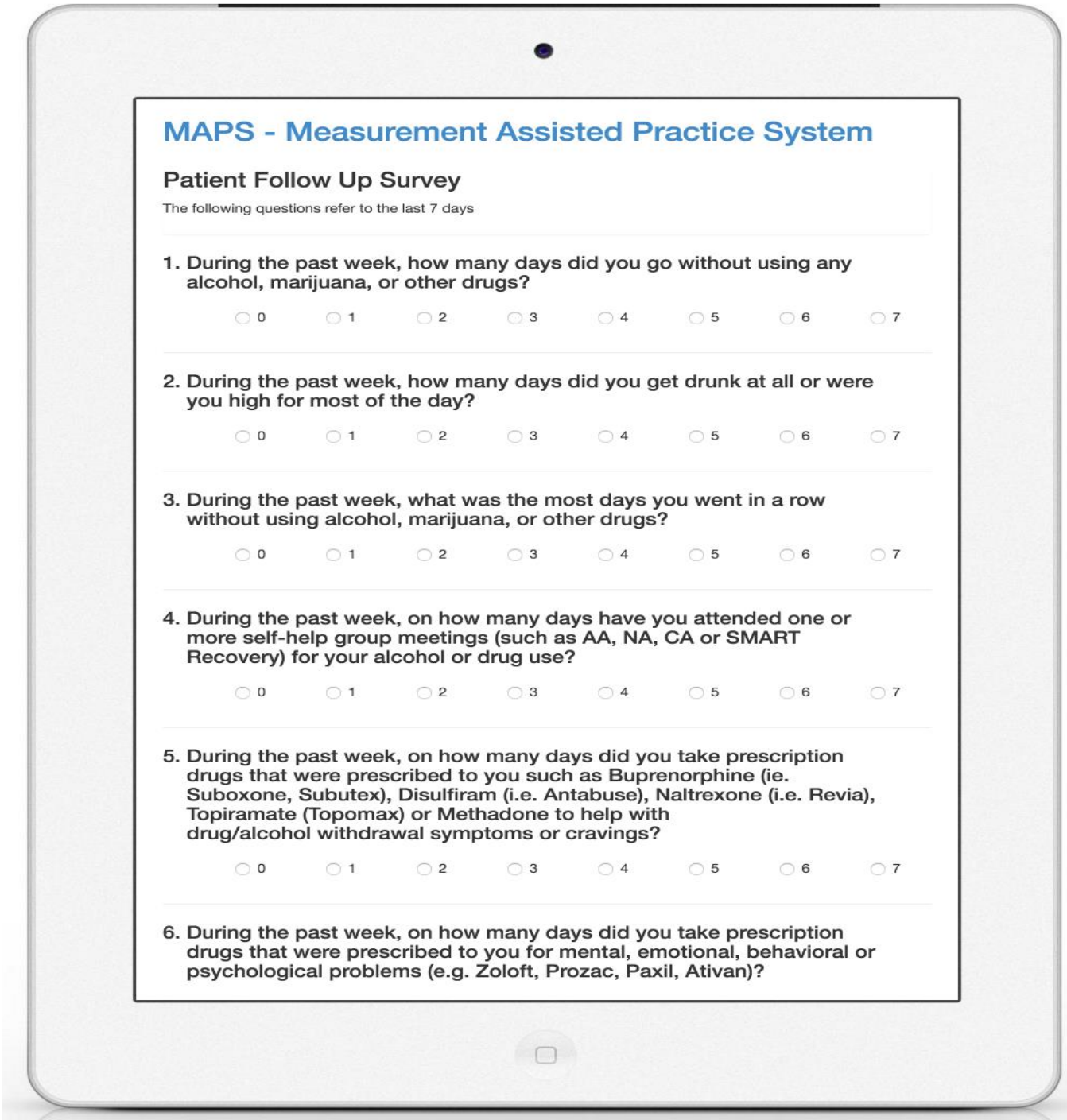
- When Patient arrives, Administrator easily configures tablet to auto-generate unique survey for Patient to complete prior to appointment.

- There are 2 survey types:
  - **Intake** - this is an intensive initial survey completed at the onset of the program
  - **Follow Up** - this is a short survey intended to be taken at each follow up appointment

Patient Survey Access

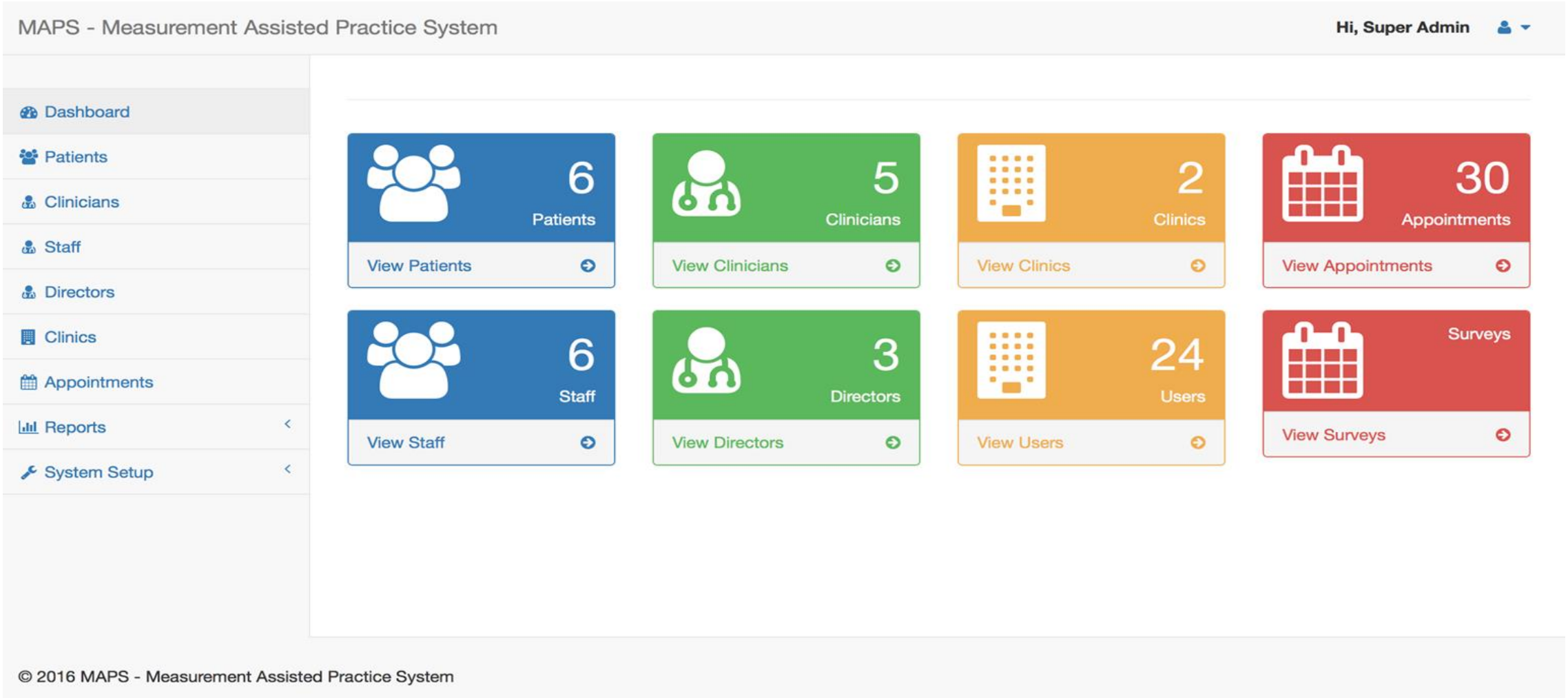
- Once tablet is set up for patient, Administrator hands patient tablet for survey completion
- Patient completes survey and returns tablet to staff.

Note: Patient may not click 'back' button after survey submission, nor has access to any other part of the system

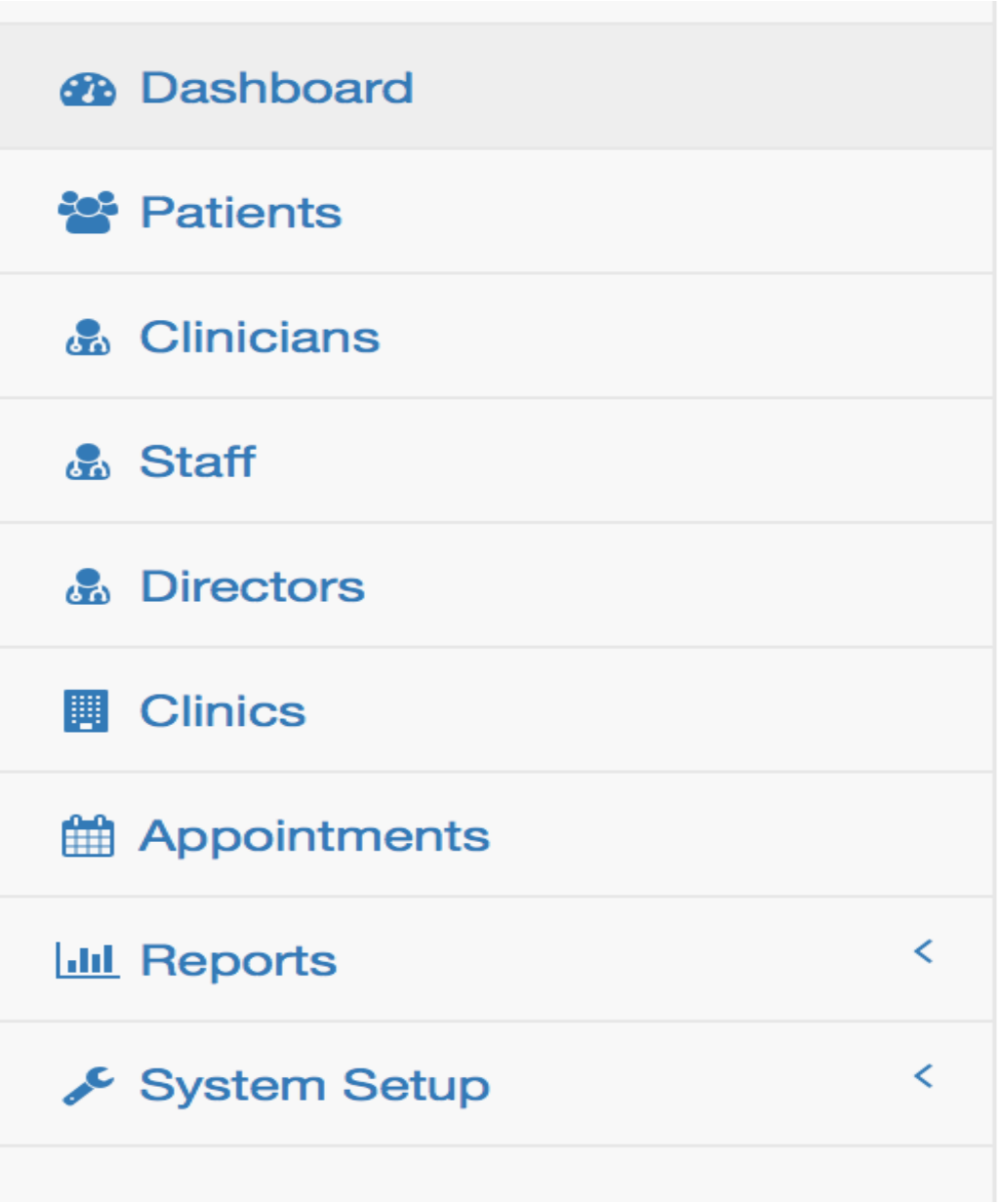


Dashboard

- Successful login redirects user to the Administrative Dashboard
- Left navigation menu displays links to pages and reports
- Chiclet factoids show system overview stats



Left Navigation



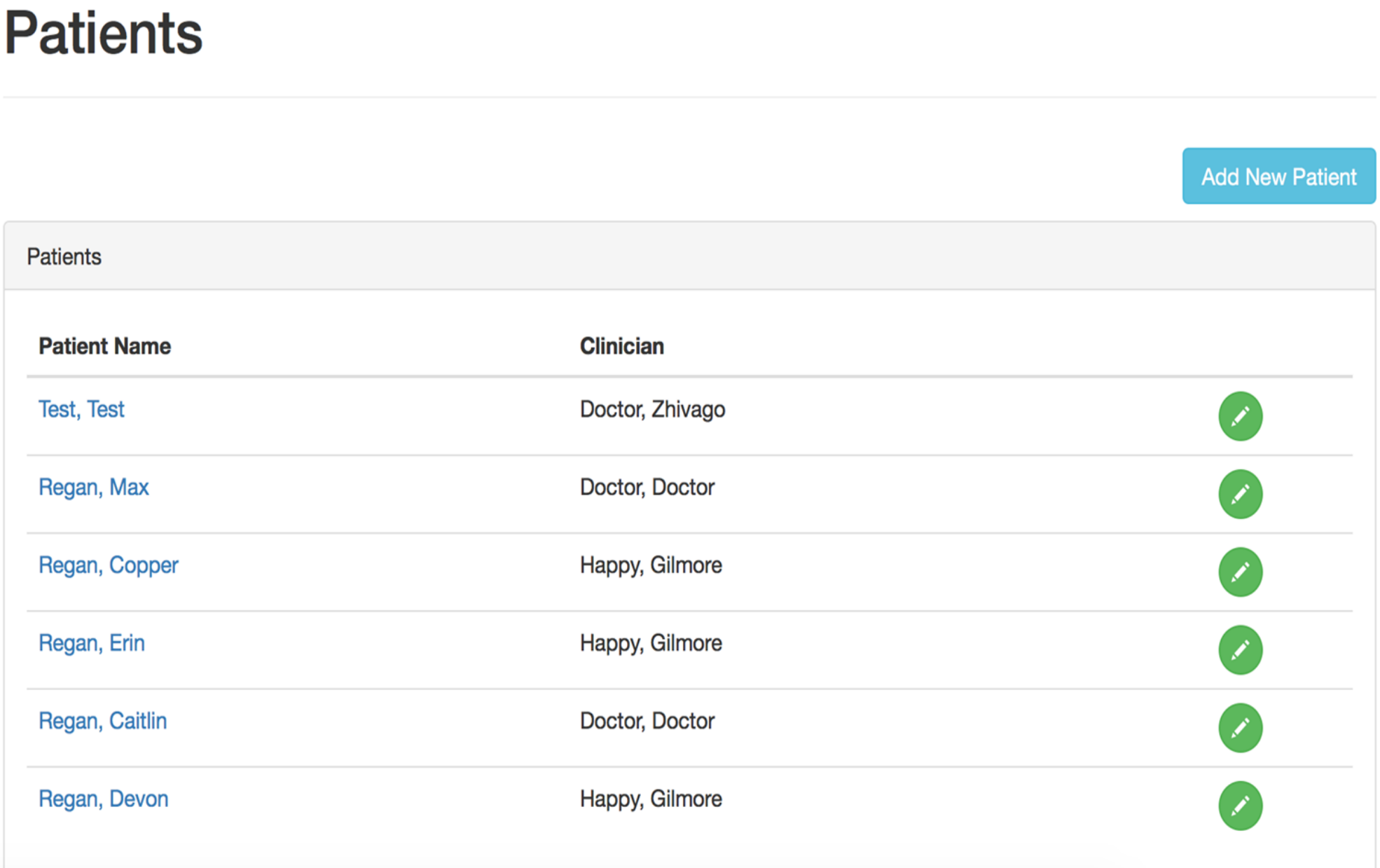
Displays links to everything in the system

- Dashboard - links to the admin homepage
- Patients - Links to patients admin
- Clinicians - Links to clinicians admin
- Staff - Links to staff admin
- Directors - Links to directors admin
- Clinics - Links to clinics admin
- Appointments - Links to appt setup
- Reports - Links to real-time reporting
- System Setup - Links to survey admin

Patients Administration

Use this screen to:

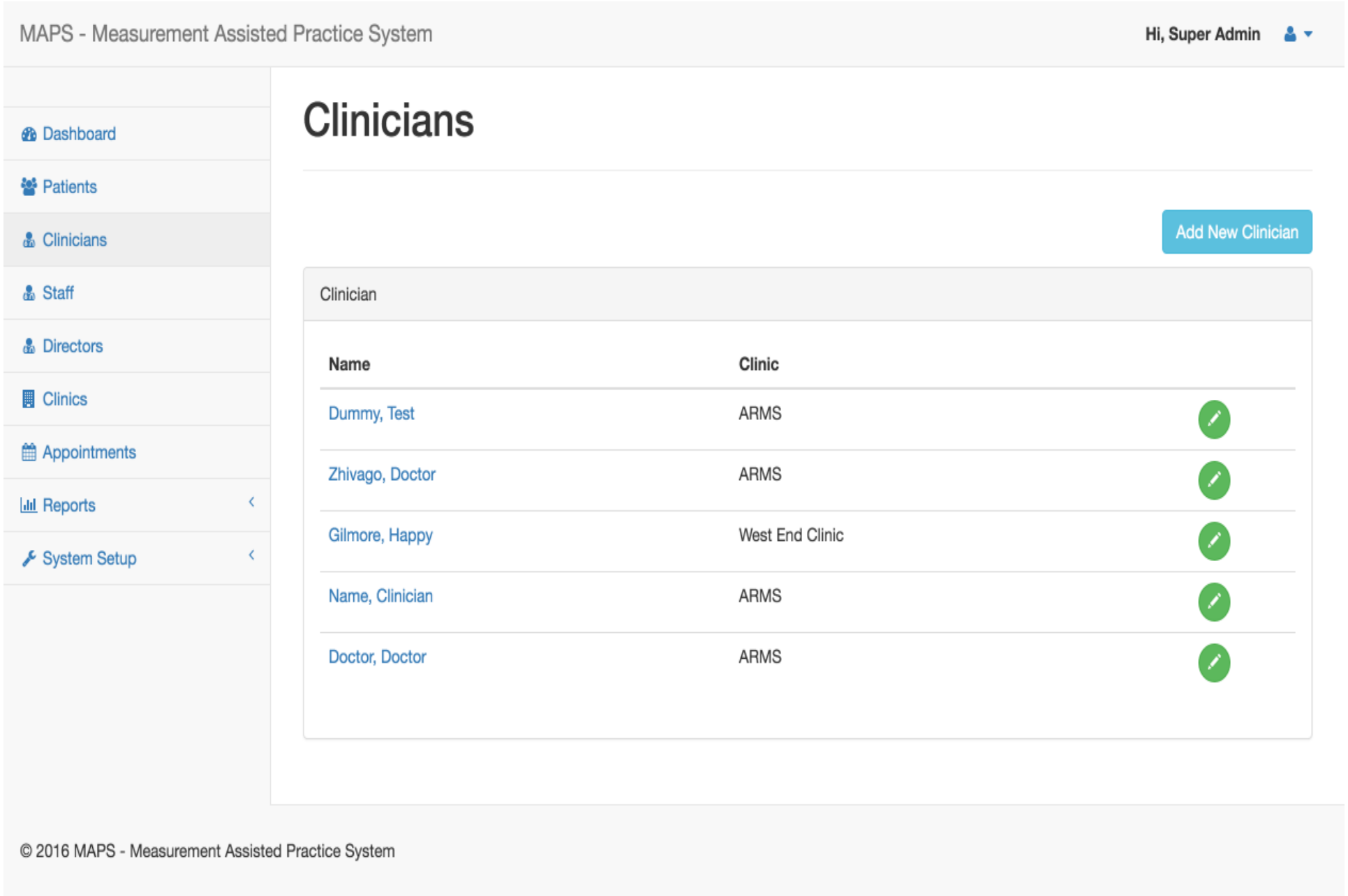
- Add new patients
- Edit existing patients
- Remove patients



Clinicians Administration

Use this screen to:

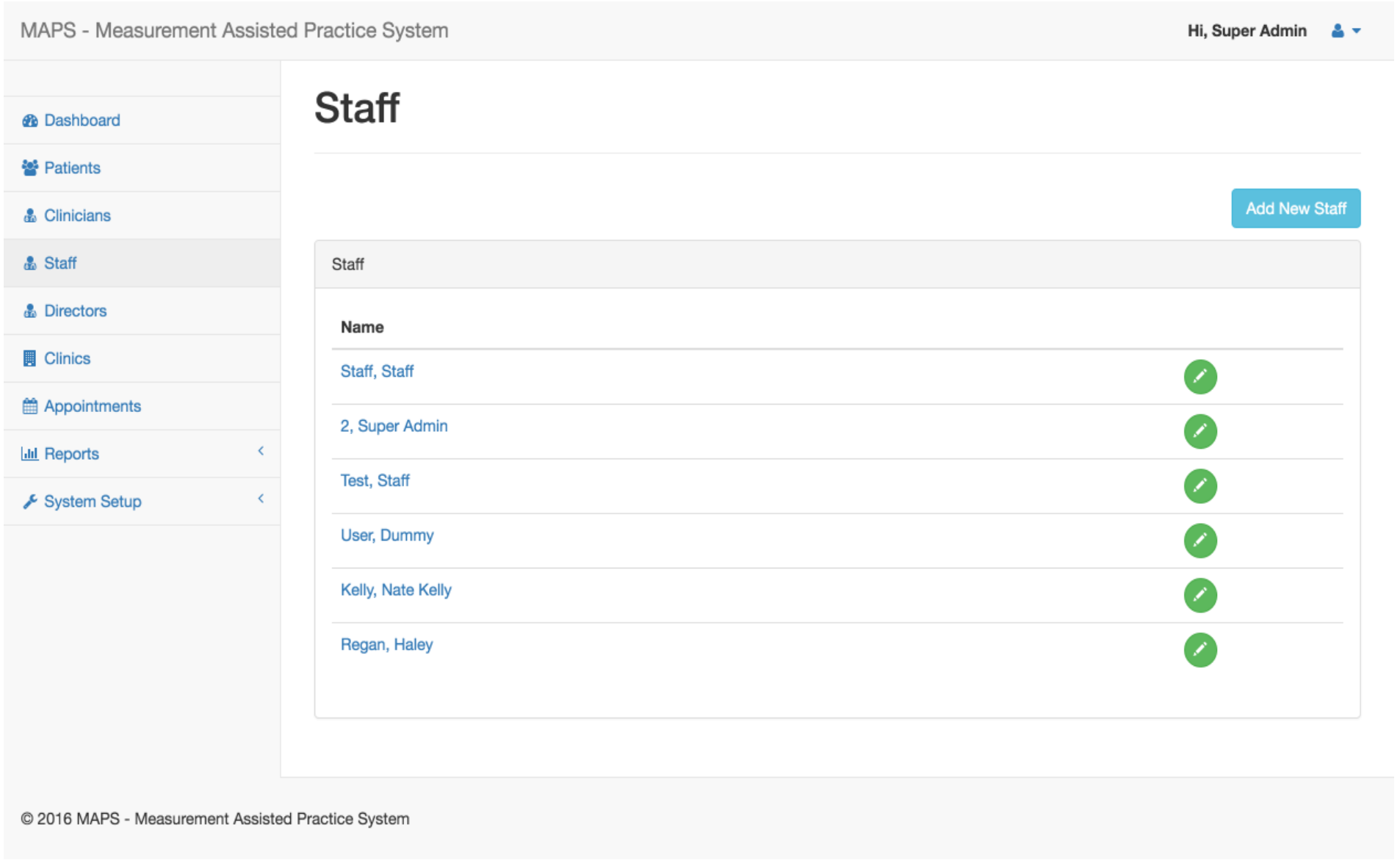
- Add new clinicians
- Edit existing clinicians
- Remove clinicians



Staff Administration

Use this screen to:

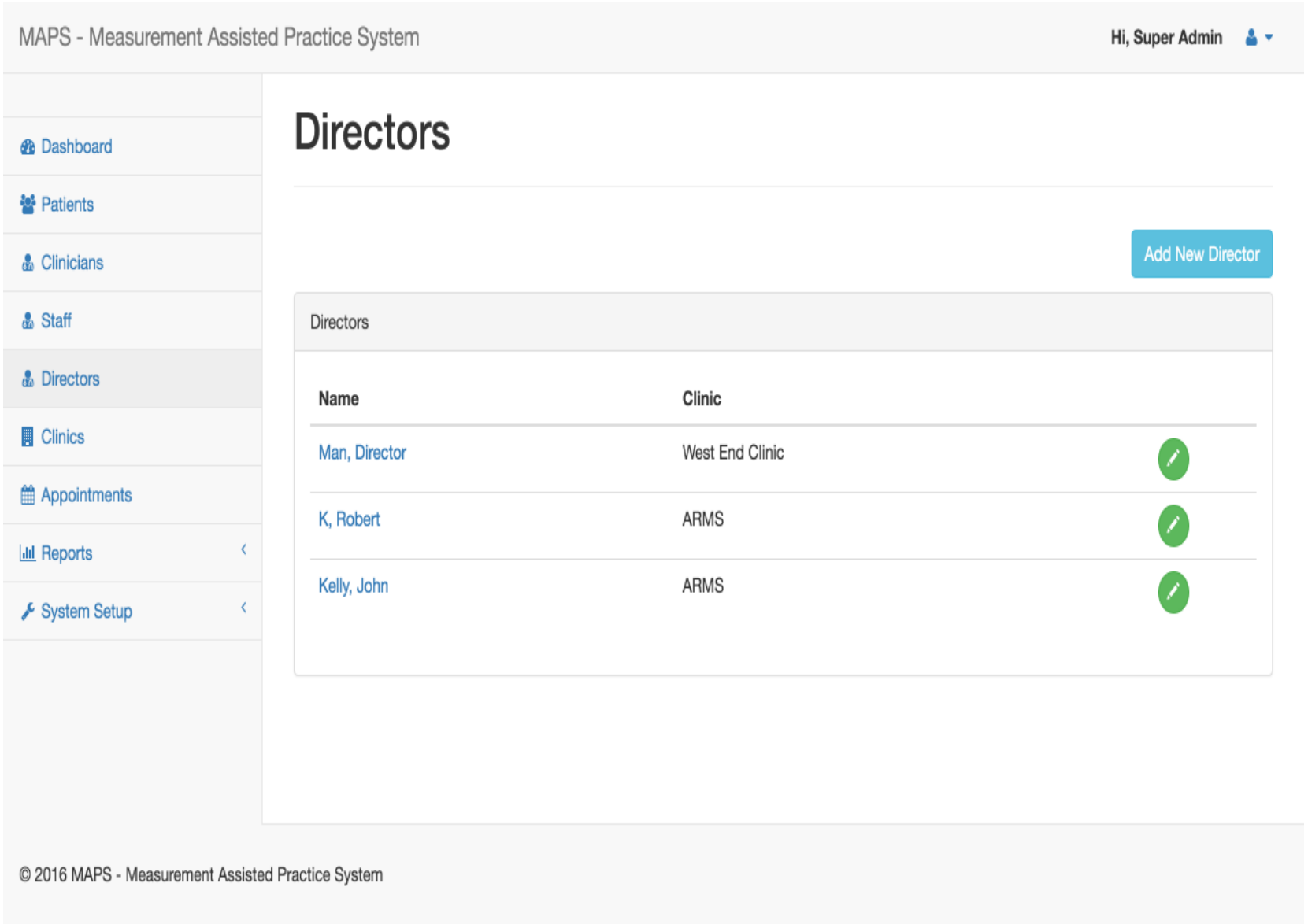
- Add new staff
- Edit existing staff
- Remove staff



Directors Administration

Use this screen to:

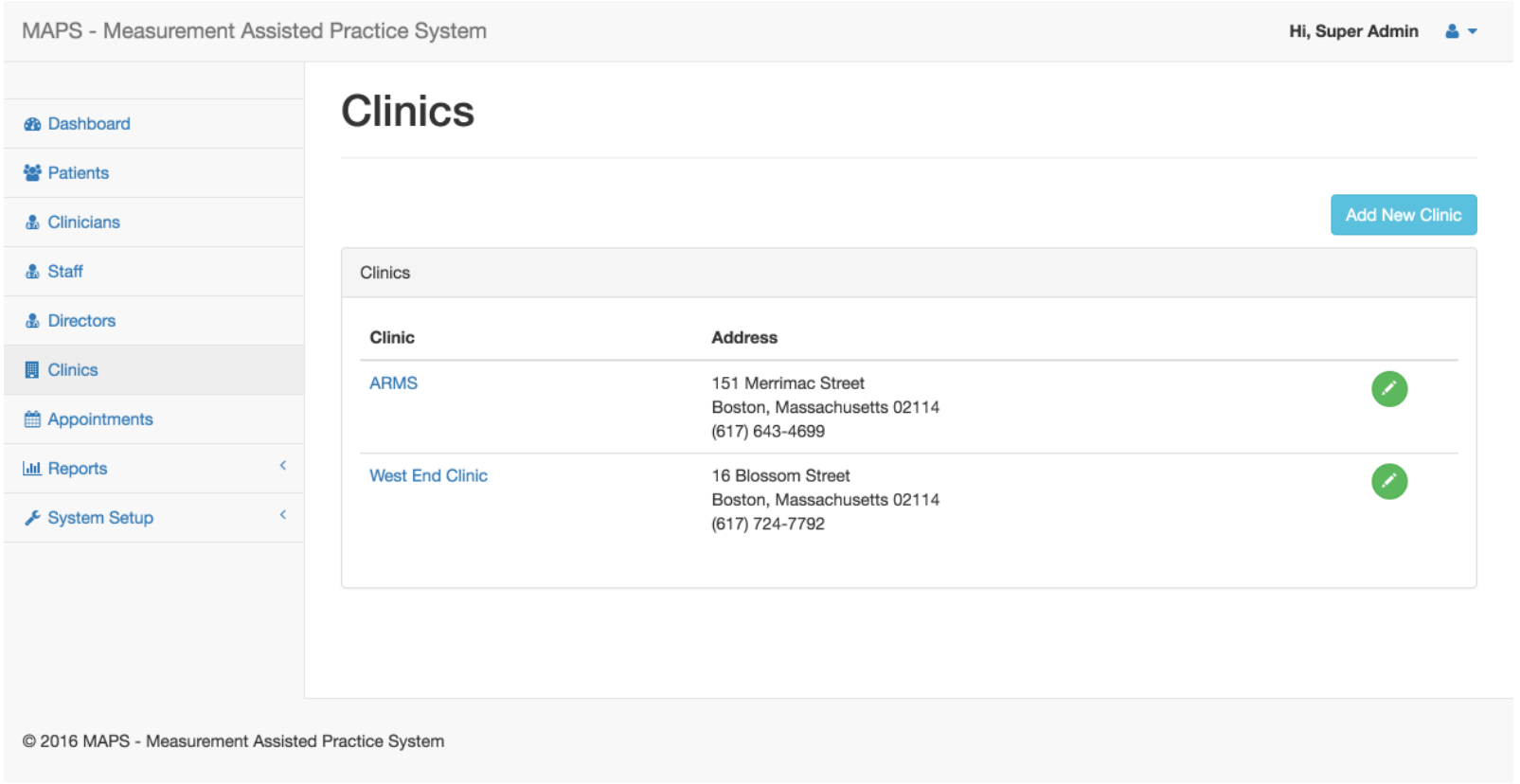
- Add new directors
- Edit existing directors
- Remove directors



Clinics Administration

Use this screen to:

- Add new clinics
- Edit existing clinics
- Remove clinics



Dashboard
Patients
Clinicians
Staff
Directors
Clinics
Appointments
Reports
System Setup

Appointments

Add New Appointment

March 2016

<< Prev | Today | Next >> | Year | Month | Week | Day

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
28	29	1	2	Caitlin Regan Erin Regan 3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
Max Regan 27	28	29	30	31	1	2

How It Works

M·A·P·S

MEASUREMENT ASSISTED PRACTICE SYSTEM

Tablet Sign In

Appointment ID

Patient Last Name

DOB - mm/dd/yyyy

Survey Type

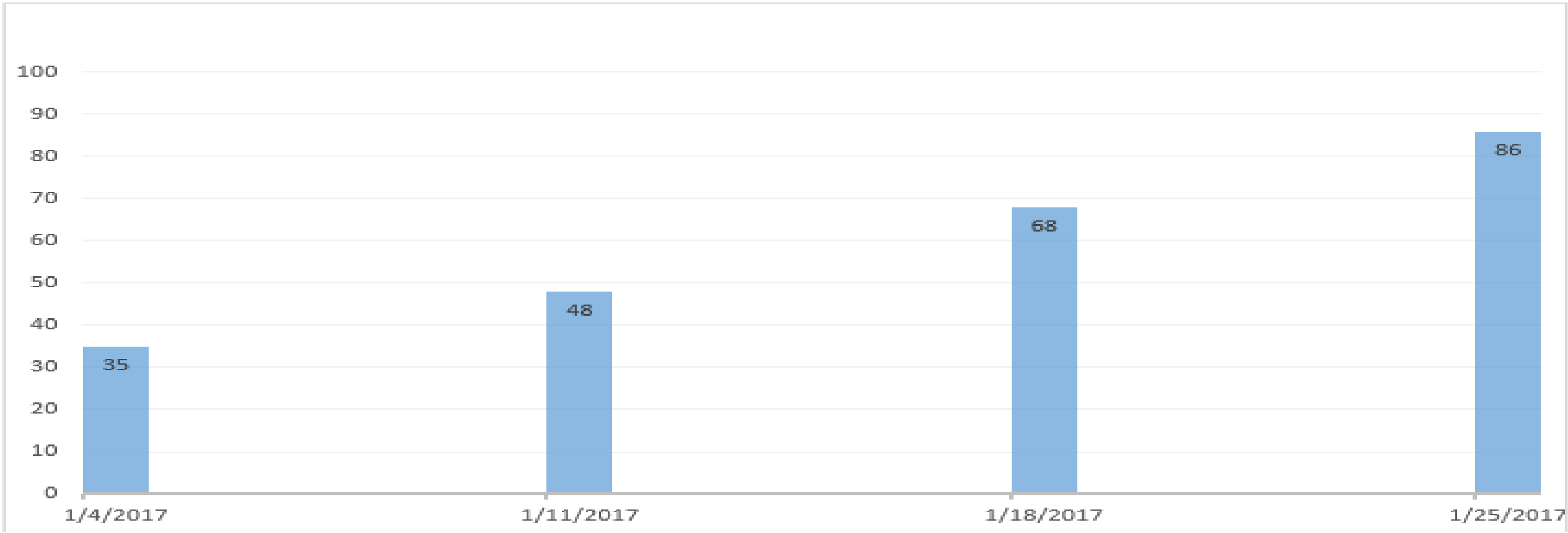
Start Survey

MAPS Types of Questions that can be answered with a few clicks of a mouse….

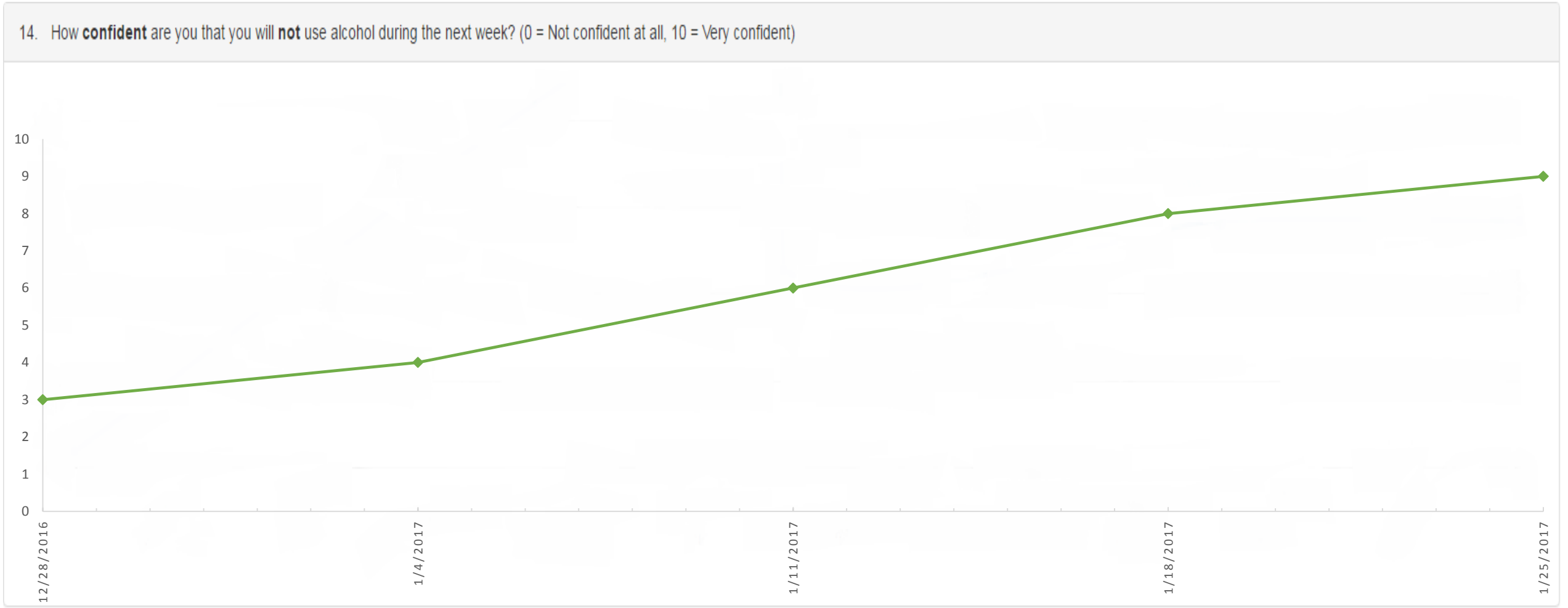
- How many patients have we seen since the start of the year/last year/last quarter?
- What proportion of patients completed at least 2 weeks of treatment/completed treatment in 2016? Did this improve since 2015? What is the trend in the past 5 years?
- What is our change in outcomes of abstinence/MH sxs/intoxication freq/craving/pain scores for our patients for past X yrs? Do men and women differ? Do young women with opioid use disorder do worse? How about young men? (etc. etc.)
- What is the degree of medication compliance for patients entering our program during the first month of treatment? Is this an improvement over 2015?
- Are we reducing IV drug use? To what degree?
- To what degree is our innovative treatment addressing young mothers improving engagement and retention/clinical outcomes?

Individual Percent Days Abstinent

1. During the past week, how many days did you go without using any alcohol, marijuana, or other drugs?

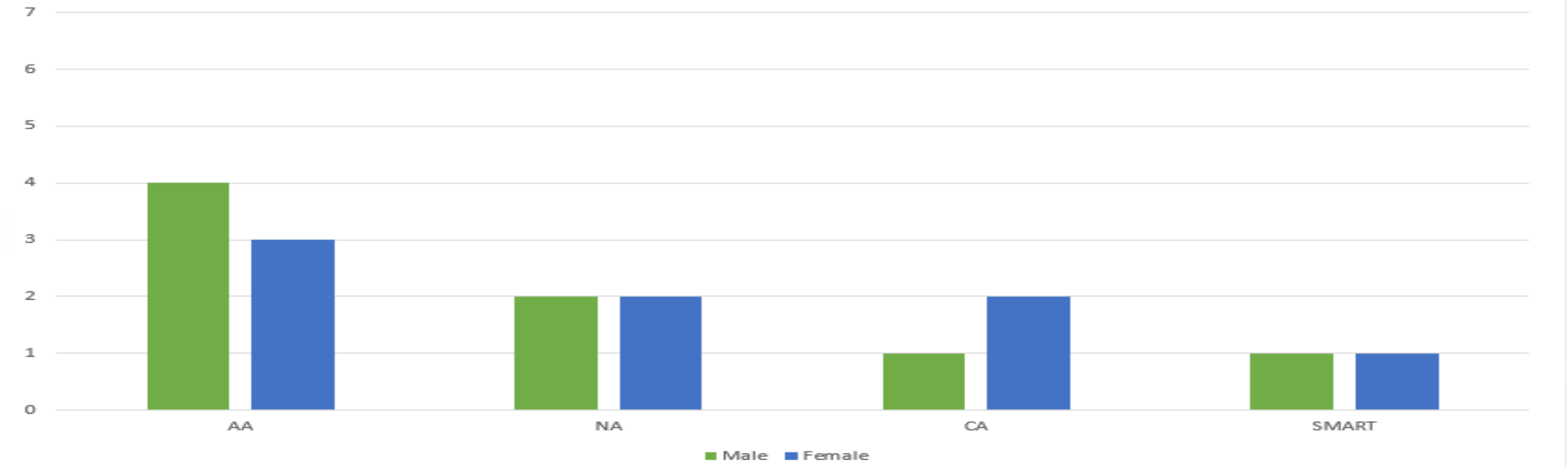


Individual Self-Efficacy

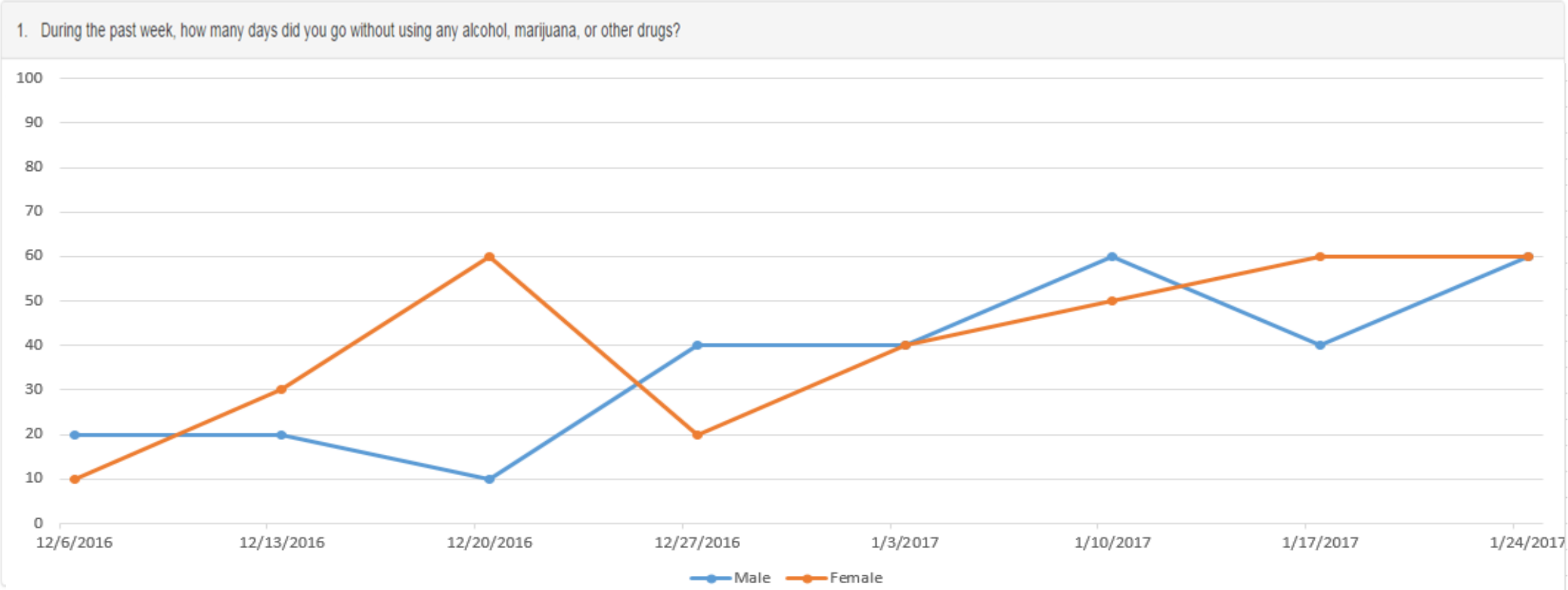


Mutual-Help Comparisons By Gender

4. During the past week, on how many days have you attended one or more self-help group meetings (such as AA, NA, CA or SMART Recovery) for your alcohol or drug use?



Percent Days Abstinent Comparison By Gender

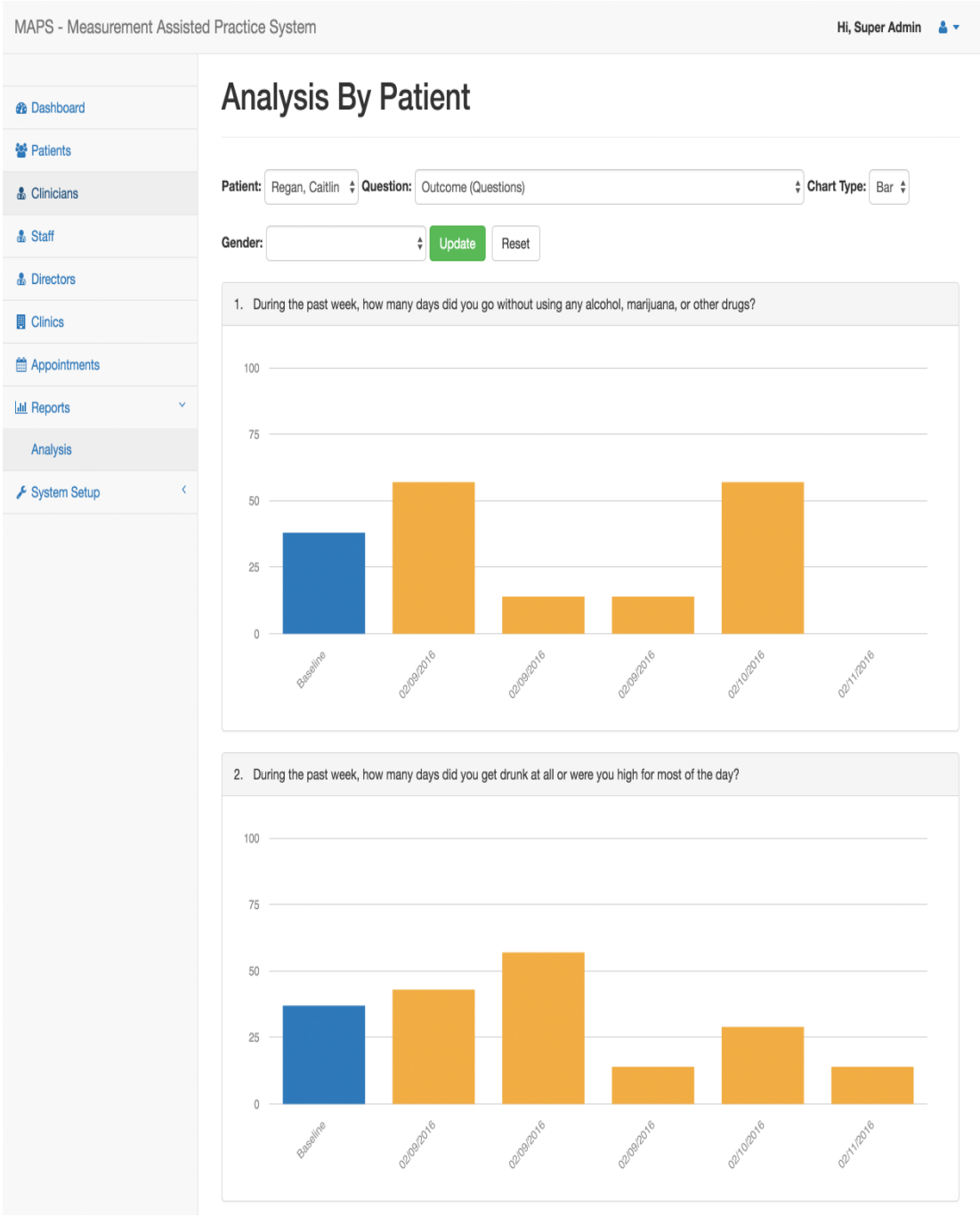


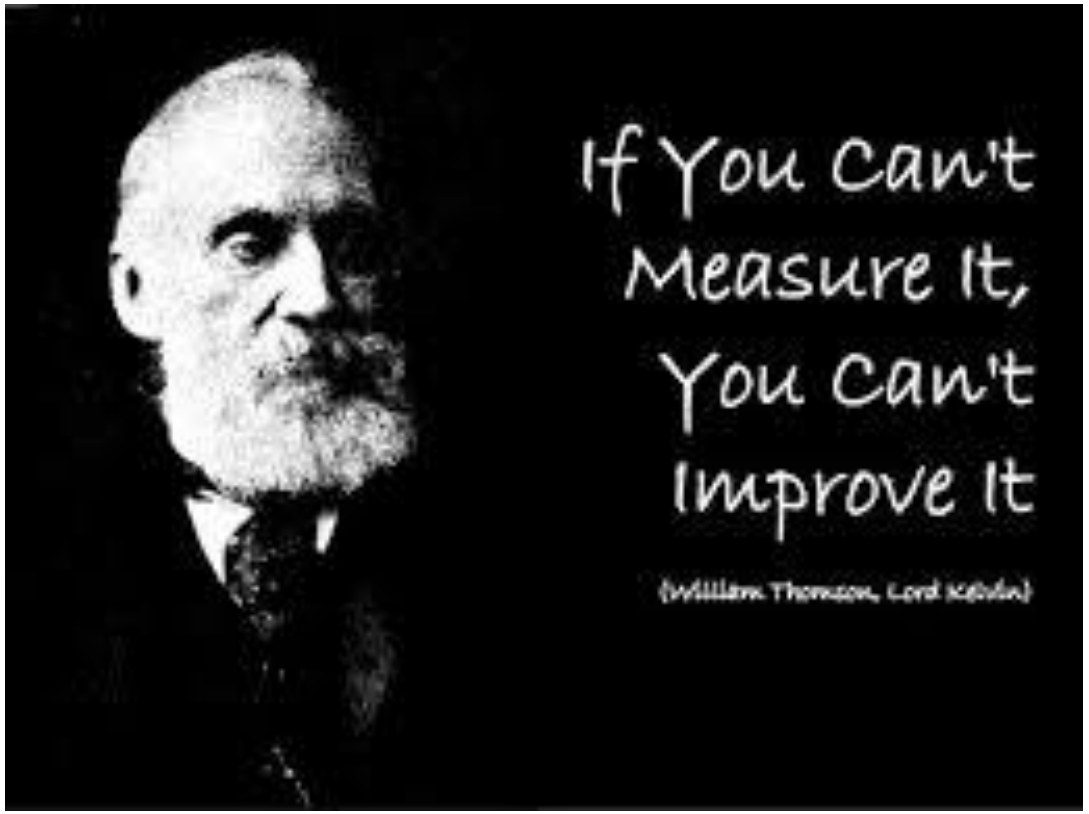
Reports

Analysis and Comparisons….

- By Patient
- By age
- By Gender
- By primary substance
- By time
- By psychiatric dx
- Any combinations

- Dynamic temporal resolution of graphic displays
- Filter by Question
- Filter by Chart Type (Bar or Line)




If You Can't
Measure It,
You Can't
Improve It
(William Thomson, Lord Kelvin)

Thank you!

MAPS™

Measurement Assisted Practice System

Quality Accountability Effectiveness

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