Findings from the Pathways to Recovery and Recovery Management Checkups (RMC) Experiments

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Problem and Purpose

Over the past several decades there has been a growing recognition that a subset of substance users suffers from a chronic condition that requires multiple episodes of care over several years.

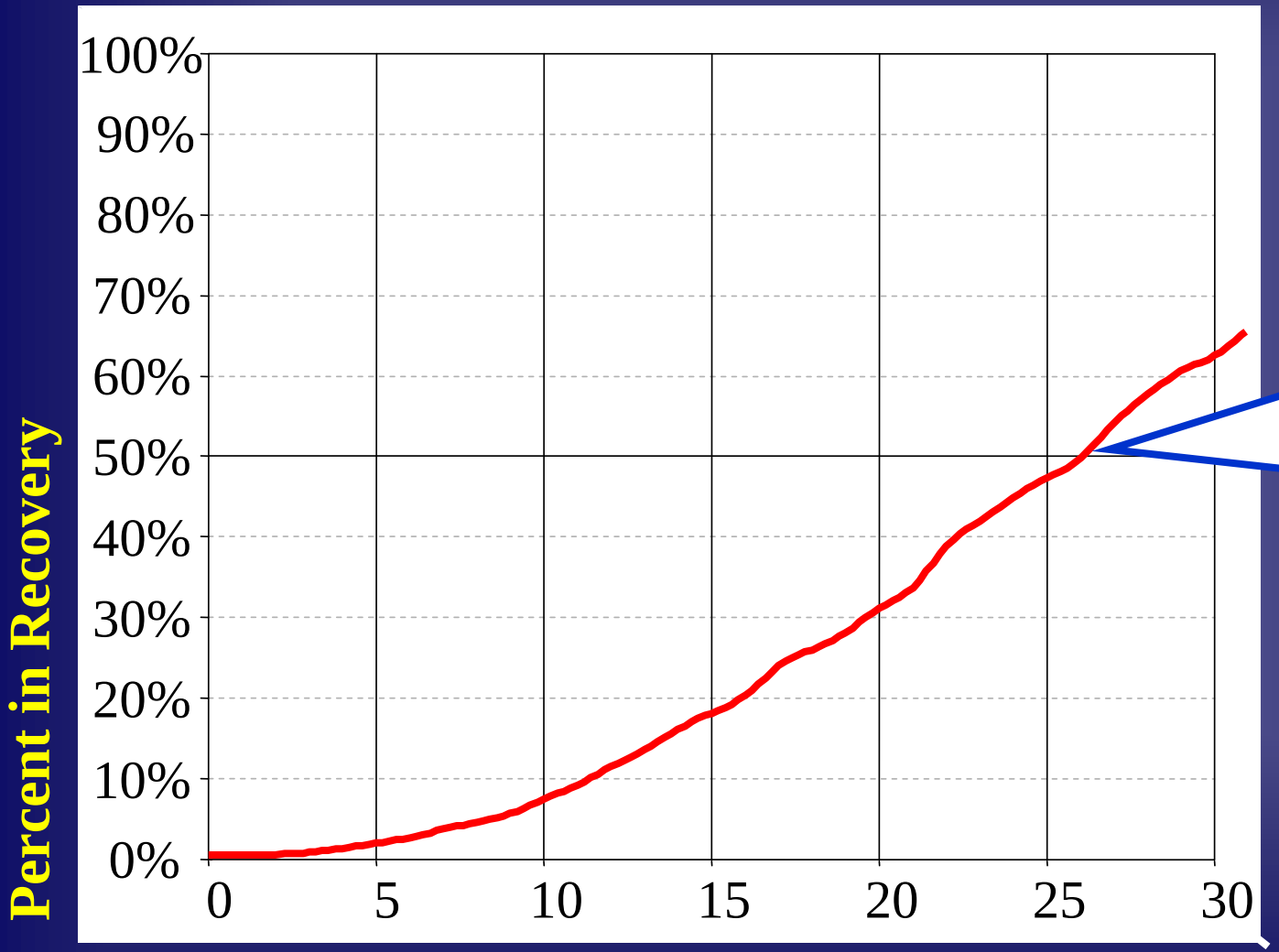
This presentation will present

1. Epidemiological data to illustrate the chronic nature of substance disorders and how it relates to a broader understanding of recovery
2. The results of two experiments designed to improve the ways in which recovery is managed across time and multiple episodes of care.

Nine Year Pathways to Recovery Study (Scott & Dennis)

Recruitment:	1995 to 1997
Sample:	1,326 participants from sequential admissions to a stratified sample of 22 treatment units in 12 facilities, administered by 10 agencies on Chicago's west side.
Substance:	Cocaine (33%), heroin (31%), alcohol (27%), marijuana (7%).
Levels of Care:	Adult OP, IOP, MTP, HH, STR, LTR
Instrument:	Augmented version of the Addiction Severity Index (A-ASI)
Follow-up:	Of those alive and due, follow-up interviews were completed with 94 to 98% in annual interviews out to 9 years; over 80% completed within +/- 1 week of target date.
Funding:	CSAT grant # T100664, contract # 270-97-7011 NIDA grant 1R01 DA15523

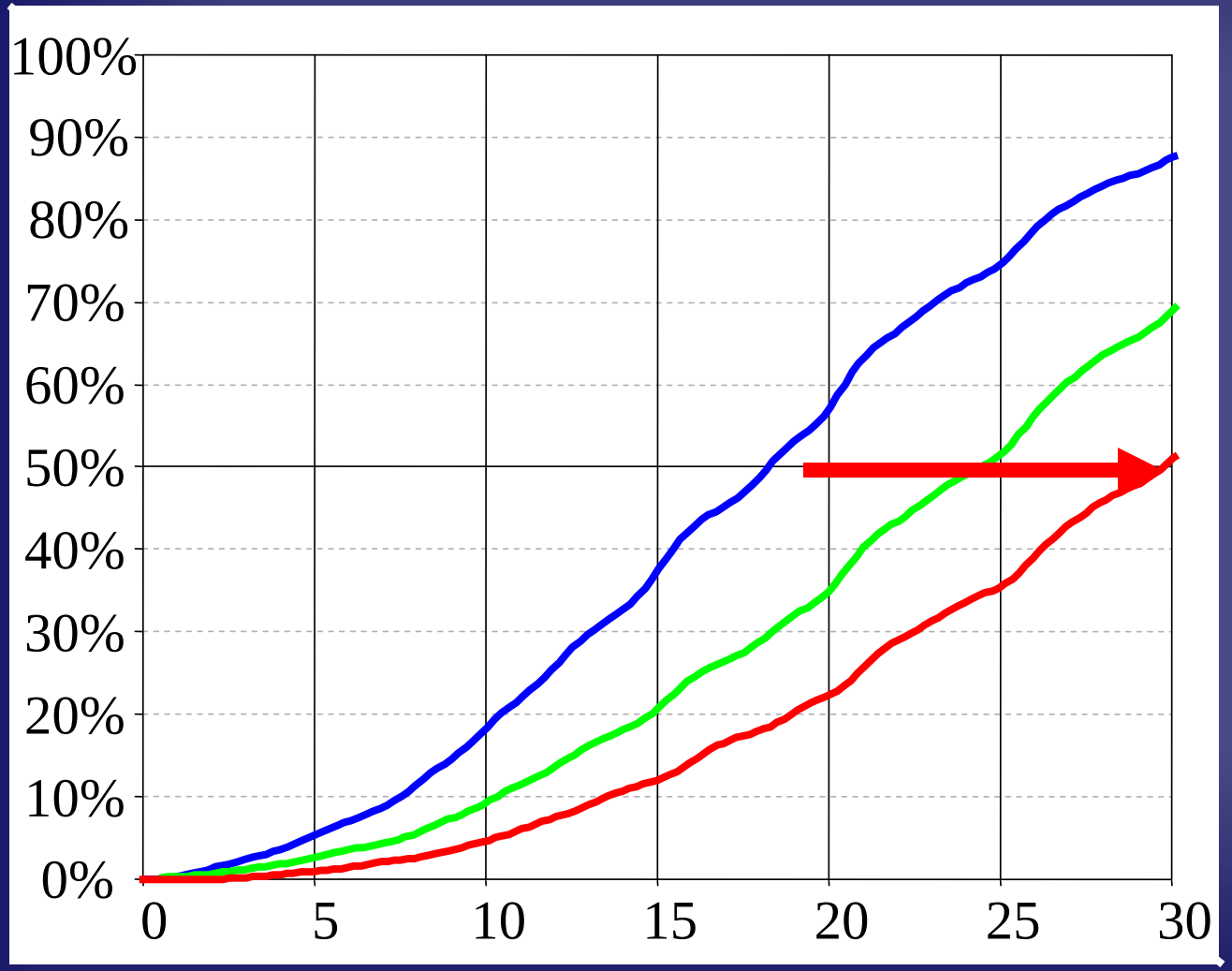
Substance Use Careers Last for Decades



Median duration of 27 years (IQR: 18 to 30+)

Source: Dennis , Scott, Funk & Foss (2005) (n=1,271)

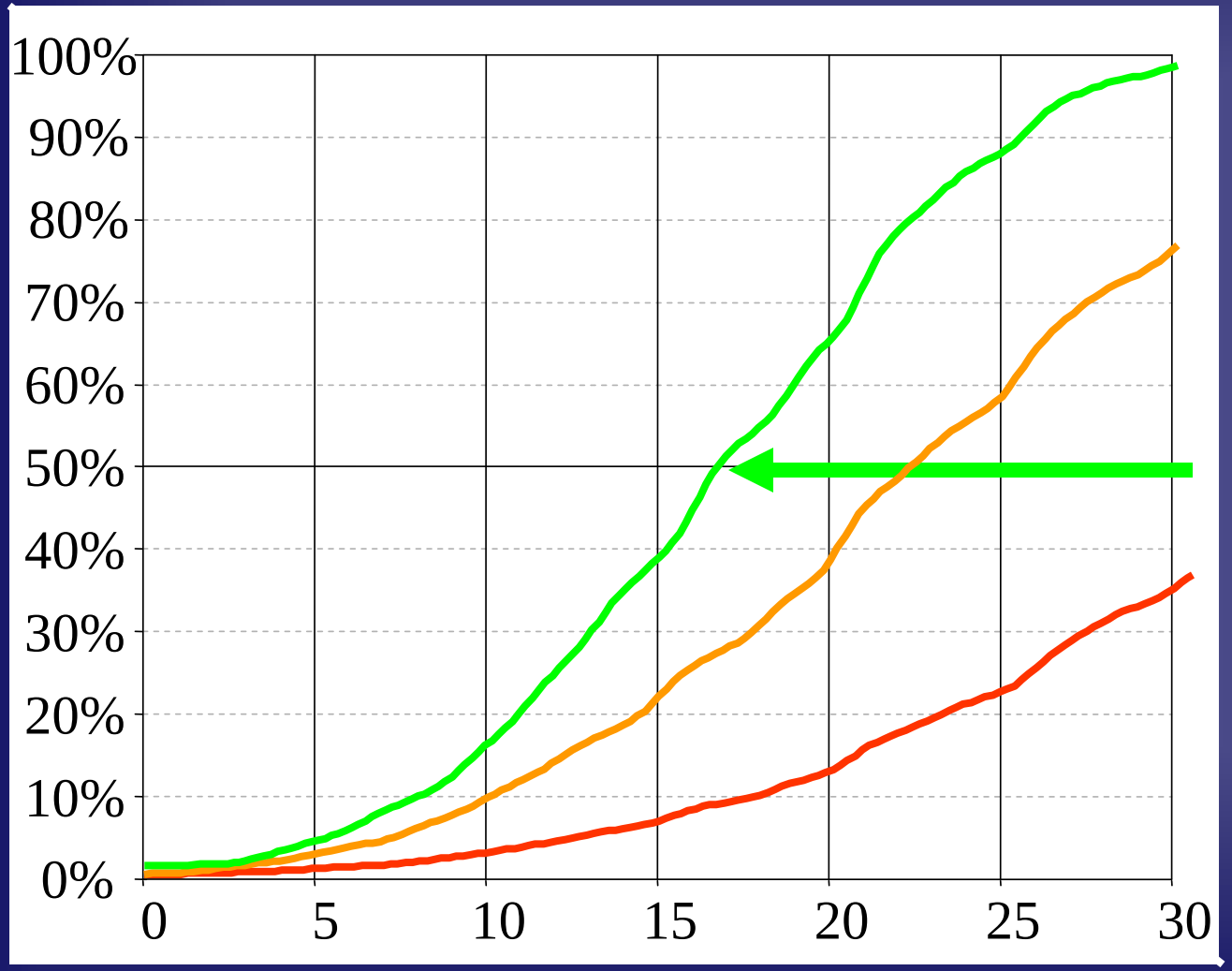
Substance Use Careers are Longer, the Younger the Age of First Use



*** p<.05 (different from 21+)**

Source: Dennis et al 2005 (n=1,271)

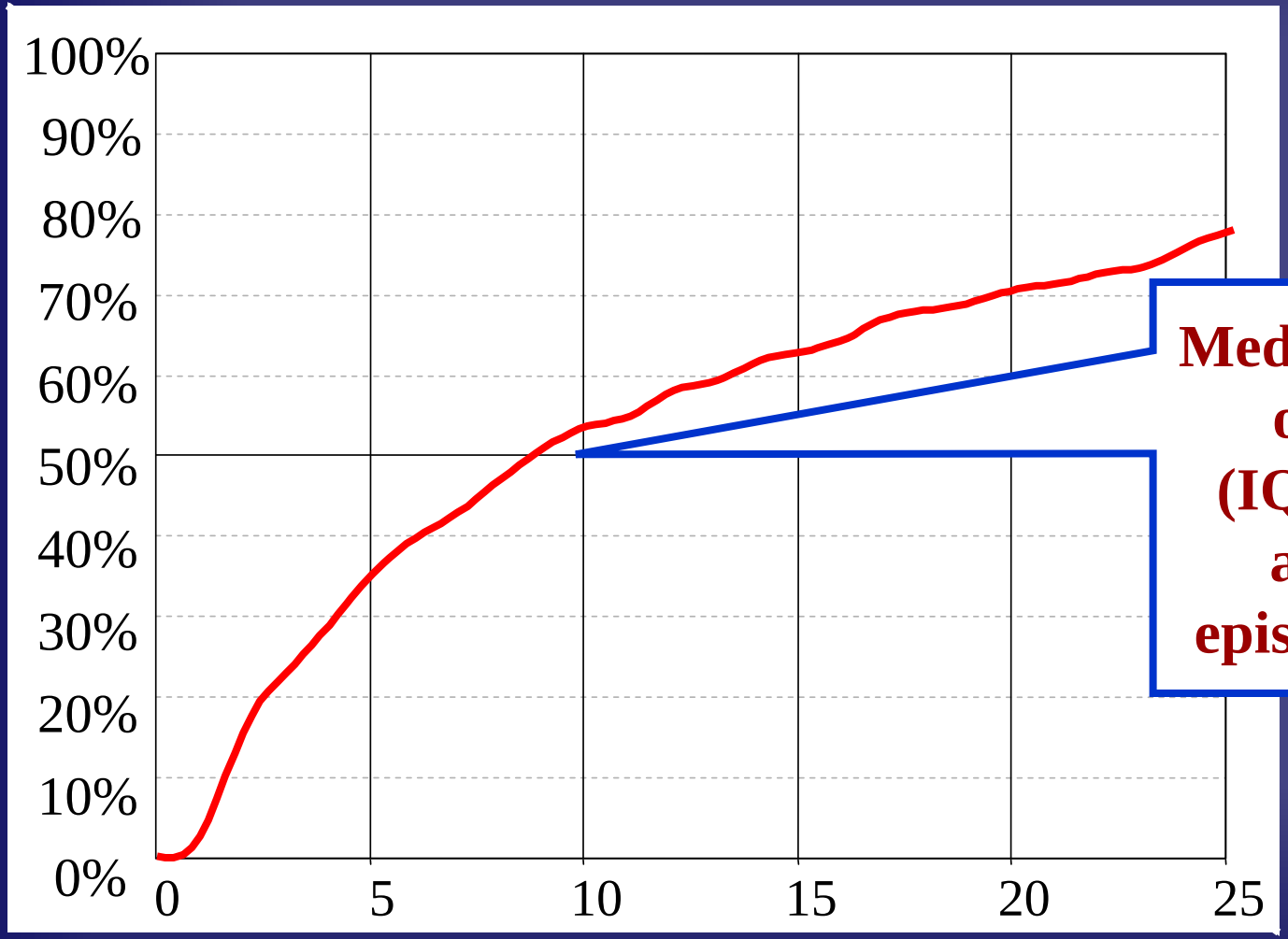
Substance Use Careers are Shorter the Sooner People get to Treatment



* p<.05 (different from 20+)

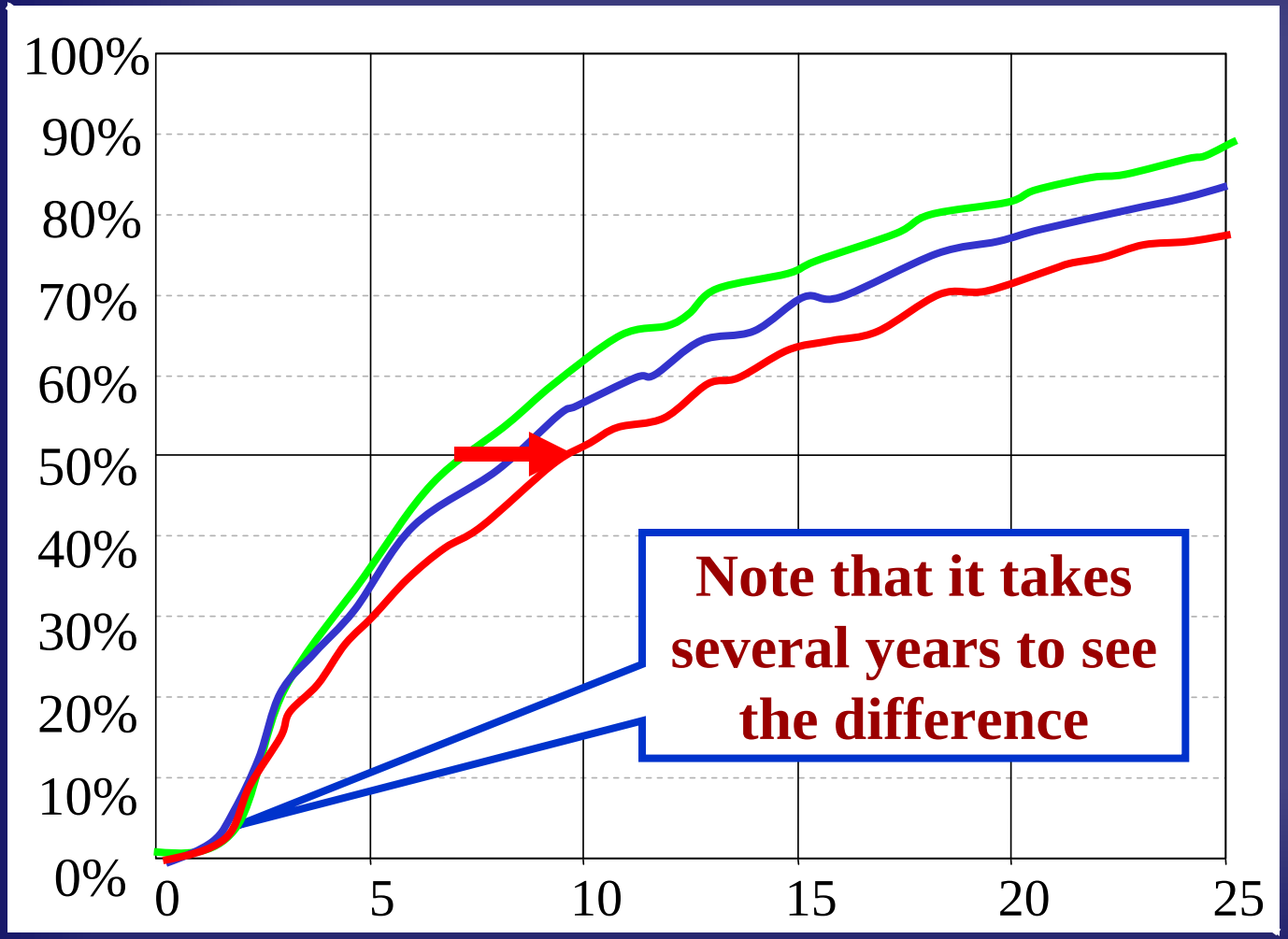
Source: Dennis et al 2005 (n=1,271)

It Takes Decades and Multiple Episodes of Treatment



Source: Dennis et al 2005 (n=1,271)

Duration of Treatment Career By Level of Internal Distress at Index TX



Percent in Recovery

Years from first Tx to 1+ years abstinence

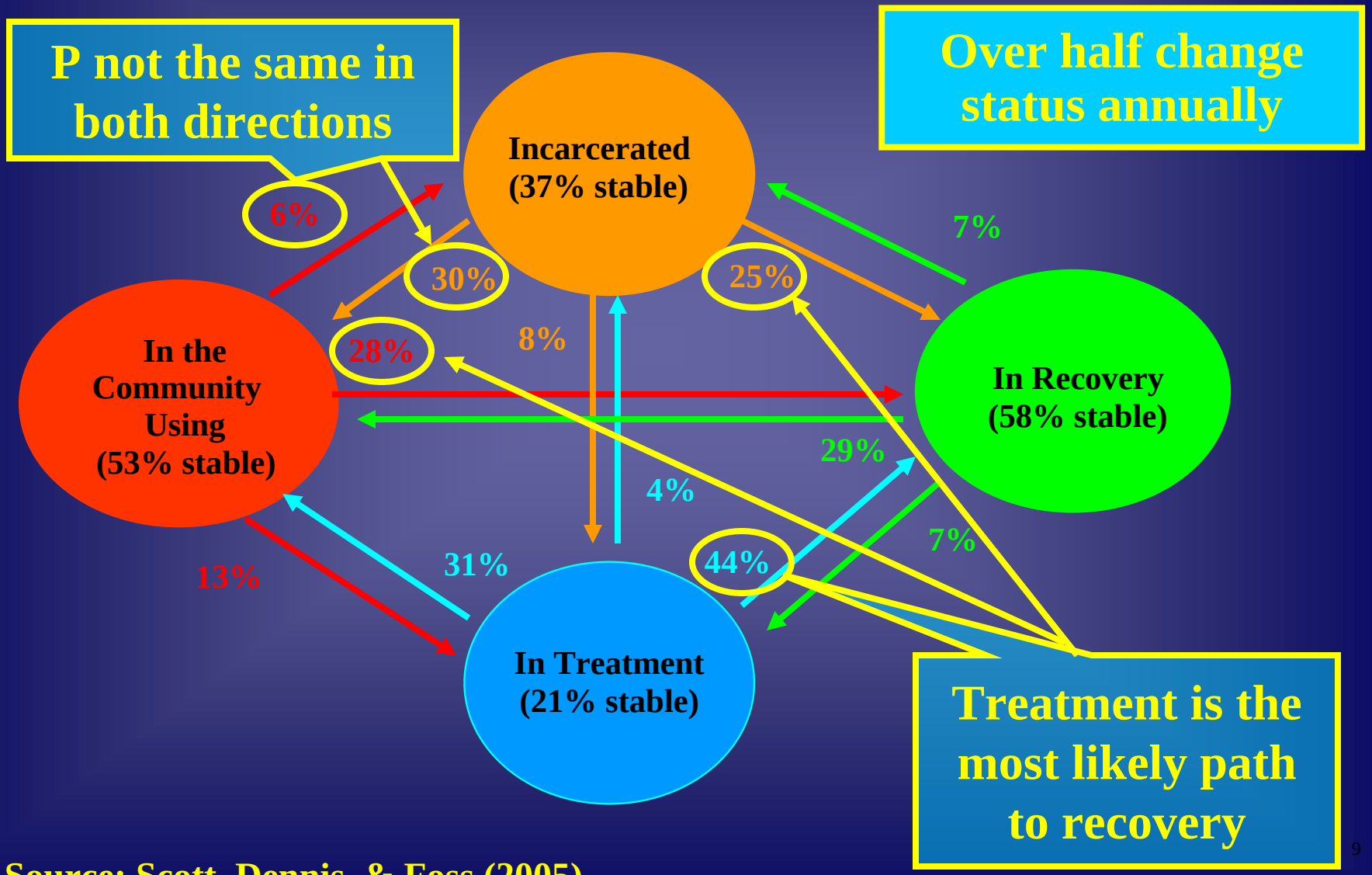
Internal Distress

High*
Moderate
Low

•p<.05 (High v low)

Source: Dennis et al 2005 (n=1,271)

The Cyclical Course of Relapse, Incarceration, Treatment and Recovery

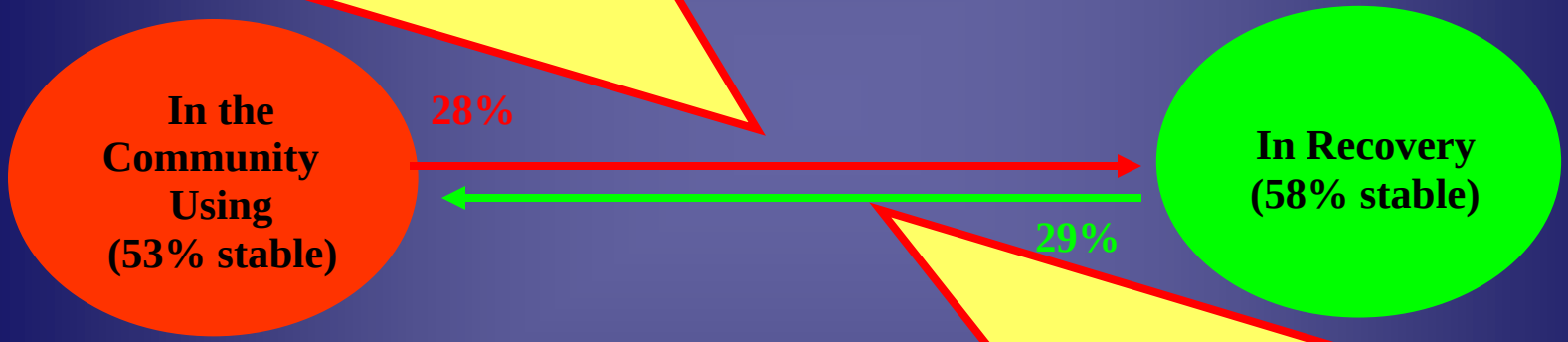


Source: Scott, Dennis, & Foss (2005)

Predictors of Change Also Vary by Direction

Probability of Transitioning from Using to Abstinence

- mental distress (0.88)
-ASI legal composite (0.84)
+ older at first use (1.12)
+ homelessness (1.27)
+ # of sober friend (1.23)
+ per 8 weeks in treatment (1.14)

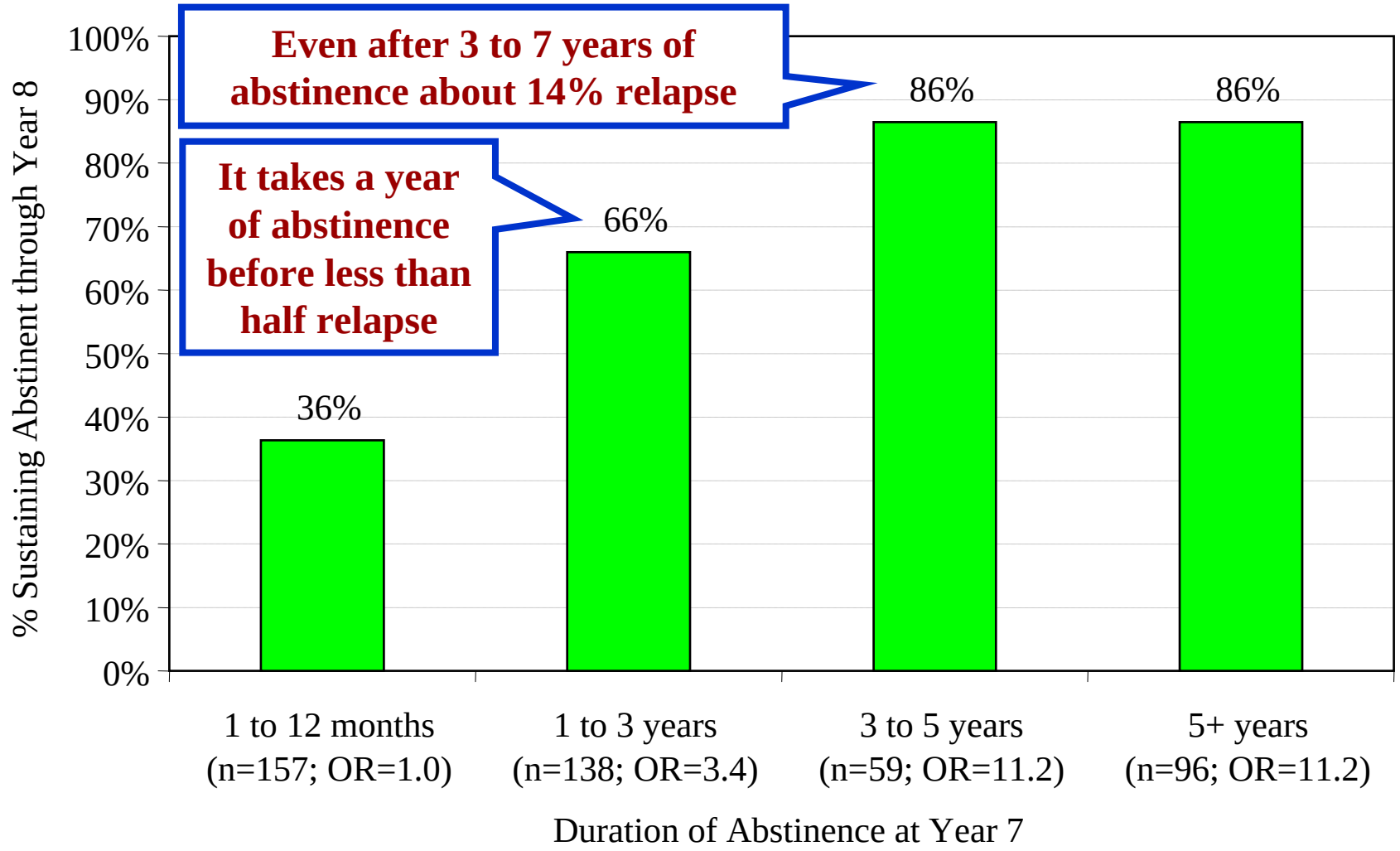


Probability of Relapsing from Abstinence

+ times in treatment (1.21)
+ homelessness (1.64)
+ number of arrests (1.12)
- Female (0.58)
- ASI legal composite (0.84)
- # of sober friend (0.82)
- per 77 self help sessions (0.55)

Source: Scott, Dennis, & Foss (2005)

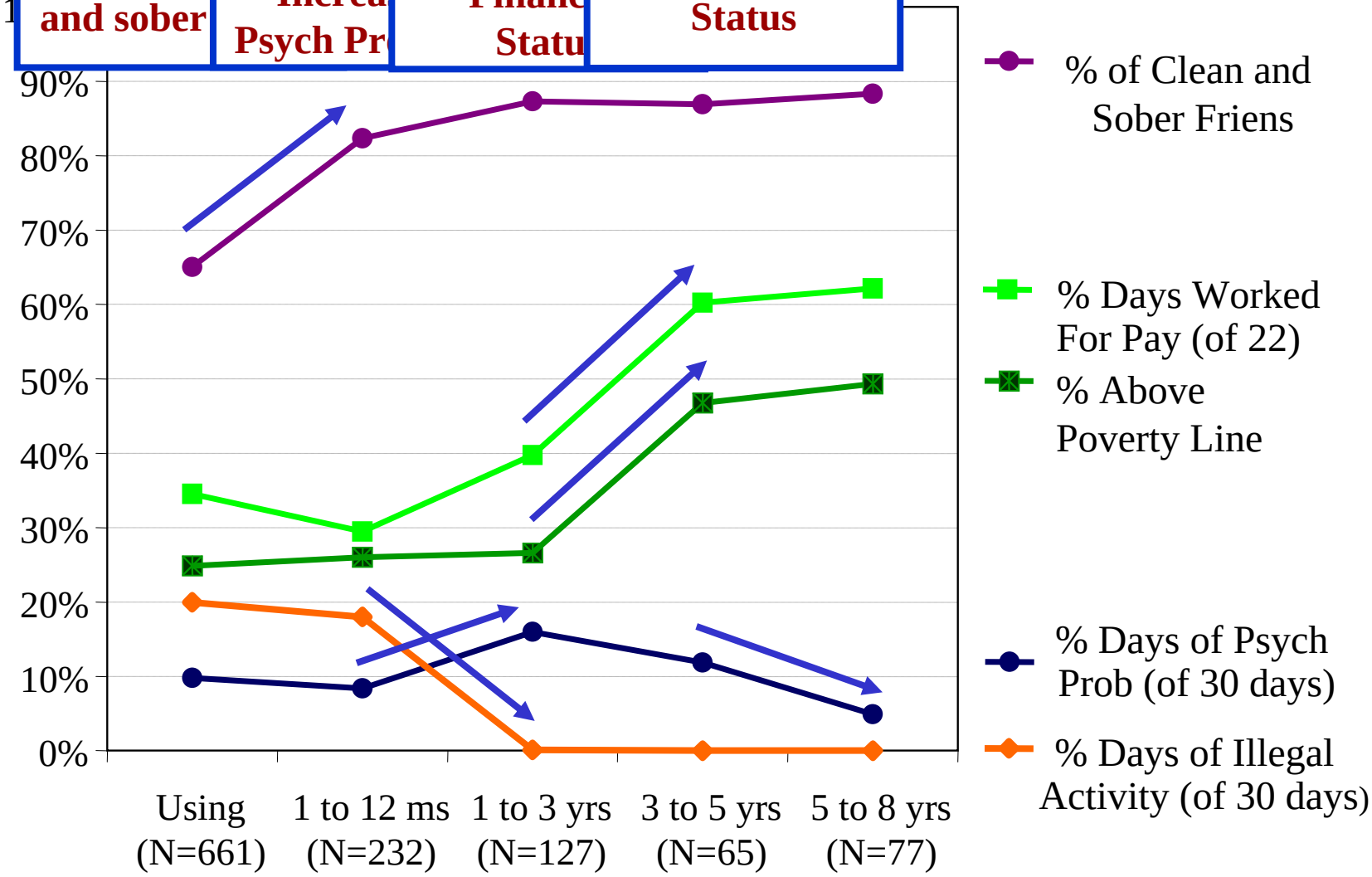
Percent Sustaining Abstinence Through Year 8 by Duration of Abstinence at Year 7



Source: Dennis, Foss & Scott (2007)

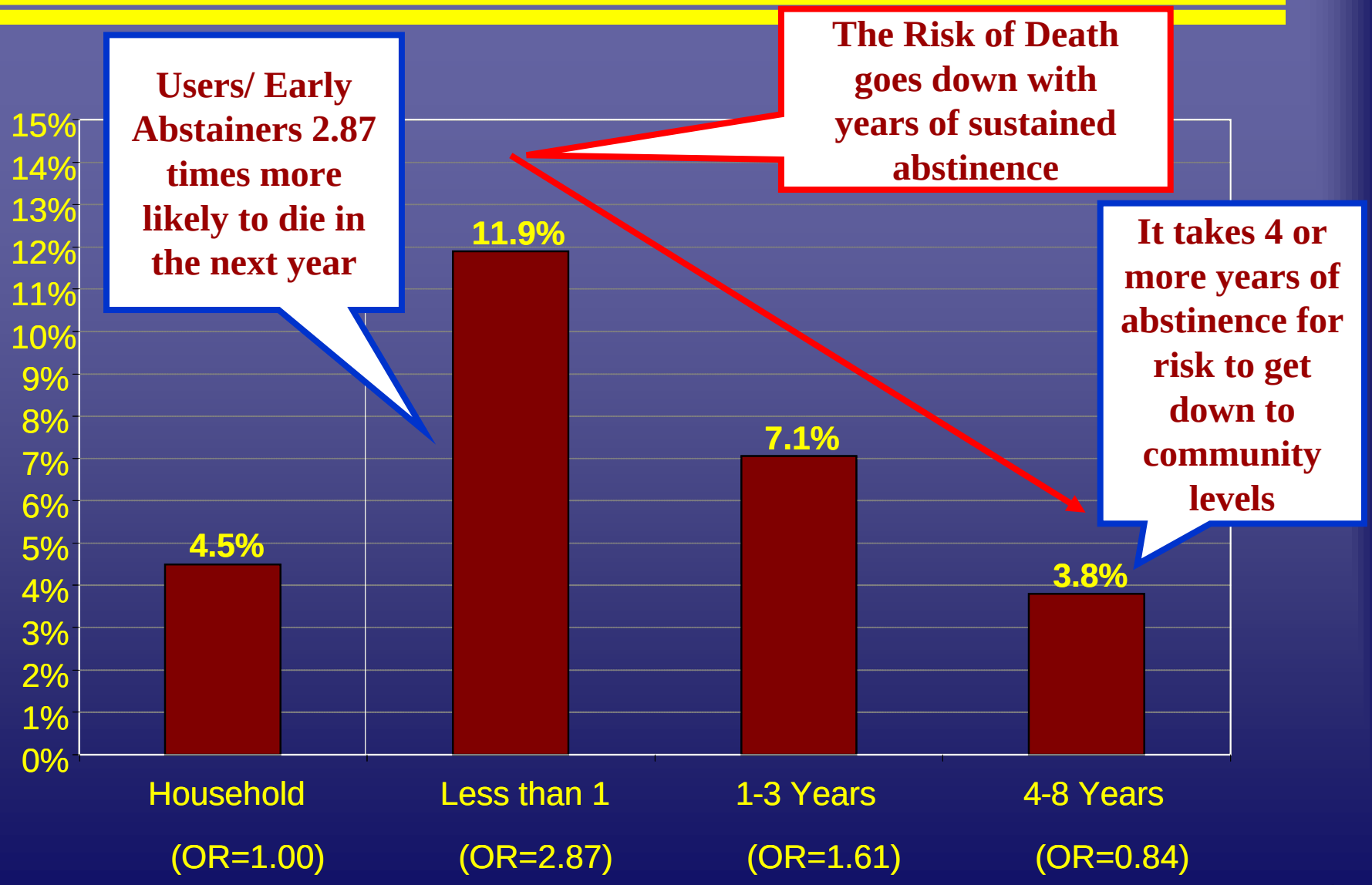
Other Aspects of Recovery b… f 8 Years

1-12 Mo…	1-3 Ye…	3-5 Yea…	5-8 Years:
Immed… increase i… and sober	Decrea… Illegal A… Increa… Psych Pr…	Improv… Vocationa… Financ… Statu…	Improved Psychological Status



Source: Dennis, Foss & Scott (2007)

Death Rate by Years of Abstinence



Source: Scott, Dennis, & Funk (2008)

Other Predictors of Death

+ Pre-existing chronic illness (RR=1.87)
+ Age (RR=1.45)
+ Living on less than 50% of poverty line (RR=1.71)
+ Hospitalization during the 6 months prior to intake (RR=1.26 per week)
+ Illegal activity for money during the 6 months prior to intake (RR=1.14 per 30 days)
- Self Help Sessions attended first 6 months (RR=0.88 per 30 days)
- Years of abstinence (RR=0.83 per year)

- Weeks of treatment predicted weeks of self help and reduced risk of death univariately
- Being in treatment at month six predicted self help, years of abstinence, and reduced risk of death univariately

The Early Re-Intervention (ERI) Experiments (Dennis & Scott)

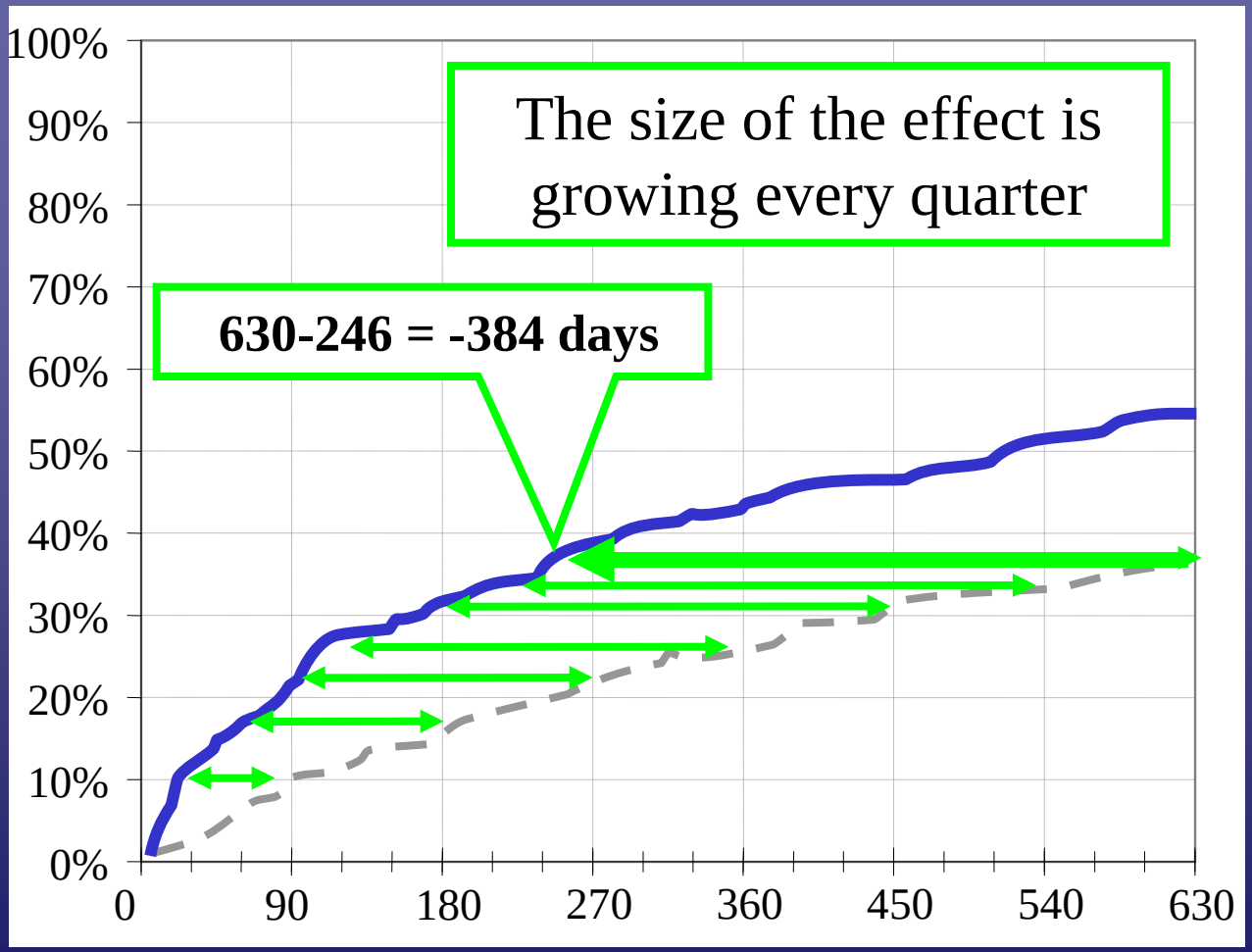
Recruitment	Recruited 446 from Community Based Treatment in Chicago in 2004 (93% of eligible recruited)
Design	Random assignment to Recovery Management Checkups (RMC) or control
Follow-Up	Quarterly for 4 years (95 to 97% per wave)
Data Sources	GAIN, CEST, CAI, Neo, CRI, Urine, Staff logs
Publication	Dennis, Scott & Funk (2003); Scott, Dennis, & Foss (2005); Dennis & Scott (2007); Scott & Dennis, (under review); Riley, Scott, & Dennis (2008)

Funding Source NIDA grant R37-DA11323

Recovery Management Checkups (RMC)

- Quarterly Screening to determining “Eligibility” and “Need”
- Linkage meeting/motivational interviewing to:
  - provide personalized feedback to participants about their substance use and related problems,
  - help the participant recognize the problem and consider returning to treatment,
  - address existing barriers to treatment, and
  - schedule an assessment.
- Linkage assistance
  - reminder calls and rescheduling
  - Transportation and being escorted as needed
- Treatment Engagement Specialist

ERI-2 Time to Treatment Re-Entry



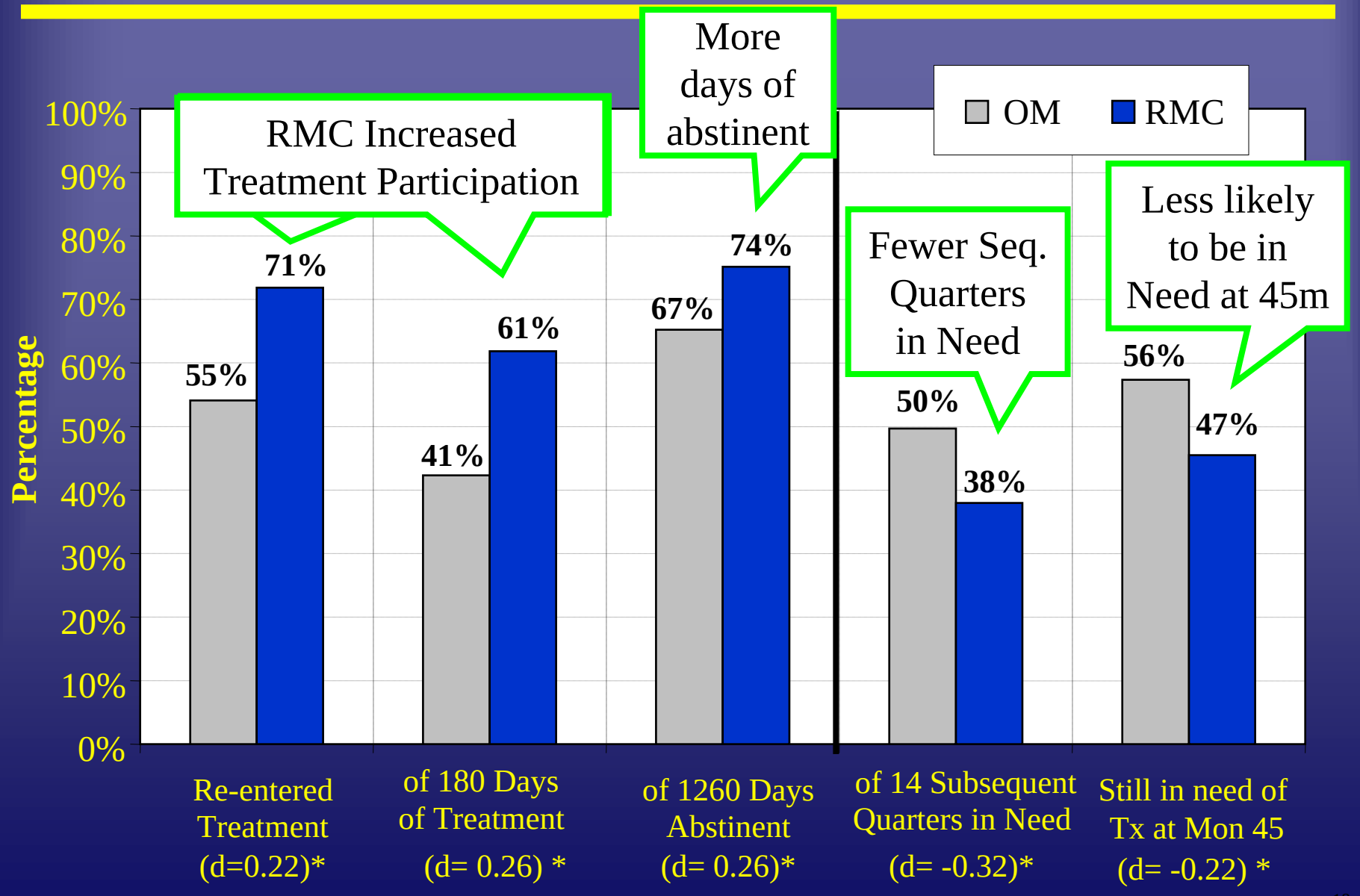
55% ERI-2 RMC*
(n=221)

37% ERI-2 OM
(n=224)

*Cohen's d=+0.41
Wilcoxon-Gehen Statistic (df=1) =16.56, p <.0001

Source: Scott & Dennis (under review)

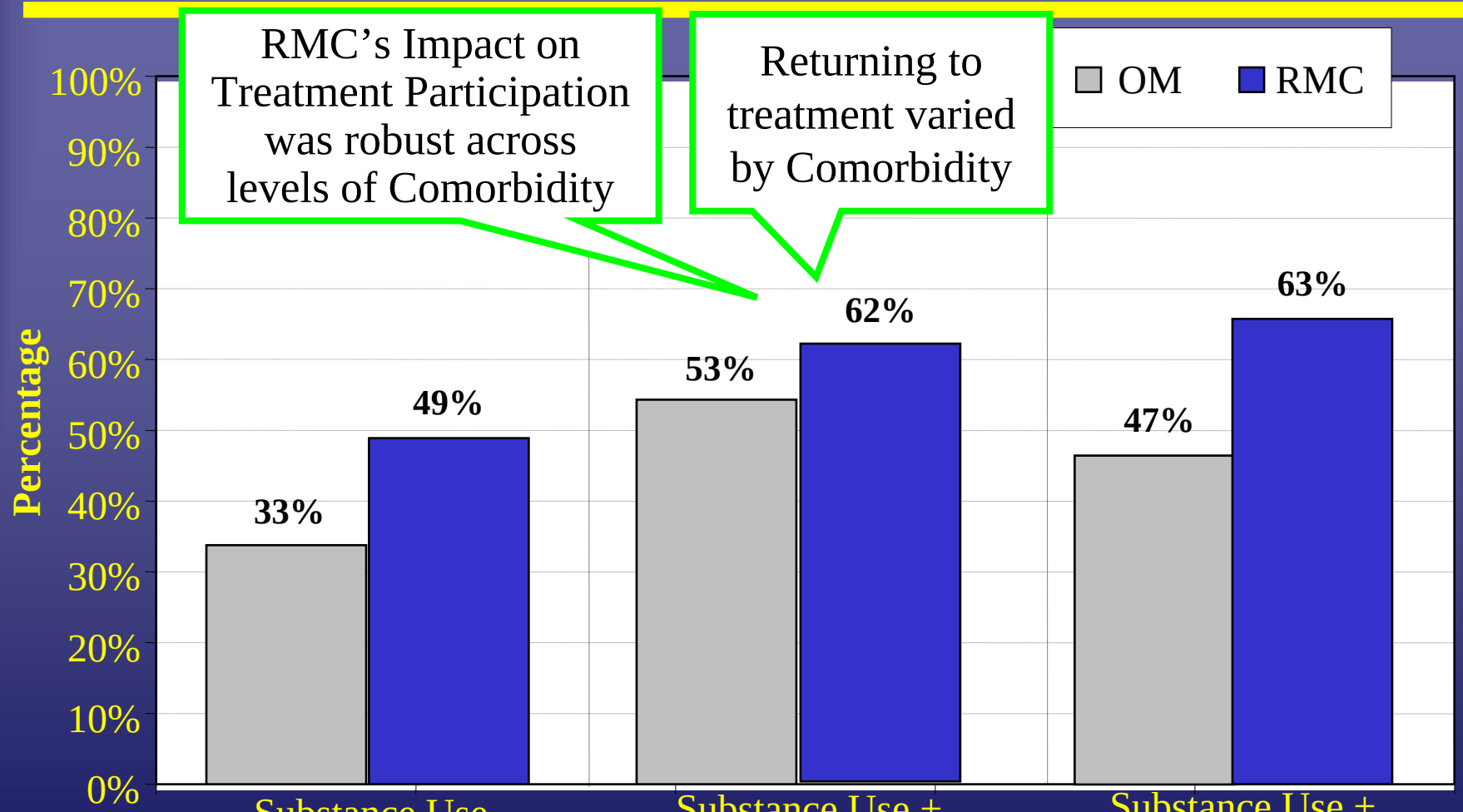
ERI-2: Impact on Outcomes at 45 Months



Source: Scott & Dennis (under review)

* p<.05

ERI: Impact Treatment Re-entry by Comorbidity and Condition

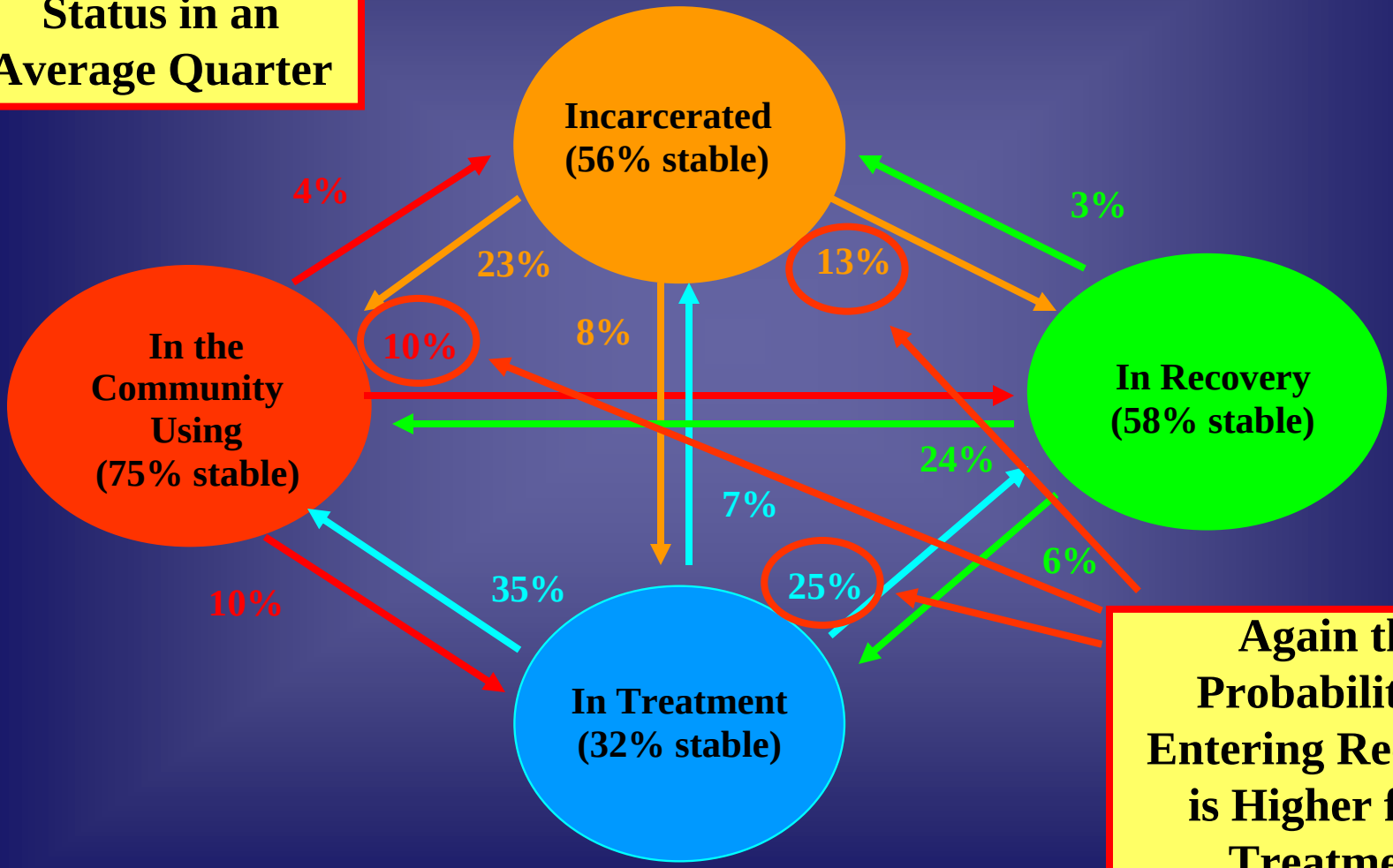


Source: Rush, Dennis, Scott, Castel, & Funk (2008)

* p<.05

ERI 2: Average Quarterly Transitions over 3 years

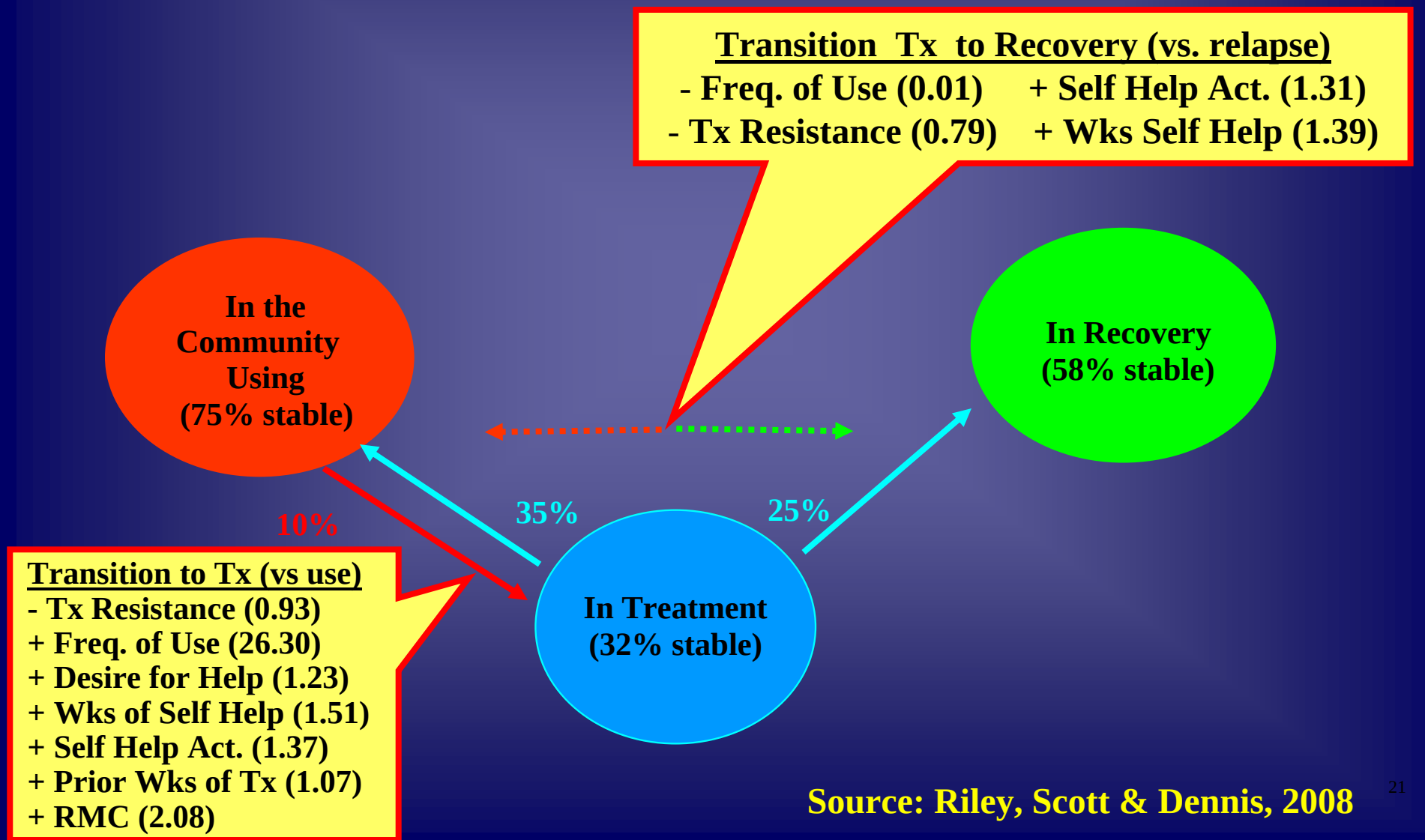
34% Changed Status in an Average Quarter



Again the Probability of Entering Recovery is Higher from Treatment

Source: Riley, Scott & Dennis, 2008

ERI 2: Average Quarterly Transitions over 3 years



Source: Riley, Scott & Dennis, 2008

These studies provide converging evidence demonstrating that

- substance use disorders are often chronic in the sense that they last for years and the risk of relapse is high
- the majority of people accessing publicly funded substance abuse treatment have been in treatment before, are likely to return, and may need several additional episodes of care before they reach a point of stable recovery.
- Yet over half do achieve recovery
- Recovery is broader than just abstinence
- The odds of getting to and staying in recovery can be improved with proactive checkups and management.

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MANAGING ADDICTION AS A CHRONIC BUT TREATABLE CONDITION

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[Abstract]

This article reviews progress in adapting addiction treatment to respond more fully to the chronic nature of most patients' problems. After reviewing evidence that the natural history of addiction involves recurrent cycles of relapse and recovery, we discuss techniques for improving the continuity of care, consistent monitoring, and early re-intervention; recent developments in the field related to self-management, mutual aid, other recovery supports; and system level interventions. We also address implications for adapting treatment funding and organizational structures.

[Article starts here]

Historically, addiction treatment systems and research have been organized to provide and improve the outcomes of acute episodes of care. The conceptual model has been that an addicted person seeks treatment, completes an assessment, receives treatment, and is discharged, all in a period of weeks or months. This orientation stands at variance with clinical experience and studies conducted over several decades, which confirm that while some individuals can be successfully treated within an acute care framework, over half the patients entering publicly

funded addiction programs require multiple episodes of treatment over several years to achieve and sustain recovery (Dennis et al., 2005; in press). Many or most patients' progress is marked by cycles of recovery, relapse, and repeated treatments often spanning many years before eventuating in stable recovery, permanent disability, or death (Anglin et al., 1997, 2001; Dennis et al., 2003; Hser et al., 1997, 2001; McLellan et al., 2000; Scott et al., 2005a, b; Simpson et al., 2002; Weisner et al., 2003, 2004; White, 1996).

The traditional acute care approach to drug abuse has understandably encouraged people to believe that patients entering addiction treatment should be cured and able to maintain lifelong abstinence following a single episode of specialized treatment. Accordingly policy makers allocate limited public health dollars for addiction treatment, insurers restrict the number of patient days and visits covered, treatment centers make no infrastructure allowance for ongoing monitoring, and families and the public become impatient when patients relapse (McLellan, Lewis, et al., 2000).

The mismatches between the typical natural history of Substance Use Disorders (SUDs), treatment models, and expectations reduce our ability to help addicted individuals. In this overview we define SUDs, highlighting their chronic features; discuss several recently developed techniques to manage SUDs over time, and present information that can help guide systems and programs in adapting to a chronic care approach to SUDs.

CHRONICITY OF SUBSTANCE USE DISORDERS (SUDs)

Definition

The American Psychiatric Association (APA, 2000) and World Health Organization (WHO, 1999) define addiction as a chronic, tenacious pattern of use and related problems and

distinguish two types of substance use disorders (SUDs): substance dependence and substance abuse (the latter called "hazardous use" by WHO). The definition of substance dependence infers chronicity: symptoms—including increased tolerance for the substance, withdrawal, inability to abstain, replacing healthy activities with substance use, and continued use despite medical or psychological problems—have been present for over 12 months and are likely to persist if left untreated. The second SUD, substance abuse, applies when people do not meet dependence criteria, but who report at least one moderately severe substance-related symptom that put them at high risk for harming themselves or others, and developing dependence. Dependence requires treatment, and an abuse diagnosis generally results in referral to brief intervention or treatment.

Prevalence and Chronicity in the Household Population

Of the 235 million people aged 12 and over in the U.S. household population in 2002, 5% met criteria for dependence and 4% met criteria for abuse in the past year (Office of Applied Studies [OAS], 2002). Epidemiological data affirm that SUD typically follows a chronic course, developing during adolescence and lasting for several decades. Some 90% of all individuals with dependence start using before the age of 18, and half start before the age of 15 (Dennis, Babor et al., 2002). In the U.S. population as a whole, prevalence rates for abuse and dependence rise through the teen years, peak at around 20% between ages 18-20, then decline gradually over the next four decades (Figure 1) (OAS, 2002). A significant portion of older non-users are people in recovery. In studies of community (Kessler, 1994; Dawson, 1996; Robins & Regier, 1991) and treatment (Dennis et al., 2005) populations, between 58 and 60 percent of people who met criteria for SUD at some time in their lives eventually achieved sustained recovery—that is, no dependence or abuse symptoms for the past year. Most who recover do so only after at least one episode of treatment (Cunningham, 1999a,b).

Prevalence and Chronicity in Treatment Populations

The people who enter treatment are a distinct subgroup of substance users, whose problems are particularly severe and intractable. Among people presenting to publicly-funded SUD treatment in 2002 , 62% met diagnostic criteria for dependence; 16% met criteria for abuse; and 22% were admitted for other sub-clinical substance-related problems (e.g., acute intoxication, mental health problems aggravated by substance use) (Office of Applied Studies [OAS], 2005). Evidence of chronicity can be seen in the readmissions rates and duration of substance use histories. Of people admitted to U.S. public programs in 2003, 64% were re-entering treatment; 23% for the second time, 22% for the third or fourth time, and 19% for the fifth or more time (OAS, 2005). In fact numerous longitudinal studies have show that, on average, people only reach sustained abstinence after 3 to 4 episodes of different kinds of treatment over a number of years (Anglin, Hser, & Grella, 1997; Dennis et al., 2005; Grella & Joshi, 1999; Hser, Anglin, Grella, Longshore, & Prendergast, 1997; Hser, Grella, Chou, & Anglin, 1998, Scott et al., 2005 a,b). In one longitudinal study with 1,271 patients, it was estimated the median time from first use to at least one drug-free year was 27 years; with the median time from first treatment to one alcohol and drug-free year as 9 years with 3 to 4 episodes of treatment (Dennis et al., 2005). In sum, most patients in publicly funded addiction treatment have SUD and require multiple treatment episodes over several years to reach sustained recovery. For optimal outcomes, treatment systems and interventions should be able to address the long-term aspects and cyclic dynamics of the disorder.

Inside the Cycles of Recovery and Relapse

In a recent study, Scott and colleagues (2005a) provided insight into the factors influencing 448 patients' transitions between relapse, treatment re-entry, incarceration, and recovery. During each 3-month quarter, an average of 32% of the patients moved from one status to another; over 2 years of monitoring, 82% transitioned at least once and 62% moved multiple times (Figure 2).

Several variables predicted the transitions. Patients with higher substance use severity and environmental obstacles to recovery—for example, substance use in the home, family problems, and victimization—were less likely to transition from using to recovery or treatment (i.e., the individuals most in need of treatment were the least likely to re-enroll on their own). Patients were more likely to transition from using to recovery when they believed their problems could be solved, desired help with their problems, reported high self-efficacy to resist substance use, and received SUD treatment during the quarter.

Scott and colleagues conducted a second study (2005b), this time with 1,326 adult patients over a 3-year period looking at annual transitions. Over 83% of the participants transitioned from one point in the cycle to another during the 3 years (including 36% two times, 14% three times). Treatment participation was again a primary correlate of the transition from using to recovery. The odds ratio of transitioning from using to recovery went up 1.14 for every 9 weeks of treatment received during the year. Among patients who started the year in recovery, the major predictor of whether they maintained abstinence was not treatment, but the amount of their self-help group participation. The odds ratio of relapse went down 0.55 for every 77 days of self-help group attendance.

Duration of Substance Use Disorders

The age at first substance use and the duration of use before starting treatment are also related to length of time it takes people to reach at least a year of alcohol and drug abstinence. Dennis and colleagues (2005a) found that the median years of use were significantly longer for people who started using under the age of 15 when compared to those who started older than 20 (29 vs. 18 years of use). Patients who began treatment within 10 years of their initial drug use achieved that milestone after an average of 15 years, compared to 35 or more years among those who entered treatment after 20 or more years of using. These results clearly establish the need to diagnose and intervene as early as possible, ideally with adolescents and young adults during the first decade of use.

Co-Occurring Problems

As clinicians and researchers are aware, individuals with SUDs have high rates of additional health and social burdens that increase the difficulty of treatment: psychiatric problems, HIV-risk behaviors, violence, illegal activity and involvement in the criminal justice system, service utilization, homelessness, and a wide range of vocational problems (CSAT, 2000; Compton, Lamb, & Fletcher, 1995; Epstein, 2002; Grant, 2000; Hasin et al., 1997a&b; Jaffe, 1993; Kessler et al., 1996; Langerbucher, Morgenstern, & Miller, 1995; Lennox et al., 1992, 1993, 1996; Regier, et al., 1990; Mark, Woody, Juday, & Kleber, 2001; Woody, Cottler, & Cacciola, 1993). Patients with multiple substance or other co-occurring problems are more likely to experience difficulties with treatment/medication adherence, shorter lengths of stay, administrative discharges, compromised functional status, difficult community adjustment, reduced quality of life, and worse outcomes (e.g., Brooner, et al., 1997; Ford, Snowden, & Walser, 1991; McLellan, et al., 1983; Mueser, et al., 1990; Hien, et al., 1997; Ross, Glaser, &

Germanson, 1988; Project MATCH Research Group, 1997; Rounsaville, et al., 1982, 1986; Weisner, Matzger, & Katsukas, 2003; White, Scott, Dennis, & Boyle, 2005). Clinical trials have demonstrated that when patients have a combination of substance and one or more non substance related disorder it can be more effective and cost effective to provide them with integrated care (Parthasarathy et al., 2003; Willenbring, 2005).

EMERGING APPROACHES TO RECOVERY MANAGEMENT

Recently, clinicians and researchers have generated several new approaches to improve the long-term management of SUD by responding to its chronic nature. Underlying the approaches are three strategies:

- improve the continuity of care
- utilize monitoring and early re-intervention to improve long-term outcomes
- provide other recovery support.

Improving Continuity of Care

During the years- or decades-long course of SUD, patients experience periods of need for varying levels of care. In periods of intensified symptoms, a patient may be able to cope best by retreating from the community to a specialized inpatient or intensive outpatient setting. Conversely, reentry into the community at the conclusion of an intensive treatment episode marks the beginning of a new state of risk related to continuing biobehavioral vulnerability and environmental exposures.

Accordingly, the American Psychiatric Association (1995), the American Society for Addiction Medicine (ASAM; 2001), and Department of Veterans' Affairs Office of Quality and

Performance (2004) have issued clinical practice guidelines recommending that patients being discharged from intensive levels of addiction treatment be transferred to outpatient treatment for a period of time before being discharged from the addiction treatment systems. A number of studies demonstrate that patients who did so were more likely to remain abstinent and avoid arrest than those who did not (e.g., Brown et al., 1994; Donovan, 1998; Gilbert, 1988; Godley et al., in press; Higgins, Badger, & Budney, 2000; Ito & Donovan, 1986; Kosten et al., 1992; McKay, 2001; McKay et al., 1998; Moos, Schaefer, Andrassy, & Moos, 2001; Moos & Moos, 2003; Ouimette, Moos, & Finney, 1998; Peterson et al., 1994; Ritsher, McKellar, Finney, Otilingam, & Moos, 2002; Ritsher, Moos, & Finney, 2002; Sannibale et al., 2003; Walker, Donovan, Kivlahan, & O'Leary, 1983). Conversely, in one of the few economic evaluations of long-term management of chronic SUD, French and colleagues (2000) found that while the outlay to provide a full continuum of inpatient and outpatient care was greater than that for outpatient treatment alone ($2,530 vs. $1,138; $p<.05$), the cost differential was offset by significantly greater reductions in societal costs over the subsequent 9 months (savings of $17,833 vs. $11,173; $p<.05$).

Despite the benefits associated with continuing care, a study of discharge patterns in 23 states and jurisdictions showed that while 58% of patients successfully completed detoxification, hospital, residential treatment, or intensive outpatient programs, only about 17% of these individuals proceeded to regular outpatient care (OAS, 2005). Studies focusing on single correctional, drug courts, residential, intensive outpatient, and detoxification programs have found, similarly, that 25% to 90% of discharged individuals do not successfully access the recommended outpatient continuing care (Godley et al., 2001, 2002; Mark et al., 2003; McKay et al., 2002; McCorry et al., 2000; OAS, 2005; Taxman, 2002). Common reasons for low success

rates in bridging patients into continuing care include: relying on patients' self motivation to follow through with discharge recommendations, discharging patients to geographically large catchment areas (particularly from criminal/juvenile justice and adolescent residential treatment programs) where follow-up services are not easily accessed, and passively linking the patient to another organization or staff person without proactive efforts to ensure continuity of care.

Recent studies have evaluated new and more assiduous protocols to improve participation in continuing care (Ciliska et al., 1996; Godley et al., 2002, in press; McKay et al., 2004; Slesnick & Prestopnik, 2004; Simon et al., 2004; Zhu et al., 1996). As an example, McKay and colleagues (2004; 2005) demonstrated benefits with telephone-based continuing care. They randomly assigned 359 alcohol- or cocaine-dependent adults who had completed a 4-week intensive outpatient program to receive either (a) twice weekly standard outpatient treatment for 12 weeks; (b) twice weekly relapse prevention group therapy for 12 weeks, or; (c) 4 weeks of relapse prevention group therapy and 12 weeks of therapist initiated telephone contact. Over the course of the study, the participants who were telephoned had significantly fewer positive cocaine urine tests than those in group b (odds ratios 0.80) or group a (odds ratio 0.26). The results also suggested that telephone delivery of continuing care may be most effective for persons whose SUD is less severe, as participants with high dependence levels or co-occurring disorders benefited slightly less than others.

Godley and colleagues (2002, 2004, in press) developed a protocol called Assertive Continuing Care (ACC) and showed that it improved participation and recovery indicators. They randomly assigned 183 adolescents in residential treatment to either ACC or usual continuing care (UCC). Adolescents in the ACC group worked with a case manager who tried to meet with them once before discharge. Subsequently, the case managers provided in-home outpatient

treatment and helped negotiate additional treatment services, school support, probation and other services to support recovery. All the adolescents in both intervention groups were referred to local outpatient treatment programs and self help groups and were given continuing care plans. Over the 90 days following discharge, those who received ACC were more likely than those given UCC to access at least some continuing care services (94% vs. 54%, Cohen's effect size d=1.07), and received more days of continuing care sessions (M = 14.1 vs. M = 6.3, d = .64). The youths in the ACC group also were more likely to engage in 7 or more of 12 activities associated with sustaining abstinence (e.g., self help, urine testing, relapse prevention work) (64% to 35%; OR=3.35). This level of engagement predicted significantly higher odds of remaining abstinent 1 to 3 months post-discharge from residential treatment (43% vs. 24%; OR=2.16), which was in turn predictive of abstinence 4 to 9 months post-discharge (69% vs. 19%; OR=11.16). The research team is currently exploring whether contingency contracting can further improve continuing care participation and related outcomes, and whether ACC can improve outcomes following outpatient treatment.

On a broader scale, various groups have suggested using performance measurement to improve continuity of care (e.g., Garnick et al., 2002; McCorry et al., 2000; McLellan et al., 2005; http://www.ncqa.org/; http://www.washingtoncircle.org/). One of the largest such initiatives, the Network for the Improvement of Addiction Treatment (NIATx), is a partnership between the Center for Substance Abuse Treatment, the Robert Wood Johnson Foundation, and a number of independent addiction treatment organizations (Capoccia et al., in press; McCarty et al., in press; Wisdom et al., in press). Their mission is to improve the efficiency with which the treatment field utilizes its capacity and encourage ongoing improvements in treatment access and retention. The NIATx partners assume that addiction is a chronic and progressive condition and

that interruptions and delays in the continuity of care can seriously exacerbate consequences. Using a process improvement model, the first 13 NIATx programs were able to reduce the time from an individual's first contact to treatment entry by 37%, and from the time from first assessment to first treatment episode by 33%. They also improved the rate of returning for the second treatment session by 18%, and the likelihood of staying 4 or more sessions by 11% (McCarty et al., in press).

Monitoring and Early Re-Intervention

Ongoing monitoring and early re-intervention have improved long-term outcomes for a range of chronic conditions, including asthma, cancer, diabetes, depression, and severe mental illness (Dunbar-Jacob et al., 1995; Engel, 1977, 1980; Huber, 2005; IOM, 2001; McLellan et al., 2005; Nicassio & Smith, 1995; Roter et al., 1998; Weisner et al., 2004). Applying this approach to SUD, Scott and Dennis (2003) developed and tested Recovery Management Checkup (RMC). With RMC, treatment staff do not rely on patients to recognize that they need help, and instead conduct quarterly checkups to assess patient status. Staff use motivational interviewing techniques to assist those who have relapsed to resolve their ambivalence about their substance use and commit to treatment or other appropriate care. Staff also deploy assertive treatment linkage, engagement, and retention protocols to secure patient access to treatment and increase the amount of therapy received.

The first RMC trial, with 448 adults, found that those who were randomly assigned to RMC upon presenting for SUD treatment fared better over a 2-year period than controls who received only quarterly monitoring (Dennis, Scott, & Funk, 2003; Scott et al., 2005a; Scott & Dennis, under review). Patients in the RMC group returned to treatment in greater numbers (60%

vs. 51%, Cohen's d=0.20) and sooner (achieving 51% 200 days earlier, d=0.21), and attended treatment on more days (63 vs. 40 days, d=.27). The RMC participants reported fewer successive quarters of unmet need for treatment (2.31 vs. 1.86 of 7 quarters; d= -0.19) and were significantly less likely to need treatment at the end of 2 years (34% vs. 44%, d= -.21). Within an average quarter, those in the RMC group were also significantly more likely to transition from active drug use to participation in treatment (OR=3.2; after controlling for severity, recovery environment, problem orientation and desire for help).

A second trial, with 446 patients randomized at entry into SUD therapy, used a modified RMC protocol, and produced parallel findings (Scott & Dennis, under review). At the end of the first 2 years, RMC participantswere significantly more likely than those in a control group to return to treatment (37% vs. 55%, d=+0.40). The RMC participants also returned to treatment sooner (achieving 37% 384 days earlier, d=+0.41), and attended more days of treatment (36 vs. 53, d=.23). RMC participants reported significantly fewer successive quarters of unmet treatment need (3.41 vs. 2.59 of 7 quarters; d= -0.32) and were less likely to be in the circumstance of not getting needed treatment at the end of 2 years (57% vs. 46%; d= -0.24). These two clinical trials indicate that ongoing monitoring and early re-intervention can impact long-term substance use.

Other Recovery Support Initiatives

Individuals with SUD, like those with other chronic conditions, require a variety of support services to help them manage their condition during and between episodes of formal treatment. Research repeatedly demonstrates that active participation in self-help groups during and after treatment promotes lengthier periods of recovery (Brown 1993; Hsieh, Hoffman & Hollister,

1998; Humphreys & Moos, 2001; Kyrouz, Humphreys, & Loomis, 2002; McKay et al., 2002; Ritsher et al., 2002; Scott et al., 2005a). Preliminary evidence also suggests that self-help participation is associated with better outcomes when patients join groups that focus on their particular issues, such as dual diagnoses (Laudet et al., 2000) or adolescent issues (Finch, 2005; Kelly & Myers 1997; Kelly, Myers, & Brown 2002; White & Finch, 2006). Other recently tested recovery support approaches include telephone-based self-monitoring (Simpson et al., 2005) and Internet-based groups (Klaw et al., 2000; Kypri et al., 2005; Toll et al., 2003). A meta-analysis of 24 studies involving 3,739 participants with chronic health conditions (other than SUD) suggests that Internet-based interventions that allow interactions between patients and staff have a significantly higher impact than sites providing information only (Murray et al., 2005).

Various states including Connecticut have begun to add recovery-based performance measures, recovery values, and continuity of care between professional and "peer-based recovery supports" to their recovery initiatives (see http://www.dmhas.state.ct.us/recovery.htm). Similarly, in 2003, the Arizona Department of Health Services, Division of Behavioral Health embarked on a unique initiative designed to develop a "peer workforce" for persons with substance use disorders (http://azdhs.gov/bhs/bhsglance.pdf). Other public health systems, including addiction, mental health, and child welfare system, target key subgroups of people with SUD in an attempt to interrupt the cycle of relapse, treatment re-entry, and recovery. For example, parents with SUD can access standardized screening, co-located services, intensive case managers or recovery coaches to facilitate long-term treatment engagement (e.g., Loveland & Boyle, 2005; Ryan et al., 2003).

IMPLICATIONS FOR PRACTICE

Many studies have shown that addiction is a chronic condition for many patients and that various continuing care, monitoring, early re-intervention, and recovery support models can improve the long-term outcomes and promote recovery. We now turn to the practical implications of shifting from an acute care to a chronic care model as they affect, first, addiction programs, and second, external stakeholders in those programs.

Whether implementing one of the approaches we have described or ones yet to be developed, the literature suggests that simply identifying an efficacious practice is not sufficient for improving care. Lipsey and colleagues (2001), in a meta analysis, demonstrated that the thoroughness of implementation can markedly affect the efficacy of evidence-based interventions. While a highly efficacious intervention implemented well is best – Lipsey found that well implemented treatments with weak efficacy had similar effects to highly efficacious treatments that were poorly implemented. Contrary to early writing that focused mostly on efficacy, this finding led us to recommend implementing the most efficacious treatments that can also be implemented well. Such findings have also led the National Institutes of Health (NIH) to emphasize the need to improve the state of "implementation science" (e.g., http://grants.nih.gov/grants/guide/pa-files/PAR-06-039.html). Based on a recent review of the implementation science literature, Fixsen and colleagues (2005) suggested that efforts to implement new approaches should generally include implementation strategies at multiple levels including but not limited to federal, state, and local stakeholders, and staff across all levels of the provider organizations.

Organizational Support for a Chronic Care Approach

The philosophical, financial, clinical, and practical implications of moving to a chronic care approach will touch everyone in an addiction treatment organization—its board of directors, management, clinical supervisors and line-staff, administrative supports, and clients. Consider what is required, for example, to respond appropriately when a person returns for his or her fourth episode of care: intake and admission procedures must be streamlined to facilitate rapid interruption of crises or relapses; patient and staff assumptions that multiple treatments represent failure must give way to attitudes more aligned with the standards we apply to treating other chronic conditions that need long-term management; and the funding structure will need to provide the necessary financial support. In addition, as we learn more about the factors that influence patients' progress in different phases of recovery, we will likely need greater resources and infrastructure to organize this information so that it can support real time clinical decision making. Assessment and other record systems may need to be modified to readily transfer information when patients move between levels of care, and be made accessible to multiple staff on the treatment team. Addressing such issues is likely to be critical for improving the management of SUD.

Even when staff members favor the change to a chronic care model, they may not have adequate training, education, experience or resources to comprehensively address the needs of a particular client—ranging, for example, from making psychiatric referrals to help with housing. Miller and colleagues (2006) suggest that programs need to equip staff with three types of infrastructure before change can efficiently happen:

- preparatory knowledge, which may be inculcated through reading, verbal instruction, or observing competent practice by others;

- practice with feedback—of note, early practice during or right after training without feedback can actually reinforce bad habits and do as much harm as good;
- ongoing coaching or supervision, which is essential because practice will inevitably bring up a wide range of situations and complex scenarios not covered in the basic materials or training.

Even experienced clinicians benefit from opportunities to brainstorm with staff colleagues on ways to handle a new situation or adapt a protocol when necessary. When Miller and colleagues (2004) randomized 140 counselors to a wait list condition or 4 training conditions (workshop, workshop + practice feedback, workshop + coaching, workshop + feedback + coaching), all training conditions improved knowledge and proficiency, but actual practice only changed when both feedback and coaching were provided. While this particular study focused on a specific intervention, these three components will likely be important factors when implementing many key changes necessary to move toward a chronic care model.

Federal, State and Local Stakeholders

Public payers, government regulators and accrediting bodies set requirements and impose limits upon what publicly-funded treatment providers can accomplish in terms of adopting a chronic care approach to treating SUD. Over three quarters of the people accessing SUD treatment receive some kind of public assistance (SAMHSA, 2006); this makes public funders the primary purchaser of services and gives them a unique ability to reshape existing structures and policies. As one example of the constructive use of this power, McLellan (2006) recently reported preliminary data from Delaware demonstrating that offering treatment providers performance-based incentives can improve the system of care. The data showed that retention

rates from 2002 to 2004 increased at 30 days (48% to 69%) and 60 days (25% to 42%) after admission. The State of Massachusetts implements a continuum of care based on the chronic disease model for its prevention and treatment systems (www.mass.gov/dph/bsas/sa_strategic_plan.ppt). In an attempt to intervene more effectively against the chronic aspects of addiction, Connecticut is reviewing and modifying its regulations, services and training to focus more on recovery values, recovery-based performance measures, and continuity of care between professional and "peer-based recovery" supports (see http://www.dmhas.state.ct.us/recovery.htm). While these and other efforts across the country are encouraging first steps in the change process, adopting a chronic care approach will require buy-in and active participation from all concerned with reducing the health and social consequences of drug abuse and addiction.

NEXT STEPS

While results from recent studies provide the addiction field with some of the first steps toward chronic care management, helpful next steps might include: (a) determining the costs associated with ongoing monitoring and early re-intervention; (b) testing the model with different populations such as pregnant and postpartum women, male and female offenders leaving jail or prison, or adolescents; (c) determining when a participant can be transitioned from quarterly to bi-annual checkups based on need; (d) determining whether more frequent or even continuous monitoring would improve outcomes; (e) testing the impact of linkages to less formalized types of care such as recovery coaches or faith-based interventions; and (f) testing various modes of delivery such as phone and email; and testing the indirect effects of recovery

management on other outcomes such as HIV, illegal activity, emotional problems, vocational activity or quality of life.

Line staff, family members and others in recovery reading this may ask how they can use this information. The first step is to help individuals (both people with SUD, their family members and staff) recognize that addiction is a chronic but treatable condition, that most people who have them need help from several sources, that it often takes multiple episodes of treatment and that relapse is common. On the bright side, however, the majority of people do succeed and the likelihood of reaching recovery status is related to following through with continuing care and recovery support recommendations. Along the way when relapse occurs, make it clear that relapse only confirms the chronic nature of the condition. It may be helpful to emphasize proactive referral to continuing care and other services, and to work with them to ensure they follow through with the recommendations mentioned above (e.g., continuing care, going to self-help group meetings, addressing other problems, and on-going urine monitoring).

CONCLUSION

Historically, addiction treatment has been conceptualized as an episodic relationship in which a person seeks treatment, receives an assessment, is treated and presumed cured—all in a relatively short time period. While the field faces numerous challenges in its attempts to better manage chronic SUD, this review demonstrates that we are making progress. Indeed, it has been argued that SUD treatments appear to be as effective as interventions available for other chronic conditions like diabetes, hypertension, and dialysis (McLellan et al., 2000). The growing body of empirical evidence demonstrating the chronicity of SUD coupled with increasing awareness among various stakeholders about the need for change represents genuine progress. Formal and

informal efforts to better address the problems continue to expand and, hopefully, this enhanced awareness will lead to increased dialogue and action between the numerous stakeholders to improve the treatment and long-term management of chronic SUD.

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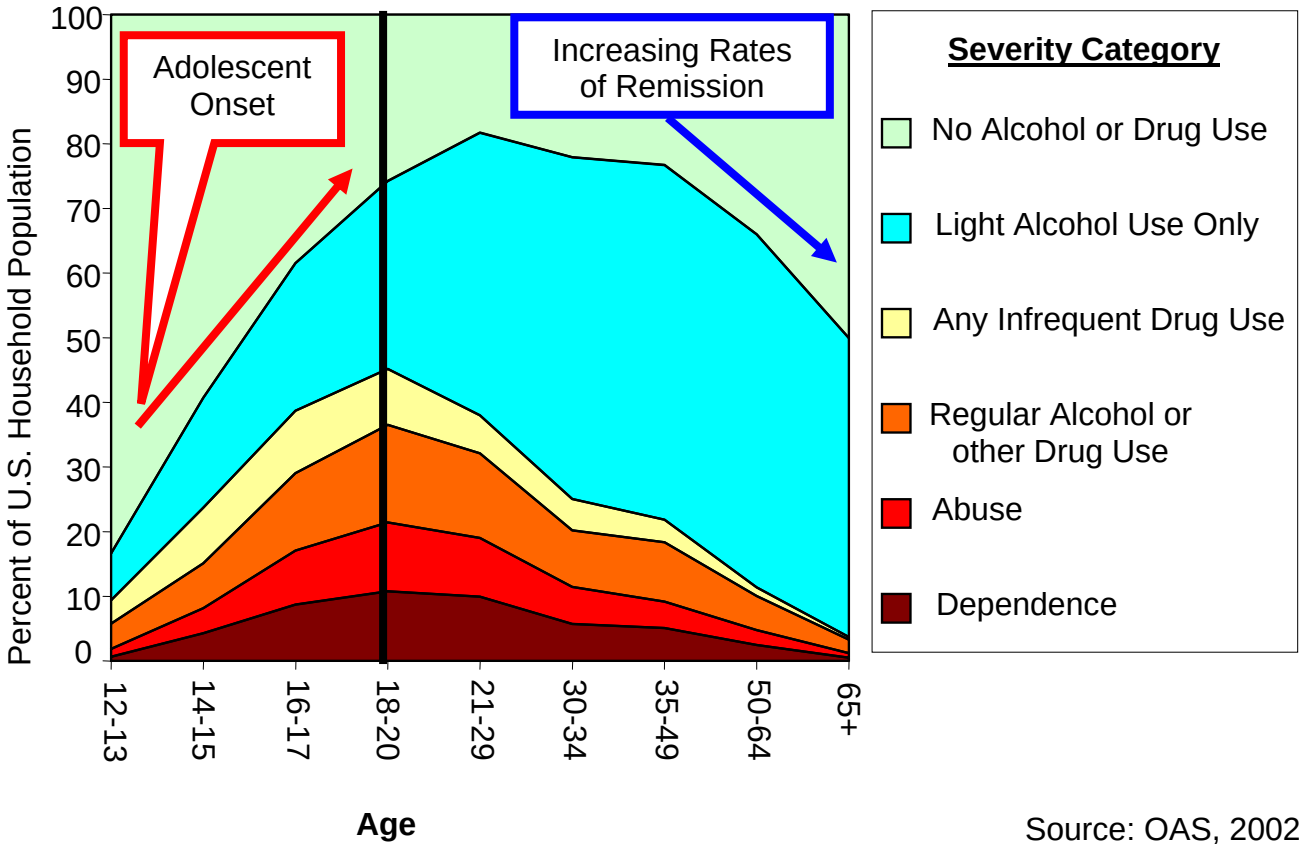
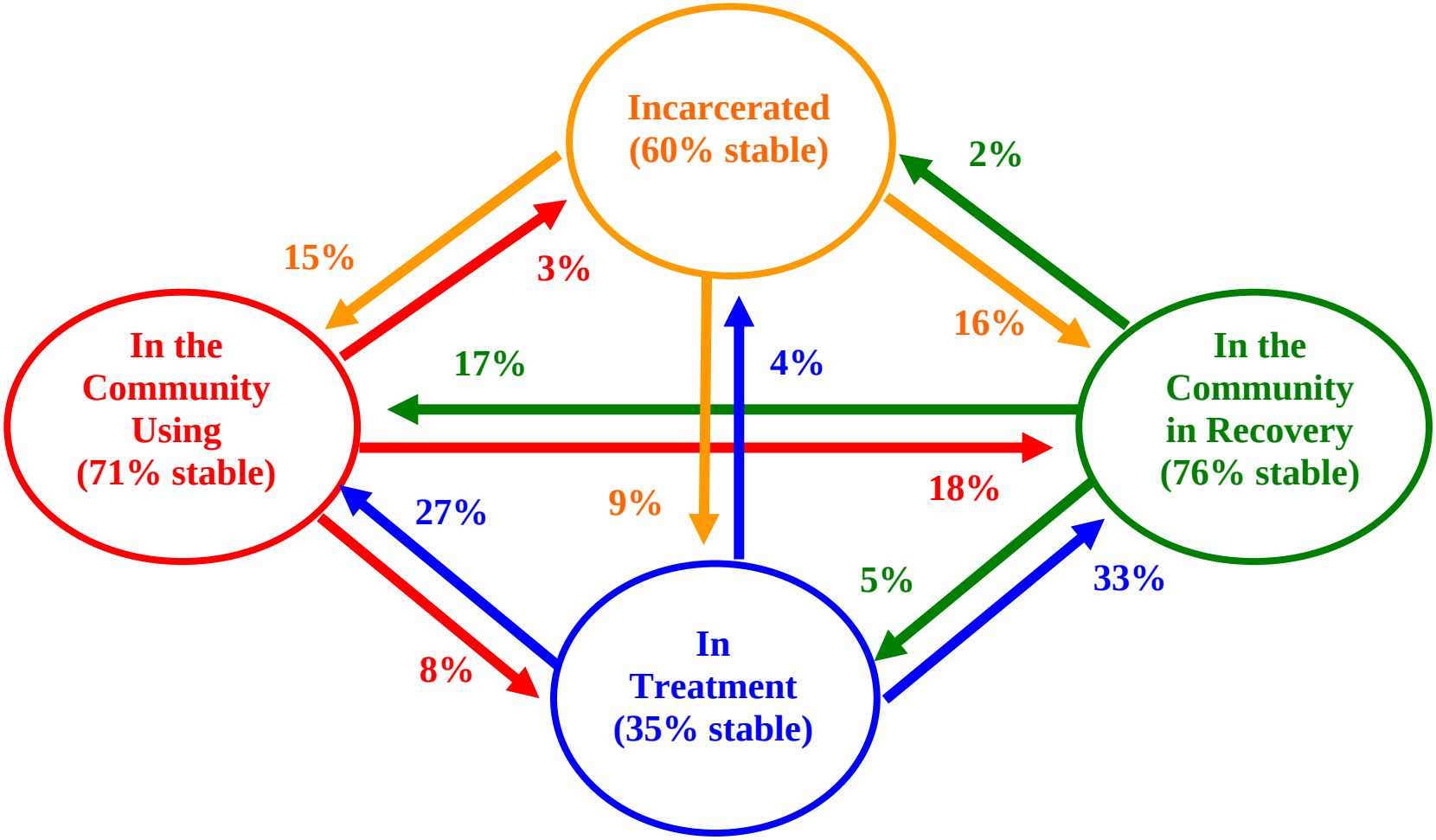
Figure 1. Substance Use Severity By Age in the 2001 U.S. Household Population age 12 and older (est. 235,143,246). The diagram shows the percentage at a given age self reporting past year criteria for dependence, abuse, regular drug use (monthly) or alcohol intoxication (weekly), less than monthly drug use, low frequency alcohol use, no past year alcohol or drug use. The prevalence of substance use increases between early adolescence and young adulthood, then decreases as cohorts age – taking several decades to go back down.

Figure 2. Quarterly Transitions Between Relapse, Incarceration, Treatment, And Recovery [Caption] The Early Re-Intervention Experiment tracked 448 individuals over 2 years. The diagram shows the percentages of patients who remained stable (numbers in circles) or moved from one status to another status (numbers by arrows) during an average quarter. For example, of the people who started the quarter using drugs, 71% percent were still using drugs at the end; 8% were in treatment; 18% were in recovery (including some who went to and finished treatment during the quarter);and 3% were incarcerated (Scott et al., 2005b).



Source: OAS, 2002


Incarcerated
(60% stable)
In the
Community
Using
(71% stable)
In the
Community
in Recovery
(76% stable)
In
Treatment
(35% stable)
15%
3%
2%
16%
17%
4%
18%
9%
27%
8%
5%
33%