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The Choose–Get–Keep Model of Psychiatric Rehabilitation: A Synopsis of Recent Studies

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Objective: Comprehensive review of studies using the choose–get–keep (CGK) process model of psychiatric rehabilitation. Also, other studies are identified that have demonstrated methodologies useful in future research on the CGK model. ***Intervention Model***: The CGK process is conceptualized as the phases through which people with psychiatric disabilities proceed as they engage in psychiatric rehabilitation. ***Conclusion***: The CGK model is a potentially useful psychiatric rehabilitation intervention that can be implemented in a variety of service settings and that focuses on the activities of the practitioner and the service recipient. The CGK model warrants further empirical study to examine its effectiveness.

Keywords: vocational rehabilitation, vocational models, vocational interventions, psychiatric disability, employment

Evidence-based practice in rehabilitation has its origins in the concept of evidence-based medicine (Sackett, Rosenberg, Muir Gray, Haynes, & Richardson, 1996). In the mental health field, the program models that most closely approximate evidence-based practices are the assertive community treatment program model (Drake et al., 2001; Mueser, Bond, & Drake, 2001) and the individual placement and services model of supported employment (Drake, Becker, Clark, & Mueser, 1999; Drake, McHugo, et al., 1999). Although there is no firm consensus about definition, one view is that a practice is considered to be evidence based when two or more randomized clinical trials compare the practice with an alternative intervention or with no intervention and find the evidence supports the superiority of the practice in question over the alternatives or no intervention (Phillips et al., 2001). Similarly, the Division 12 task force of the American Psychological Association states that an empirically supported therapy is characterized by the existence of at least two good between-groups design experiments that demonstrate efficacy by superiority either to placebo or to other treatment, or alternatively, equivalence to an already established treatment (Chambless & Ollendick, 2001). Although randomized clinical trials are the gold standard, evidence-based medicine recognizes a hierarchy of evidence including quasi-experimental studies, open clinical trials, and systematic observations (Drake, Rosenberg, Teague, Bartels, & Torrey, 2003).

Choose–Get–Keep Process Model

Almost 2 decades ago, the choose–get–keep (CGK) model of psychiatric rehabilitation was conceptualized (Anthony, Howell, & Danley, 1984; Danley & Anthony, 1987), first applied to the area of vocational rehabilitation of people with psychiatric disabilities and extended over the years to the educational and housing environments (Anthony, Cohen, & Farkas, 1990; Anthony, Cohen, Farkas, & Gagne, 2002).

The CGK process occurs as practitioners diagnose, plan, and intervene to help individuals with psychiatric disabilities develop the skills and supports required to be successful and satisfied in their chosen roles or environments (Anthony, 1979; Anthony et al., 1990, 2002). The practitioner's ability to involve people in the CGK rehabilitation process is facilitated by the practitioner's level of knowledge and skills of psychiatric rehabilitation practice. The particular diagnostic, planning, and intervention components used in the CGK process model were developed by the Center for Psychiatric Rehabilitation at Boston University with initial support from the National Institute of Mental Health and later support from the National Institute on Disability and Rehabilitation Research and the Center for Mental Health Services (Cohen, Danley, & Nemec, 1985; Cohen, Farkas, & Cohen, 1986; Cohen, Farkas, Cohen, & Unger, 1991; Cohen, Forbess, & Farkas, 2000; Cohen, Nemec, & Farkas, 2000; Cohen, Nemec, Farkas, & Forbess, 1988; Farkas, Cohen, McNamara, Nemec, & Cohen, 2000). These components are clearly defined practitioner skills as well as the knowledge to use the skills most effectively. Table 1 lists the diagnostic, planning, and intervention-level activities practitioners use to guide the person with a psychiatric disability through the CKG process (Anthony et al., 2002).

Unique Features of the CGK Program Model

Unlike other well-known program models in the mental health field (such as the clubhouse program model; Macias, Jackson, Schroeder, & Wang, 1999), the CGK process model is not setting specific nor is it tied to a particular staffing pattern, as is the assertive community treatment program model (Burns & Santos, 1995), nor to a particular integration of services such as the individual placement and support model (Becker &

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Table 1
Activities of Practitioners During the Psychiatric Rehabilitation Process Phases

Diagnosing	Planning	Intervening
Assessing rehabilitation readiness	Planning for skills development	Direct skills teaching
Developing rehabilitation readiness	Setting priorities	Outlining skill content of needed skills
Setting an overall rehabilitation goal	Defining objectives	Planning the skill acquisition
Connecting with clients	Choosing interventions	Programming skill use
Identifying personal criteria	Formulating the plan	Coaching the client in skill use
Describing alternative environments		
Choosing a goal	Planning for resource development	Skills programming
	Setting priorities	Identifying barriers to using new skills
Functional assessment	Defining objectives	Developing a program to boost skill use
Listing critical skills	Choosing interventions	Supporting skill use
Describing skill use	Formulating the plan	
Evaluating skill functioning		Resource coordination
Coaching the client		Marketing clients to resources
		Problem solving
Resource assessment		Programming resource use
Listing critical resources		
Describing resource use		Resource modification
Evaluating resource use		Assessing readiness for change
Coaching the client		Evaluating resources
		Proposing change
		Consulting to resources
		Training resources

Note. From *Psychiatric Rehabilitation* (2nd ed.; p. 118) by W. A. Anthony, M. R. Cohen, M. Farkas, and C. Gagne, 2002. Boston: Boston University, Center for Psychiatric Rehabilitation. Copyright 2002 by the Center for Psychiatric Rehabilitation, Trustees of Boston University. Reprinted with permission.

Table 2
Choose–Get–Keep Process Model Standards

Element	Evaluated ingredients	Description
Rehabilitation mission	Mission statement–description	Evidence that the agency's mission includes concepts of increasing people's functioning in their environment of choice with the least amount of professional intervention.
Rehabilitation process: Diagnosis	Rehabilitation readiness assessment	Evidence that all persons are helped to assess themselves in terms of their need for rehabilitation across environments, their commitment to change, their personal closeness, and their awareness of self and environments.
	Rehabilitation readiness development	Evidence that there is a structured process to help people choose to continue rehabilitation or not and a series of activities that focuses on helping interested clients become ready for rehabilitation.
	Development of an overall rehabilitation goal (ORG)	Evidence that all rehabilitation assessments begin with an environmentally specific goal and with time lines of 18 to 24 months (e.g., "John intends to live at Sunrise House by January 2, ____." "Sarah intends to work part-time as a chef at Chez Francois, until July 2, ____.").
	Skill-oriented assessment	Evidence that assessment focuses on skills and not only symptoms, traits, or global needs. Ideally these are derived from an ORG (e.g., Skill: "Asking for staff assistance").
	Behaviorally defined	Evidence that skills assessed are observable actions that can be measured (e.g., "Percentage times/week Sarah calls staff on the phone when she begins to talk to her voices at the restaurant").
	Comprehensive by skill type	Evidence that skills are assessed holistically (i.e., physical, emotional, and intellectual skill strengths and deficits, e.g., "ADL," "expressing anger," "planning leisure time").
	Comprehensive by environments	Evidence that skills in each of the living, learning, and working environments that may impact on success and satisfaction in the specific goal environment are considered in the assessments.
	Resource-oriented assessment	Evidence that resource strengths and deficits are listed in the overall assessment (e.g., "rent money," "responsive family," "accessible transportation").
	Resources defined	Evidence that resource strengths and deficits are listed in the overall assessment (e.g., "Amount of $/month Supplemental Security Income pays Sarah before her rent is due").
	Comprehensive by type of resources	Evidence that resources listed include supportive people, objects, places, and activities.
	Involvement	Evidence that the person participates in the readiness assessment and development, establishing the ORG, generating the skills and resources required, and agrees with the labeling of these as strengths and deficits.

Table 2 (*continued*)

Element	Evaluated ingredients	Description
Rehabilitation process: Planning	Skill or resource objectives	Evidence that the plan includes defined skill or resource objectives (e.g., "Sarah calls her support staff on the phone when she begins to talk to her voices at the restaurant 40% of times/week").
	Integrated with diagnosis and subsequent interventions	Evidence that the skill or resource objectives used in the plan come from the rehabilitation diagnosis or that the interventions described in the plan are, in fact, implemented based on a plan.
	Priorities assigned	Evidence that there is a system for selecting skill or resource goals, which are of high priority in the achievement of the ORG.
	Specific interventions selected	Evidence that each objective has a specific skill development or resource development intervention assigned to it.
	Timelines included	Evidence that each intervention described in the plan has a beginning and projected date of completion.
	Responsibilities identified	Evidence that someone is named as responsible for developing, implementing, and monitoring the individual interventions described in the plan.
	Involvement	Evidence that the client has participated in developing the plan and agrees with the plan. Ideally, client is present for the meeting, participates in selecting high-priority goals, timelines, etc.
Rehabilitation process: Intervention	Skill development	
	Skill teaching oriented	Evidence that agency values skill teaching as an intervention.
	Lessons prepared	Evidence that each skill taught has a description of its component behaviors and a structured lesson plan for each of these behaviors (e.g., skill curricula).
	Skill learning monitored	Evidence that system exists to provide feedback and refinement of skill performance during the learning process.
	Skill use program defined	Evidence that skill performance in the environment of need is increased through the use of sequenced and behaviorally defined steps.
	Timelines included	Evidence that each step in the skill use program has projected timelines assigned to it.
	Reinforcers	Evidence that reinforcers are developed from the person's perspective and applied to the major steps of the skill use program.
	Resource development (coordination)	
	Case management oriented	Evidence that agencies value and believe they use referral or linking techniques as an intervention.
	Goal defined	Evidence that agencies make referrals on the basis of the client's ORG, functional assessment, and resource assessment.
	Alternative resources listed	Evidence that alternative resources have been considered in making the referral.
	Plan defined for linking	Evidence that a systematic plan to implement referral has been made. At a minimum, it includes a designated person to make the referral, the date it will be made, and the specific arrangement for the link to occur.
	Plan defined for supporting ongoing utilization	Evidence that a systematic plan is developed to help the person and the resource maintain the link, once the referral has been made.
	Resource development (modification–resource creation)	
	Ongoing resource appraisal	Evidence that a systematic method for collecting information about inadequate elements of existing resources (or lack of) has been developed.
	Resource improvement plan	Evidence that a structure exists for the ongoing development of plans to systematically overcome those deficits in resources.
	Resource improvement information	Evidence that a structure exists whereby plans are implemented by the program and/or appropriate agents.
Rehabilitation environments	Network	
	Network array	There is an array of settings either under the program's control (or available to it), in (or closely resembling) naturally occurring settings.
	Network relevance	Settings reflect evidence that all program activities are designed around the needs and preferences of program clients.
	Culture	
	Partnership	Evidence that all program activities involve clients as partners.
	Compatible with values	Evidence that all program activities and structures are congruent with rehabilitation values (e.g., program hours, methods of supervision, official acknowledgment of staff and clients, i.e., personal events, accomplishments, etc.).

Note. From "Psychiatric Rehabilitation Programs: Putting Concepts Into Practice?" by M. D. Farkas, M. R. Cohen, and P. B. Nemec, 1988, *Community Mental Health Journal, 24,* pp. 12–14. Copyright 1988 by the Center for Psychiatric Rehabilitation, Trustees of Boston University. Adapted with permission.

Table 3
Preexperimental Studies of Choose–Get–Keep (CGK)

Investigator	Location	Design	Groups (*n*)	Staff training in psychiatric rehabilitation	Inclusion criteria	Exclusion criteria
Rogers et al. (1991)	VA, GA, OR	Pretest–posttest with repeated measures	Psychiatric vocational rehabilitation (275)	"Intensive" training	Expressed a vocational goal	Unwilling to participate in study; no vocational goal
Unger et al. (1991)	Boston, MA	Pretest–posttest with repeated measures	SED (52)	Graduate courses in psychiatric rehabilitation	Impaired role functioning due to severe mental illness; stabilized on medication if necessary	Experiencing psychiatric symptoms; unstable residential setting; not a good match for program
Brown et al. (1991)	Eugene, OR	Pretest–posttest	Involuntary SL (27)[a]	Agency staff routinely trained	Discharged from institution; involuntarily committed 2 times in last 3 years	Moved from area; refused services
Danley et al. (1994)	Boston, MA	Pretest–posttest with repeated measures	SE (20)	Graduate coursework	Impaired role functioning due to severe mental illness; wanted to work; symptoms were managed; had adequate housing	Over age 45; active psychiatric symptoms
Anthony et al. (1999)	Eugene, OR	Follow-up study measuring maintenance of gains	1 year after discharge (26) SL, SE[b,c] 2 years after discharge (21) SL, SE	Agency staff routinely trained	Institutionalized over 180 days or institutionalized 3 times in year prior to study	Not interested in vocational rehabilitation; not a good match for program
Kramer et al. (2003)	Fort Lauderdale, FL	Pretest–posttest with repeated measures	ACT and CGK combined (80)	380 hr of training and supervision	Florida criteria for severe and persistent mental illness; 2 or more inpatient admissions in previous year	None
Hutchinson et al. (2006)	Boston, MA	Pretest–posttest with repeated measures	SED–SE (61)	Psychiatric rehabilitation coursework	Person with a psychiatric disability; computer employment goal; presence of a support person	Cannot perform in classroom setting

Note. SED = supported education; SL = supported living; SE = supported employment; ACT = assertive community treatment.
[a] Study of maintenance of gain after program completion. [b] For employed participants only. [c] No attrition occurred because only system-level data were used for this study and all participants remained known to the system. [d] Much of data analysis compared employed versus unemployed members.

Drake, 1993). In contrast to a specific emphasis with respect to discipline, setting, or service integration, the CGK model focuses on facilitating a specific practitioner and client process to guide the client to choose, get, and keep a rehabilitation goal. The CGK model specifies those ingredients that are most apt to facilitate the CGK process. Certain program variables (such as particular staff credentials or a specific program setting) are not critical to facilitating the processes, and those components are not part of the model.

The CGK model defines the process both from the practitioner's point of reference and that of the person served. In essence, diagnosing, planning, and intervening is what practitioners do to facilitate rehabilitation. Choosing, getting, and keeping is what service recipients do to attain their goals. These CKG distinctions can be monitored through process analyses (Rogers, MacDonald-Wilson, Danley, Martin, & Anthony et al., 1997). However, just as important, the process of CGK also can be explained simply to consumers, family members, and other professionals. While the practitioner is implementing discrete activities to ensure implementation of the process, the consumer is oriented and involved in the process from the frame of reference of CKG.

Participant status	Diagnostic features	Follow-up duration	Attrition	Environmental focus	Results
Members of psychosocial rehabilitation center	Schizophrenia = 57%; bipolar or major depression = 17%	12 months after leaving services	8% at 12 months	Vocational	Employment increased; symptoms decreased for those employed[d]; work adjustment skills increased for those employed[d]; employment maintained over follow-up period
Outpatient	Schizophrenia = 39%; affective disorder = 44%	6–12 months	15%–33% depending on measure used	Vocational, educational	Competitive employment increased; educational activity increased; hospitalization decreased (1st year only); self-esteem increased
Recently discharged from institution	Schizophrenia = 29%; bipolar = 43%; schizoaffective = 24%	6 months	22%	Residential	Hospital days decreased over 51%
Outpatient	Schizophrenia = 37%; bipolar = 53%	2 years	15%	Vocational	Employment increased; hours worked increased; no change in earnings; job satisfaction (40th percentile 3–5 months after employment)[b]; work-site integration (70% were highly integrated)[b]; no change in symptoms; no change in social supports
Inpatients discharged to psychosocial rehabilitation center	Schizophrenia = 62%	Between 1 and 2 years after hospital discharge	20%	Residential, vocational	Residential status[a] Year 1 = Year 2 Vocational status[a] Year 1 = Year 2 Hospitalizations[a] Year 1 = Year 2
Either residing in, discharged from, or on admissions wait list for South Florida State Hospital	All met Florida criteria for severe and persistent mental illness	3 years	0%[c]	Residential, social	Hospital days decreased 90%; independent living rates increased from 0% to 53%; social involvement increased from 0% to 78%; part-time employment increased from 0% to 15%; educational activity increased from 0% to 8%
Outpatient	Schizophrenia = 30%; depression = 25%	18 months	21%	Vocational	Competitive employment increased; weekly pay increased; residential status increased; self-esteem increased; empowerment increased; leisure activity = no change

Knowledge Base for Developing the CGK Process Model

Like other program models, the development and refinement of the CGK process model has occurred over time and is based on several sources of knowledge. The first source is empirical studies of some critical ingredients of psychiatric rehabilitation, such as client preference (Rogers, Anthony, Toole, & Brown, 1991), client skills (Dellario, Anthony, & Rogers, 1983), client readiness (Cohen, Anthony, & Farkas, 1997; Farkas, Sullivan-Soydan, & Gagne, 2000), client functioning (Dion, Cohen, Anthony, & Waternaux, 1988), and other client characteristics (Dion & Dellario, 1988). A second source is the extensive training and consultation initiatives carried out over the past 2 decades by the Center for Psychiatric Rehabilitation in which a wide variety of program personnel were trained in the psychiatric rehabilitation approach. Some of these training and consultation activities have been described, evaluated, and summarized in the literature (Anthony, Cohen, & Farkas, 1987; Farkas, 2000; Farkas, Cohen, & Nemec, 1988; Farkas, O'Brien, & Nemec, 1988; Gayler & Gagne, 2000; Lamberti, Melburg, & Madi, 1998; McNamara, Nemec, & Farkas, 1998; Rogers, Cohen, Danley, Hutchinson, & Anthony, 1986). These training initiatives provided feedback on CGK, refinements to it, and how to embed the approach within a variety of program structures.

Table 4
Quasi-experimental and Experimental Studies of Choose–Get–Keep

Investigator	Location	Design	Groups (*n*)	Staff training in psychiatric rehabilitation	Inclusion criteria	Exclusion criteria
Goering et al. (1988)	Toronto, Ontario, Canada	Matched control	RCM (82) No RCM (82)	"Intensive" training and supervision	Chronic illness; poor employment history; social isolation; residential instability	Of all patients meeting inclusion criteria, study participants were randomly selected because of resource constraints
Shern et al. (2000)	New York City, NY	Random assignment	RCM (91) No RCM (77)	"Extensive" training and supervision	7 of last 14 nights homeless; New York State criteria of severe and persistent mental illness; over age 18	Dangerous to themselves or others
Rogers et al. (in press)	Boston, MA	Random assignment	Experimental intervention = PVR (70); Control = state-sponsored vocational rehabilitation (65)	Graduate coursework	Diagnosis of major mental illness; unemployed or underemployed; intensive case management recipient	Moderate to severe active substance abuse; severe cognitive impairment; receiving vocational rehabilitation services

Note. RCM = rehabilitation case management; PVR = psychiatric vocational rehabilitation; ESVR = enhanced state vocational rehabilitation; SCID = Structured Clinical Interview for the *Diagnostic and Statistical Manual of Mental Disorders* (3rd ed.; American Psychiatric Association, 1980)
[a] Both PVR and ESVR improved over 24 months on employment.

Process Model Standards

1The essential program ingredients of the CKG model as presently constituted are identified in Table 2. Programs that contain these characteristics are judged to have fidelity to the CGK model. These standards can be applied whether the rehabilitation goal is vocational, residential, and/or educational; whether the program setting is hospital based or community based; and whether the basic program approach involves individual sessions, group sessions, or a combination of both. The development of CGK model standards reflects our concerns that as psychiatric rehabilitation became more widespread, new psychiatric rehabilitation programs would be implemented in name only and not be faithful to the essential components of the model (Anthony, Cohen, & Farkas, 1982; Anthony et al., 1987; Farkas, 1998; Nemec, Forbess, Farkas, Rogers, & Anthony, 1991). These standards were developed to address this concern (Farkas, Cohen, & Nemec, 1988). Although the process was originally conceived as a linear one, practitioners now know that there can be cycles and iterations of the process and that the length of time in each phase must be determined by individual progress and goals. Termination depends on goal achievement, the obtaining and maintenance of a vocational, education, or residential goal. Practitioners are trained in all aspects of the psychiatric rehabilitation approach as well as how to make discriminations about which component of the approach should be applied, given certain client or environmental circumstances. Like many other such rehabilitation and therapeutic interventions, the CGK approach is not totally scripted; application of different components of the model depends on practitioner skills, knowledge, and experience as well as client circumstances.

CGK Methodological Research

In addition to outcome studies on the CGK model, several studies have shed light on essential components of the CGK approach. For example, Rogers et al. (1997) used process analysis to monitor the implementation of a CGK vocational program. An instrument was developed to track and monitor every contact between practitioners, service recipients, and others. Documentation was obtained as to whether the activity involved choosing, getting, and/or keeping; with whom; its purpose; setting; time of day and day of the week; and mechanism of contact (phone, individual face to face, or group). By successfully operationalizing the components of the process as it is implemented in actual practice, future studies can investigate what components of the model lead to what outcomes and how faithfully the model is implemented.

Rogers, Sciarappa, MacDonald-Wilson, and Danley (1995) also conducted a benefit–cost analysis of CGK. Participants experienced significant monetary and nonmonetary benefits as a result of the intervention, including a reduction in the use of several mental health services, especially costly and intensive mental health services, increased wages, and more time spent in integrated employment settings.

Lovell and Cohn (1998) used an ethnographic methodology to examine how the idiographic concept of "choice," a fundamental principle in the CGK model, was constructed for persons who were homeless, street dwelling, and diagnosed with a severe mental illness. The authors discussed the paradox of applying an idiographic concept such as choice in a larger context of normatively oriented mental health services. Shern, Trochim, and LaComb (1995) used concept mapping to assess the fidelity with which the components underlying the CGK model could be transferred from the program designers and trainers to program practitioners at a service site. Quantitative and descriptive analyses of the maps

Participant status	Diagnostic features	Follow-up duration	Attrition	Environmental focus	Results
Discharged from hospital to program	77% diagnosed with psychosis	2 years	11%	Residential, social, vocational	Hospitalization (RCM = no RCM); individual role functioning (RCM > no RCM); independent living (RCM > no RCM); social isolation (RCM > no RCM)
Currently homeless	91% major mental illness diagnosis; 47% lifetime dual diagnosis	24 months	31%	Residential	Basic needs met (RCM > no RCM); housing status (RCM > no RCM); institutionalized days (RCM = no RCM); quality of life (RCM > no RCM); symptoms (RCM > no RCM); self-esteem (RCM = no RCM)
Outpatient	SCID diagnoses: schizophrenia, PVR = 57%; ESVR = 42%; affective disorder, PVR = 34%; ESVR = 47%; substance abuse, current or lifetime, PVR = 52%; ESVR = 50%	2 years	25% program attrition at 18 months	Vocational, educational	Competitive employment, PVR = ESVR[a]; productive activity, PVR = ESVR; quality of life, PVR = ESVR; health status, PVR = ESVR; educational activity, PVR = ESVR

indicated good fidelity of model transfer but also highlighted the importance of local adaptations of the model to ensure future utilization. Thus, beyond individual participant outcomes of the CGK intervention, investigations have laid the groundwork for examining and understanding the components of the intervention and its cost implications.

Evidence in the CGK Model

We reviewed 10 studies that used a psychiatric rehabilitation approach to assist people with psychiatric disabilities through a CGK process. The studies reviewed include pretest–posttest, quasi-experimental, and randomized studies. As shown in Table 3, the overwhelming number of investigations conducted thus far on the CGK process model are pretest–posttest studies, and the settings are primarily vocational. The average number of study participants was 100; all participants met their respective states' criteria for severe mental illness, with the most common diagnoses being schizophrenia, affective disorder, or schizoaffective disorder; the median follow-up period was 18 months, and the median attrition rate was in the 20%–26% range.

Table 3 summarizes the CGK studies utilizing a pretest–posttest design, whereas Table 4 presents the findings of the available quasi-experimental or experimental studies. With different settings, designs, and outcome variables, the data were too heterogeneous for a meta-analysis. A discussion of findings by specific outcome domains follows.

Vocational Functioning

The CGK process was originally developed to be applied in the vocational area. Eight of the 10 studies collected vocational outcome data and had either an exclusive or partial intervention focus on the vocational environment (Anthony, Brown, Rogers, & Derringer, 1999; Danley, Rogers, MacDonald-Wilson, & Anthony, 1994; Goering, Wasylenki, Farkas, Lancee, & Ballantyne, 1988; Hutchinson, Anthony, Massaro, Rogers, & Cash, 2006; Kramer, Anthony, Rogers, & Kennard, 2003; Rogers, Anthony, & Lyass, in press; Rogers et al., 1991; Unger, Anthony, Sciarappa, & Rogers, 1991). Overall measures of vocational functioning improved over time in these studies. Although the one clinical trial that specifically targeted the vocational area found vocational status improvement in the CGK recipients over time, no differences were found between the CGK recipients and the recipients of the comparison intervention (enhanced state vocational rehabilitation services). The researchers explained these null findings in several ways (Rogers et al., in press) including an enhancement to the control intervention ensuring that participants received all needed vocational rehabilitation services. This was done to increase the likelihood that the control participants would remain in the study and receive the control intervention as designed. Another methodological complication occurred because of the researchers' attempts to discourage dropouts or nonattenders to the enhanced state vocational rehabilitation services condition to maintain sufficient statistical power. These enhancements improved the control condition beyond the typical state vocational rehabilitation intervention.

The pretest–posttest studies that used the CGK approach and that specifically targeted vocational functioning (Anthony et al., 1999; Danley et al., 1994; Hutchinson et al., 2006; Rogers et al., 1991; Unger et al., 1991) were lacking control groups but used repeated and multiple measures of vocational outcome, allowing us to examine change over time. In addition to positive impact on competitive employment, evidence suggests the CGK model has a salutary effect on individual role functioning (Goering et al., 1988) and work adjustment skills (Rogers et al., 1991). Other studies suggest increases in hours worked and job satisfaction as well as

improved work-site integration (Danley et al., 1994) and increased proportions of individuals in part-time employment (Kramer et al., 2003). In the computer training program that used the CGK model (Hutchinson et al., 2006), participants experienced gains in employment and earnings, improvements in self-esteem and perceived empowerment, and decreased utilization of mental health services.

Educational Functioning

With the advent of supported education in the 1980s (Unger & Anthony, 1984), some CGK programs have focused on improving educational outcomes for people with psychiatric disabilities. Underemployment for people with psychiatric disabilities is a significant concern, and several implementations of the CGK model have investigated their impact on functioning in the educational environment along with vocational functioning (Hutchinson et al., 2006; Unger et al., 1991). Unger et al. (1991) reported improvements in both educational and vocational activity. Another program that combined a supported education and a supported employment intervention (Hutchinson et al., 2006) focused only on vocational outcomes.

Residential Functioning

Various measures of residential functioning have been shown to be affected by the CGK model. When the residential domain is the focus of the intervention, these measures typically include the amount of residential supervision available to the participant, often referred to as a person's residential status (Anthony et al., 1999; Goering et al., 1988; Kramer et al., 2003; Shern et al., 2000). It is also interesting to note that some programs that focused on the vocational–educational area also reported decreases in hospital days or increased residential status (Hutchinson et al., 2006; Unger et al., 1991). In a randomized clinical trial of CGK in area, Shern et al. (2000) compared experimental participants who were homeless, street dwelling, and mentally ill with a similar group who received standard treatment. Participants in the CGK condition spent less time on the streets and more time in community housing. One study used a matched control group design (Goering et al., 1988) and found changes in degree of independent living status but no changes in recidivism and hospital days. Researchers speculate that this latter finding might be a result of the program's focus on increasing individual functioning without mandate to reduce hospitalization or crisis intervention.

Secondary Outcomes

The principle outcome of the CGK process model is a change in role functioning in a person's living, learning, and/or working environment (Anthony, 1979). However, because of the interpersonal nature of the psychiatric rehabilitation process and the idea that positive effects on role functioning might affect other variables as well, researchers have also examined dimensions beyond role functioning. Some studies suggest positive effects on secondary outcomes such as quality of life (Shern et al., 2000), self-esteem (Hutchinson et al., 2006; Unger et al., 1991), symptoms (Rogers et al., 1991; Shern et al., 2000), social involvement (Kramer et al., 2003), and social isolation (Goering et al., 1988). However, other studies have reported no change on measures of quality of life (Rogers et al., in press), health status (Rogers et al., in press), symptoms (Danley et al., 1994), or self-esteem (Shern et al., 2000). Researchers studying the CGK model should continue to examine the impact on these psychosocial variables to see whether patterns, not currently discernible, emerge over time.

Summary of CGK Studies

The CGK approach has been used across a variety of domains and in a variety of program types and structures. The approach has been sufficiently delineated to ensure standardization in training, and we have demonstrated the ability to embed the model within various types of rehabilitation programs. Results of early demonstration studies, which are primarily observational in nature, suggest positive outcomes, but because of methodological limitations, results from this research are not conclusive. Results of two randomized trials show equivocal results. One study showed equivalence to an enhanced standard treatment (Rogers et al., in press), whereas the other (Shern et al., 2000) demonstrated the superiority of the CGK approach over the control condition. In the two randomized trials, those participants lost to follow-up were either treated as having a negative outcome so as not to allow attrition to bias the outcomes in favor of the experimental condition (Rogers et al., in press) or, in the Shern study (Shern et al., 2000), data were analyzed to conservatively adjust for missing data. In several observational studies (Anthony et al., 1999; Danley et al., 1994; Hutchinson et al., 2006), attrition was handled conservatively, whereas in others (Goering et al., 1998; Unger et al., 1991), it was not. Conservative adjustments in the statistical analyses mean that those individuals who were missing assessments or who were lost to follow-up were retained in the analysis and treated as though they had a negative outcome. This "intent-to-treat" approach ensures that the missing data do not create a positive bias by excluding dropouts who may have experienced less positive outcomes.

This varied approach to the treatment of missing data across the studies we reviewed could have biased outcomes in favor of the intervention. In addition, these studies were conducted without examination of fidelity to the CGK process. Although practitioners in all studies were trained to criterion and the standards listed in Table 2, this lack of standardized measures of program fidelity is a methodological flaw that should be corrected in any future study. In addition to issues related to fidelity of the intervention and the handling of missing data in the statistical analyses, another potential confounder to these studies includes the varied approaches to promoting study retention and reducing attrition. The underlying philosophy and practices of the CGK approach encourage extensive attempts to engage individuals and to assess and promote their readiness to use the CGK process (Anthony et al., 2002). However, these practices were not standardized across studies, and therefore the extent to which they contributed to the observed outcomes cannot be discerned.

Examples of Needed Model Development and Research

Over nearly 2 decades of conceptual thinking, training, and technical assistance initiatives and empirical studies of the CGK model have led to refinements in practice and research. The CGK

process no longer must begin at the choosing phase, a practice that in the past served to delay the getting phase for those individuals who already had committed to a vocational, educational, and/or residential goal. Curricula are now available that assist the service recipient to begin at whatever part of the process is most relevant to him or her (Danley & MacDonald-Wilson, 1996). In addition, there are standardized manuals to help individuals assess their readiness to choose an overall goal (Farkas et al., 2000) or develop readiness if they need and want to engage in the CGK process (Cohen, Forbess, & Farkas, 2000). One of the barriers to the implementation of the CGK model has been the necessity for lengthy practitioner training in the technology of psychiatric rehabilitation. However, as more preservice courses teach psychiatric rehabilitation skills and detailed intervention manuals are developed (e.g., Danley, Hutchinson, & Restrepo-Toro, 1998), the length of time needed to train practitioners may be reduced. At present, there is no research available that indicates the adequate amount of training needed when practitioners use these recently developed manuals. Furthermore, research is lacking as to which components of the CGK standards (as depicted in Table 2) are the most critical, both in terms of ensuring that the CGK process occurs and in terms of their unique relation to outcome. Second, measures and protocols are critically needed for translating these standards and practitioner training into a measure of fidelity that can be used in research. Only one study has been conducted on the long-term effects of psychiatric rehabilitation interventions (Ellison, Danley, Bromberg, & Palmer-Erbs, 1999). Five years after program completion and up to 9 years after baseline measurement for the earliest program participants, vocational, educational, self-esteem, and hospitalization data were collected. Eighty-six percent of the original sample was followed up on, and gains in each of these outcome areas were maintained.

In summary, we have examined how the CGK process can be quantified, monitored, and analyzed; we have reported on methods for studying its benefits and costs and a method for studying model transfer from program designers and trainers to practitioners. We have also referenced a long-term follow-up on the intervention's impact and how the key components of the CGK process can be studied qualitatively. However, there is a continued need for well-designed randomized controlled trials in which this model is compared with other approaches in terms of primary and secondary outcomes as well as its cost–benefit with reliable and valid measures of fidelity. These studies are critical if researchers are to accrue more definitive information about whether the model reaches the level of an evidence-based practice.

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