

# Implementing Cognitive Remediation Programs in France: The “Secret Sauce”

Isabelle Amado, M.D., Ph.D., and Lloyd I. Sederer, M.D.

Cognitive remediation (CR) is a psychosocial therapy that seeks to restore patients’ cognitive abilities by providing strategies to improve functioning in cognitive domains and helping them transfer acquired capabilities to everyday life. Since 2008, CR programs have been introduced in several regional health ministry areas in France. This column describes that implementation initiative, which includes creation of a network of the most active CR programs to conduct multicenter trials; establishment of a

university degree in CR, awarded after completion of a one-year clinical training program; and implementation activities of regional health agencies. The authors describe three core elements of a “secret sauce”—a common language, timing, and leadership—that has helped ensure the success of the implementation efforts and that may be useful in other countries.

*Psychiatric Services in Advance* (doi: 10.1176/appi.ps.201600033)

In this column, we report on the successful implementation of cognitive remediation (CR) programs across France. We describe lessons learned—what we believe is the “secret sauce” of the successful initiative—so that programs in other countries might exchange ideas and benefit.

## CR Programs: History and Context

CR is a psychosocial therapy that seeks to restore patients’ cognitive abilities by providing them with strategies to improve functioning in cognitive domains and helping them transfer acquired capabilities to everyday life. Empirical and research studies have shown, with a small to moderate effect size, that CR enables patients with schizophrenia to enhance their cognitive strengths and mitigate cognitive weaknesses (1,2), although research suggests that adjunctive therapy is needed when improving general functioning is the goal (2). CR is delivered individually or in group sessions for a period of three to six months. Either paper-and-pencil or computerized methods are used for program delivery. The benefits of CR are augmented when a patient is engaged in a rehabilitation program (3).

The CR programs we describe originated in France with the adoption of the Integrated Psychological Therapy program, a combination of cognitive-behavioral therapy and cognitive neuropsychology. The pioneering French Center for Cognitive Remediation and Rehabilitation (CRR), a stand-alone center in Lyon, was established in 2010, and a CRR in Paris followed, which is part of a community-based health center of a hospital. An increasing number of CRRs have since been authorized by France’s Regional Health Agency and implemented with the

agency’s financial support, according to local priorities and budgetary resources. [A table listing elements of CR programs is available in an online supplement to this column.]

A university degree in CR, awarded after completion of a one-year clinical training program, was developed to teach medical and nursing staff members French-language CR methods that have either been clinically validated or are being tested for effectiveness. In 2009, the Association Francophone de Remédiation Cognitive ([www.remediation-cognitive.org](http://www.remediation-cognitive.org)), an organization that includes psychiatric clinicians for adults and children, was established by Nicolas Franck, M.D., Ph.D., president of the association, Isabelle Amado, M.D., Ph.D., Caroline Demily M.D., Ph.D., and P. Vianin, Ph.D., to identify best CR practices that have been translated into French and to inform all programs offering CR about new methods and results of empirical research. The association also archives international reports and holds an annual meeting for members.

In 2010, Prof. Franck established a network of the most active CR programs in France in order to standardize neuropsychological evaluations, rapidly develop multicenter studies to validate new approaches (either developed in French or translated for use by French speakers) (1,4–7), and propose CR programs for child psychiatry units—for example, *Cognitus et Moi*, a program for children with genetic and psychiatric diseases (8).

Patients who receive CR have diagnoses of schizophrenia, autism spectrum disorders, mood disorders, and genetic or metabolic diseases that have psychiatric symptoms, although a CR evidence base has not been established for genetic or metabolic diseases with these symptoms. Cognitive deficits mainly affect neurocognitive or social cognition domains, and various individual and group programs are provided

[online supplement]. Most CR programs have a clinician with university training in CR (often a psychologist or psychiatrist). Small programs may add capacity by increasing the number of nurses or psychologists. In the Paris and Lyon CRRs, some clinicians are trained in a single form of CR and do not have the full university degree. These variations have led to local customization of CR implementation, which has helped CR expand. Nevertheless, CR programs mainly focus on improving the cognitive deficits experienced by individuals with schizophrenia.

The French CR network allows the conduct of multicenter trials. For example, in a study that involved eight CR programs, 138 patients were randomly assigned to the RECOS program or to a cognitive remediation therapy (CRT) program (4) [online supplement]. The study showed that both groups experienced comparable effects on executive functioning. A separate pre-post comparison study involving only the CRT patients ( $N=24$ ) showed improvement in working memory (9). A multicenter randomized controlled trial comparing the RECOS program with sheltered employment and sheltered employment alone is in progress.

CR programs are required to provide services responsive to patients' preferences and wishes (known in the United States as a patient-centered approach). When done well, CR in France is fully coordinated with all other services that a patient may be receiving. Such coordination results from the organization of French services into sectors (10). Developed in 1950, these sectors are geographic and population-based regions in which inpatient and outpatient programs are linked as a population catchment area. Within each sector, individuals receive coordinated inpatient, outpatient, and day care services. Any program can customize services and deliver it in a coordinated way, with the goal of optimizing treatment and patient outcomes.

### The “Secret Sauce”

We believe that there are three core elements in the “secret sauce” that have fostered the French success in delivering CR: a common language among all participants (including clinicians of varied disciplines, patients, families, universities, and government), timing, and leadership. When CR began in France, it was clear that each service system used a different lexicon for patients' problems and proposed solutions. Psychiatrists spoke about delusions and negative symptoms, psychologists about resilience, and primary care doctors about fatigue. Rehabilitation specialists referred to marginalization, and nurses spoke of social isolation. Patients focused on failures or stress, and families focused on passivity or poor interaction. Differences in language made it hard to work with one another.

A common language was needed so that treatment teams, patients, and families could speak with each other and create a plan. A common language helped achieve an alliance for pursuing the objectives expressed by the patient. CR, which addresses memory, attention, planning abilities, motivation,

empathy, and recognition of emotions, provided that language. For example, attention difficulties can be described as an inability to understand or follow instructions at work. Language creates a unifying bridge among all parties engaged in CR. In France, CR has enabled diverse professionals to transcend differences and patients and families to overcome the communication chasm that too often occurs with service providers. The development and implementation of training programs in various regions, the university clinical degree, and reports and conferences have helped educate all stakeholders in this new language. The common language has become the heart of the secret sauce.

Timing is the second ingredient in the secret sauce. Too often clinicians start something too early or too late, or they do not ensure timely coordination of one element of a comprehensive treatment with its other components. In France, we discovered that there is an optimal time for CR. We learned not to begin too soon. Patients must be sufficiently clinically stable and without psychotic symptoms that may disrupt engagement in the work of CR. Also, they need to voice their wishes, to articulate what they want to achieve in life—for example, their preferences in regard to working, returning to school, reading, or interacting with friends and family.

If patients are not ready, CR programs work on readiness and help them generate a clear plan. Before beginning CR, patients undergo a panel of neurocognitive and social-cognitive tests that focus on the cognitive skills that correlate with everyday life. Results inform a person-centered cognitive treatment plan. Clinicians design the rehabilitation program (including its duration) and ensure exchange of information between clinical services. CR need not go on forever. A well-structured program needs clear objectives and milestones to ensure that goals are achieved or that needed changes are made.

Finally, successful CR needs a treatment team leader. It may be the psychiatrist, the clinical psychologist, or the clinical team leader. Someone must oversee the preparation and delivery of the treatment plan to ensure that it meets defined standards, is communicated effectively, and is delivered in a timely manner.

### Implementation

A potential limitation of the French approach is its emphasis on direct patient care, with few resources for evaluation and research. Research is also limited by the provision of CR in many small clinical programs, which, unlike the few larger programs, cannot participate in multicenter studies. The broad dissemination of CR has had its challenges, including problems evaluating which models work best and competing priorities of regional health agencies, which can create heterogeneity of services.

Since 2008, CR has been introduced in many regions in France, and CR programs are now operating in 16 of the 26 regional Health Ministry areas. The units generally provide neurocognitive programs, which are aimed at reducing attention problems and improving memory or difficulties in

planning, and social cognition programs, which are aimed at improving interpersonal functioning. An increasing number of programs want to increase their patient caseload and array of treatments, which suggests increasing clinician and patient acceptance of CR.

The Rhône-Alpes region has the most developed CR program, and dissemination in the south and southwest of France is under development. Thirty-four CR programs in the 16 regions with operating programs now have a staff member with a university CR degree. Except for Paris and Lyon, the CR programs in the network do not offer all the French-speaking validated CR approaches. Some CR programs mainly deliver integrated psychological therapy. The regions in which CR programs treat many patients (from 25 to 40 patients per year per program) are Ile de France, Rhône-Alpes, Picardie, Centre-Val de Loire, Bretagne-Poitou-Charentes, Normandie, Nord-Pas de Calais-Picardie, Alsace-Lorraine, and Provence-Côte D'Azur.

The average number of sessions delivered in a course of CR is 40 hours over three months (28 hours on site and 12 hours of homework). Program cost is determined by the costs of the nurse or psychologist conducting the CR and the costs of the pre-post assessments, including the medical interview (one hour), neuropsychological tasks (two hours), and the functional evaluation by a nurse (one hour). Implementation of a new program depends on the interests of the region and the facility and the presence of a neuropsychologist. In certain regions, CR programs combine their resources to recruit a neuropsychologist. In other regions, the health agency provides financial support for some hours of neuropsychology, which is crucial for the CR evaluations. It will be important to track costs as well as outcomes as CR programs are further developed nationally.

CRT methods have been translated into Arabic (11), and CR has also been disseminated in French-speaking countries, including Tunisia, where a large implementation is currently under way.

## Conclusions

Interest in CR has grown in the United States, which has begun broader adoption of these programs, and in other non-French-speaking countries. In New York State, the public mental hospital system, which is overseen by the Office of Mental Health, has begun introducing CR into all state adult outpatient clinics and offering it in several inpatient services. The experience in France suggests that there are

important lessons to be learned in preparing for and delivering CR. There is a secret sauce that we believe is instrumental to its success and propagation. We hope others will use this recipe for success. Our patients and their families deserve no less.

## AUTHOR AND ARTICLE INFORMATION

Dr. Amado is with the Center for Cognitive Remediation and Rehabilitation in Psychiatry, Service Hospitalo-Universitaire de Santé Mentale et Thérapeutique, Sainte Anne Hospital, and with INSERM U894, Paris Descartes University, Paris (e-mail: i.amado@ch-sainte-anne.fr). Dr. Sederer is with the New York State Office of Mental Health and with the Mailman School of Public Health, Columbia University, New York City. Marcela Horvitz-Lennon, M.D., M.P.H., is editor of this column.

The authors thank Baptiste Moutaud and the CNRS program (Innovation Thérapeutique pour les Maladies Mentales).

The authors report no financial relationships with commercial interests.

## REFERENCES

1. Amado I, Krebs MO, Gaillard R, et al: Principles of cognitive remediation in schizophrenia. (in French) *Bulletin de l'Académie Nationale de Médecine* 195:1319-1330, 2011
2. Wykes T, Huddy V, Cellard C, et al: A meta-analysis of cognitive remediation for schizophrenia: methodology and effect sizes. *American Journal of Psychiatry* 168:472-485, 2011
3. Lehman AF: Making a difference. *American Journal of Psychiatry* 169:678-680, 2012
4. Franck N, Duboc C, Sundby C, et al: Specific vs general cognitive remediation for executive functioning in schizophrenia: a multicenter randomized trial. *Schizophrenia Research* 147:68-74, 2013
5. Roberts DL, Penn DL: Social cognition and interaction training (SCIT) for outpatients with schizophrenia: a preliminary study. *Psychiatry Research* 166:141-147, 2009
6. Peyroux E, Franck N: RC2S: a cognitive remediation program to improve social cognition in schizophrenia and related disorders. *Frontiers in Human Neuroscience* 8:400, 2014
7. Gaudelus B, Virgile J, Peyroux E, et al: Measuring impairment of facial affects recognition in schizophrenia. Preliminary study of the facial emotions recognition task (TREF). (in French) *L'Encéphale* 41:251-259, 2015
8. Demily C, Rigard C, Peyroux E, et al: "Cognitus & Moi": a computer-based cognitive remediation program for children with intellectual disability. *Frontiers in Psychiatry* (Epub ahead of print, Feb 3, <http://www.ncbi.nlm.nih.gov/gate2.inist.fr/pubmed/268699422016>)
9. Pillet B, Morvan Y, Todd A, et al: Cognitive remediation therapy (CRT) benefits more to patients with schizophrenia with low initial memory performances. *Disability and Rehabilitation* 37:846-853, 2015
10. Henckes N: Reforming psychiatric institutions in the mid-twentieth century: a framework for analysis. *History of Psychiatry* 22:164-181, 2011
11. Dellagi L, Ben Azouz O, Johnson I, et al: Cognitive remediation therapy in schizophrenia: a case report. (in French) *La Tunisie Médicale* 87:660-663, 2009