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### Does Rehabilitation Really Make a Difference in the Long-term Outcome of Schizophrenia?

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Ten world studies have found that the long-distance outcome for schizophrenia is widely heterogeneous. The question remains: "Does rehabilitation contribute to a more positive outcome for these seriously ill patients?" To examine this crucial inquiry, 269 patients with severe and persistent mental illness were taken from the back wards of Vermont State Hospital given a ten year pioneering model rehabilitation program both in the hospital and in the community (Office of Vocational Rehabilitation SP#180).

The program received world attention and was the first cohort in the U.S. to be deinstitutionalized in a "carefully planned" manner in the 1950's. The program was both comprehensive and provided for true continuity of care. Recalibration of diagnosis for these patients, as they were in the 1950's, used DSM III criteria for schizophrenia and other disorders was achieved with a kappa level of .78 ( $p < .0007$ ). A major follow-up study was mounted in the early 1980's (NIMH 29575). With an average of 32 years after first admission with a range from 22-62 years, this project ranks as one of the longest follow-ups in world literature and the longest study of deinstitutionalized patients in the U.S..

As previously reported, 97% of the Vermont cohort was located and assessed. This accomplishment represented a major methodological balance. A comprehensive and structured instrument battery was implemented with all the inter-rater and inter-item concordance testing completed. The field interviewers were blind to the records and the record abstracter was blind to outcome. Both cross-sectional and longitudinal measures were assessed. Reports have consistently shown that the outcome for these once severely ill and very chronic patients was remarkable (NIMH 40607). 62-65% achieved significant improvement or recovery across multiple domains of function including loss of schizophrenic symptomatology, work, social relationships and self care. DSM III diagnosis did not predict uniformly poor long-term outcome as expected. We agreed with Vaillant's conclusions that: "diagnosis and prognosis are two different dimensions of psychosis."

To begin to answer the question posed early in the abstract, we secured funding in the late 1980's to conduct a comparison study to order to determine the extent to which the rehabilitation program helped promote this turnaround toward better functioning and wellness (NIMH 40032). The computer matched Vermont subjects by age, gender, diagnosis, and length of hospitalization to those from the back wards of Augusta State Hospital in Maine from 1956-1961. The catchment area and treatment era were also matched with exception that Mainers did not receive rehabilitation. The Maine cohort was followed with the

same protocol, the same diagnostic system, and instrument batteries with both inter and intra project reliabilities achieved as well as blindness in the assessments. 94% of the Mainers were located and assessed at an average of 36 catamnestic years. The Mainers did significantly less well than the Vermonters especially on work, symptoms, and global outcome even covarying out other significant modifiers (such as acute onset, education, urban/rural setting, prior work history). Longitudinal year by year findings also showed a more positive trajectory for the Vermonters.

We concluded that rehabilitation and the opportunity to be out of the hospital joined with a biological correction mechanism to potentiate a return to the highest level of function possible for each person. Implications for program building and policy making are discussed.



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