

# Head Injury Re-Entry Program at Miami Valley Hospital

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Medical treatment of persons with traumatic brain injury has become increasingly more sophisticated, and the ability of an individual to survive a moderate-to-severe head injury has improved dramatically. However, the medical community's ability to provide specialized cognitive, psychosocial, and ultimately vocational "technology," which would assure an individual's full reintegration into society, has not been as rapid in its advances.

It is the individualized nature of the residual mental and physical rehabilitation. In fact, although many residual physical limitations continue to exist, it is the cognitive, emotional, and behavioral deficits which have the most long term disabling impact on: family relationships; social activities; and ultimately vocational/educational outcomes.

Medical rehabilitation settings have grown in sophistication in treating people with head injury; however, they tend to emphasize restoration of motor and communication skills and improved activities of daily living. Cognitive, emotional, and behavioral deficits are rarely addressed adequately in medical rehabilitation settings, especially on an outpatient basis. It is the lack of an intensive comprehensive transdisciplinary approach which has impacted the person with head injury most in making a full return to family, social, and vocational/educational activities.

The H.I.R.E. (Head Injury Re-Entry) Program, a part of the Rehabilitation Institute of Ohio (RIO) at Miami Valley Hospital (MVH), is designed to bridge the gap between traditional medical and vocational rehabilitation for those persons who are

continuing to experience residual deficits of head injury. Its emphasis is on functional vocational and educational outcomes. H.I.R.E. is designed to build upon existing services available at MVH/RIO as well as within the greater Dayton rehabilitation community. H.I.R.E.'s intent, also, is to reduce the significant delays which currently plague individuals with traumatic brain injuries by providing coordinated and comprehensive services targeted toward vocational outcome.

Specific programmatic goals are: 1) to assess and treat physical, psychosocial, and cognitive areas required for individuals with traumatic brain injury to return to work or school, and 2) to provide referrals to community services available for the traumatically brain injured persons.

The H.I.R.E. program is a two-year establishment grant from the State of Ohio's Rehabilitation Services Commission (RSC). From RSC's conception, the H.I.R.E. program has been developed along the guidelines of the Council on Accreditation of Rehabilitation Facilities (CARF) Brain Injury Programs. Application for CARF accreditation is planned for immediate future. Organizations under RSC where clients are serviced include: The Bureau of Vocational Rehabilitation (BVR) and Bureau of Services for the Visually Impaired (BSVI). Conditions of the grant require that 80% of evaluation and treatment service slots be reserved for RSC clients. The remaining 20% may come from a variety of third party payors.

The grant as initially established was designed to serve clients from Dayton and any of twelve surrounding counties. Requests for services have



been extensive from other counties and are considered on an individual basis. Transportation is often the most significant concern of individuals from outlying areas as H.I.R.E. is an outpatient day program.

Because transportation is typically an issue for the majority of individuals with traumatic brain injuries, a transportation coordinator has been included as a member of the H.I.R.E. transdisciplinary team. Other team members

include: Neuropsychologist; Occupational Therapist; Physiatrist; Physical Therapist; Program Assistant; Speech and Language Pathologist; Vocational Counselor/Evaluators; Vocational Specialists. Case Managers are assigned and are responsible for following clients from initial orientation through discharge. Their role is to be consistent identifiable figures for clients, support persons, and referral sources in the communication of all issues which may effect eventual

vocational/educational placements. In addition to immediate team members, a H.I.R.E. advisory board has been established. This board includes community members who are actively working, in some capacity, in the field of Traumatic Brain Injury.

Admission Criteria to the H.I.R.E. program states that referrals must have experienced a traumatic brain injury and continue to experience disabilities and impairment resulting in lack of optimal recovery. In addition, clients must be: able to tolerate a minimum of three hours per day for evaluation and four hours per day for treatment, at least 16 years old, free of behavior which is dangerous to self and others, free of active substance abuse, medically stable, independent in feeding, toileting, mobility and dispensing medications, using a functional communication system, and functioning at a level six or greater on the Rancho Los Amigos Scale of Cognitive Functioning. Any history of psychiatric disturbances is evaluated on an individual basis.

The referral source is requested to forward records (i.e. Psychological, Medical, Vocational, Educational, etc.) on clients whom they feel would benefit from the H.I.R.E. Program. The referral source is supplied with the specific documentation that the H.I.R.E. team would like to have in order to decide a client's appropriateness for the evaluation component. The Rehabilitation counselor screens the completed referral documentation and determines whether or not the client is a candidate for the evaluation. Once a determination has been made, the Program Assistant notifies the client by letter that he/she has been accepted for evaluation and provides him/her with the schedule for the two week process. A copy of this letter is sent to the referral source. If a client has been determined to be inappropriate for the evaluation, the Rehabilitation Counselor provides a letter to the referral source stating the reasons for the client's ineligibility and may recommend alternative resources for the client.

Once a client has been scheduled for the evaluation, a pre-evaluation H.I.R.E. staffing will occur the week prior to the start date. At the pre-evaluation staffing, the H.I.R.E. team will review the referral documentation to decide necessary and appropriate assessment tools based on client's functioning levels and previous assessments.

On the first day of evaluation, the client is requested to be accompanied by a support person (i.e., family member, referral person, or friend) to assist with registration and to attend orientation to the H.I.R.E. evaluation. The Rehabilitation Counselor will be primary case manager for the client in the evaluation phase and will provide the evaluation orientation. The orientation consists of providing the client and support person with an introduction to the H.I.R.E. program, explaining the evaluation process, gathering pertinent work, medical, and educational histories, signing release of information forms when necessary; and reviewing client's evaluation schedule. The client is also requested to read and sign a commitment contract. The commitment contract contains what the client's responsibilities are during the evaluation and indicates: behavioral expectations, needed evaluation participation, absence procedure and infraction consequences. The support person and the client will individually fill-out a questionnaire of client's abilities of practical skills and indicate ability level based on support person's and client's perspectives.

The evaluation is scheduled over ten working days. Nine days of evaluation are scheduled over three hour periods. One day of the evaluation is scheduled for a "full day" (9:00 - 4:00).

During the full day clients are taken to lunch within the hospital as a situational assessment to assess money management, socialization skills, concentration and organization while in a busy environment.

The ten days of evaluation involve testing and assessment from the following disciplines in the listed functional areas:

- 1) Neuropsychologist: Orientation, attention, perception, memory, intelligence, constructional skills, executive functioning and abstract reasoning.
- 2) Occupational Therapist: Levels of independence in a range of low to high functional living skills, Bilateral Upper Extremity (BUE) coordination, ability to learn and perform a graded series of hands-on-tasks.
- 3) Speech and Language Pathologist: Speech impairments (i.e., dysarthria, apraxia), conversational skills (verbal and nonverbal), social skills, auditory comprehension,

expressive language abilities, reading, writing, and arithmetical skills, ability to follow simple and complex oral directions, functional problem solving.

- 4) Physical Therapist: Physical status including: sensation, perception, joint range of motion, flexibility, strength, physical endurance, motor control, ambulation skills and body mechanics.
- 5) Vocational Evaluator: Vocational interests, aptitudes and physical skills for identification of realistic vocational options, work behaviors, cognition, learning and compensatory strategies. Through "situational work assessments" in different occupational areas, various degrees of task demands and responsibilities with flexible time demands, depending on the client's level of overall functioning.

Following the two week evaluation, the H.I.R.E. staff meets for a post evaluation staffing to consolidate global strengths and limitations and to make recommendations for further H. I.R.E. or other community based treatment. If a client is appropriate for H.I.R.E. treatment components, the H.I.R.E. staff determines the treatment component(s) in which the client will start and projects the time length of client participation in each component. Recommendations may include one-on-one individual sessions with H.I.R.E. staff (i.e., developing strategies for short-term memory, or counseling for vocational or personal issues) depending on individual client needs. Recommendations could also include referrals to outside community-based programs if the client's need goes beyond the scope of what H.I.R.E. team members can provide. For example, driving evaluations, activities of daily living skills development and long term physical or occupational therapies are services H.I.R.E. does not provide. A projected functional vocational outcome is determined by the H.I.R.E. team in order to narrow the focus of H.I.R.E. treatment goals and programming of each client. The range of predicted vocational outcomes could include full or part time competitive work, full or part time supported employment transitional work, sheltered employment volunteering, homemaking, or educational pursuits. Recommendations toward vocational outcomes may involve the use of a job coach, job modification/ adaptations, varying time

schedules, or environment considerations (i.e., structured work or a smaller company).

An evaluation conference is held the week after the evaluation is completed. The evaluation conference includes the H.I.R.E. Team, client, family or support person(s), and referral source. The conference includes identifying and discussing functional global strengths and limitations toward vocational placement, identifying the recommendations for treatment and time constraints involved with treatment, identifying the predicted vocational outcome, and allow opportunities for client, family/support person and referral source to ask questions, request additional recommendations, and make additional comments regarding client's recommended programming. Before the evaluation conference is complete, an addendum form is signed by client, family/support person(s), referral source and the case manager. The addendum form also includes the additional comments made by others outside H.I.R.E. staff and identifies all individuals in attendance at the conference.

### **Vocational/Cognitive Component**

H.I.R.E. Vocational/Cognitive Treatment component is the second component following completion of the evaluation process. Clients may be recommended for Vocational/Cognitive group and/or individual treatment for half or full days based upon their determined needs. Certain clients may also participate in both Vocational/Cognitive and Work Simulation component (phase 3) simultaneously on a full day basis. Clients in Vocational/Cognitive treatment generally commit themselves to four days a week for two to six months before attaining successful completion of this component and advancing to the successive phase of H.I.R.E. program.

Vocational/Cognitive treatment consists of six functional groups as well as one-to-one therapy designed to remediate existing cognitive, behavioral, emotional and physical deficits which may prevent or hinder employment or attainment of higher education. Clients may participate in any or all of the daily one-hour groups. The six groups are as follows: Exercise/Supervised Physical Activity, Communication, Socialization, Functional Living Skills, Financial Management, Work Skills and Job



Seeking Skills. Broad long term goals have been established for each group and individual goals are devised for each client within a group. H.I.R.E. therapists conduct the groups and provide individualized assistance, prompts, and cues to aid in achievement of goals. Members of each treatment group initially complete a "goal checklist" consisting of areas which are subject for discussion and/or group activities. Activities are then determined based upon client input. The following are brief descriptions of each Vocational/Cognitive treatment groups.

In the Vocational/Cognitive component of the program, the majority of the clients participate in some form of exercise group. Two options are available which include 1) Supervised Physical Activities (S.P.A.) or 2) One-to-one exercise instructions. The S.P.A. option involves a client participating in a group setting with minimal supervision. Each client follows an individualized exercise program focusing on a client's specific needs. The other option, one-to-one exercise is for clients who require more assistance to follow a written program, or who need a more structured environment to complete repetitive exercises. The goals for both options are to increase a client's physical endurance and strength until the ability to tolerate a full work day is achieved, and to follow a written exercise program independently using necessary strategies in order to learn the program. The client will continue to participate in the exercise program throughout the vocational/cognitive component and, if necessary, the work simulation component.

The purpose of the Communication Group is to provide functional situations in which clients can develop acceptable communication skills. Objectives are to: increase independent use of communication strategies in functional speaking situations and maximize ability to recognize contextual cues which indicate whether one's communication is comprehended. Activities and discussions focus on assertiveness; ability to identify and express emotions, needs, opinions and nonverbal language; listening and conversational skills; defining different meanings of communication based on content/situation; and identifying/ utilizing communication with persons from various roles and environments.

The Socialization Group provides a semi-structured setting to increase the appropriateness of social interactions in work and non-work settings. This includes an emphasis on clients identification of appropriate interactions with others and accurate interpretation of others' behavior. Role-playing exercises address interactions with supervisors, co-workers, parents, children, siblings, peers, significant others, strangers, and friends in a variety of situations (i.e., home, work, and community). Weekly community outings are an important part of the socialization group's activities for practicing appropriate social behaviors in local restaurants, stores, museums and the like.

H.I.R.E.'s Functional Living Skills Group provides clients with an opportunity to maximize daily survival skills such as: time management (work and leisure), utilizing public/private transportation, being a consumer, telephone skills, nutrition, child care, stress and anger management adjustment to disability, and basic homemaking skills (i.e., packing a lunch).

The Work Skills and Job Seeking Skills treatment groups further address behavioral and cognitive abilities necessary for job attainment. Activities and discussions focus on appropriate work attire, recognizing and performing demands of an assigned job, utilization of employment resources, interviewing skills, resume, cover letter and job application writing.

The purpose of the Financial Management Group is to provide information and practical application of money management skills in relation to savings, general spending, and bill payment. Clients learn about budgeting finances, balancing a checkbook, banking, paying bills and taxes, leisure spending and general money management (i.e., making change).

Clients who demonstrate deficits in any of the above areas addressed in each group are recommended for the appropriate Vocational/Cognitive treatment group(s). Goals and activities are determined by group and individual needs as related to potential successful employment. Clients are discharged from the Vocational/Cognitive treatment upon obtainment of individual/group goals according to team consensus. Discharge may also occur if a lack of progress toward targeted goals or a violation of the

commitment contract takes place. Clients often require temporary or long term (i.e., four months) individual therapy and/or counseling to develop compensatory strategies (i.e., memory or behavioral management strategies), to improve physical capacities (i.e., gait training) or to further enhance any vocationally related skills (i.e., choosing a realistic vocation). One-on-one treatment may be included in a client's schedule during participation in the Vocational/Cognitive component and/or successive treatment phases.

Family counseling and participation in a family support group may also be recommended throughout the client's participation in the Vocational/Cognitive component and/or Work Simulation and Job Tryout components.

Therapeutic involvement with the Neuropsychologist entails one-to-one sessions on a scheduled or on an as need basis. Clinical treatment focuses on issues concerning the client's need to adjust to their disability and its related emotional issues. Family therapy is also provided since disability touches not only the client but their family as well. Psychology also provides behavioral techniques in the management of problem behaviors typically associated with the Traumatic Brain Injured population. These behavioral interventions not only involve staff but also extend to the family and vocational placements so that generalizations and consistency can occur for the particular problem behavior.

One-to-one vocational counseling is available for clients with the Rehabilitation Counselors and/or Vocational Specialists. Vocational Counseling can encompass anywhere from a one time session to a long term process depending on the level of vocational exploration a client needs. Vocational counseling occurs in all four components of the H.I.R.E. program but is most comprehensive in the treatment components. It is the H.I.R.E. team philosophy that the Neuropsychologist, Rehabilitation Counselors and all team members offer emotional support to clients as they go through the process of adjustment not only to their disability, but also the changes that occur in their lives because of the injury (i.e., family dynamics).

## **Work Simulation**

Work Simulation is a four (4) day per week, three to six hour per day program designed to provide an opportunity for the application of compensatory cognitive strategies, work and communication skills in an actual work environment. The duration for each individual admitted to this program component may vary from one to two months depending upon individual needs. H.I.R.E. Work Simulation can be used as: an addition to the H.I.R.E. Multidisciplinary Evaluation, a vocational exploration activity prior to H.I.R.E. Job Tryout, a Work Hardening program, or as an opportunity to "fine tune" the behaviors necessary to ensure maximum vocational outcome.

Participants in H.I.R.E. Work Simulation may also be receiving services through the Vocational/Cognitive treatment component or participate only in the Work Simulation component. Once an individual meets targeted goals, a referral is made for participation in H.I.R.E. Job Tryout or for further rehabilitation services available outside the H.I.R.E. program.

As indicated the H.I.R.E. Work Simulation component allow for vocational exploration through a variety of activities designed to meet the individual's expressed interests, aptitudes and/or previous vocational experiences. The vocational exploration activities that are presented are in varying degrees of difficulty. This is designed to 1) provide situational work activities that the individual has previously encountered, 2) to provide work activities that address present level of worker function as determined through H.I.R.E. Multidisciplinary Evaluation, and 3) to provide situational activities within which, developing cognitive strategies may be practiced.

Work Simulation may also serve as a period of situational assessment prior to Job Tryout component. In this instance specific job duties can be simulated that may occur when the individual is placed in a Job Tryout position, within MVH Volunteer Services department. Definitive skill strengths and deficits are noted and addressed as they pertain to the specific job duties as outlined within an existing hospital department or targeted job when beginning competitive employment.

During the Work Simulation component a client will also be instructed with correct body mechanics in order to perform a job safely and efficiently.

The Work Simulation component operates within the Vocational Services department which is located within the industrial rehabilitation (Work Hardening) clinic of the hospital. This setting permits individuals to simulate work activities alongside individuals who will be returning to competitive employment. This allows for the practice of specific work skills and behaviors in an environment that, as close as possible, models actual work conditions. It is through this type of environment that an individual's progress can be assessed towards actual work demands.

### **Job Try Out**

The Job Try Out Component is the final phase of treatment. It consists of a volunteer placement within a department of Miami Valley Hospital for approximately four to six weeks.

To be accepted into this phase, the client must have a realistic targeted job or job category in mind for community placement. The Job Try Out placement is based on providing the opportunity to practice skills and strategies that will be used in community employment.

Initial contact with Miami Valley Hospital's Volunteer Services department is made by the client completing an application form. Once this form is reviewed by the department, a formal interview is scheduled with the Director of Volunteer Services. At this time, a plan is formulated regarding what position the client will fill to utilize his or her skills to work for the benefit of the client and the appropriate department.

When working as a full-time volunteer (five days per week, six to eight-hour shifts), the client is provided with support through the use of an in-house job coach. The Job Try Out component encourages both client and departmental participation in the program through orientation, training, supervision and guidance. Prior to ending this phase, a community-based job coach comes in to become familiar with the client's skills and compensatory strategies. This additional service

will smooth the transition to community-based placement.

Upon completion of job Try Out, the client receives a written evaluation from the participating supervisor and, if appropriate, a letter of recommendation. With this information confirming the client's ability to perform, the marketing and placement staff, whose involvement has been ongoing since the Work Simulation component can most effectively finalize job opportunities with potential employers.

### **Documentation**

Documentation within the H.I.R.E. program components consistently addresses status in relation to the following five functional categories: Communication, Health/Fitness, Functional Living Skills, Cognitive/Behavioral and Vocational/Education. This format allows all disciplines to provide input into outcomes in each treatment component and eliminates a segmented approach to treatment by each discipline. Each professional is seen as being an expert in his/her field, however, all are capable of making a variety of contributions and observations in the other disciplines.

Ongoing written documentation is provided to the referral source on a weekly basis. This program note includes current status in all five functional categories and record of goal attainment, attendance, etc.. Formal status summaries are completed following discharge and/or discontinuation from individual components or the entire program.

Clients are conferenced with the professional H.I.R.E. team and referral source personnel upon completion of evaluation. Similar conferences are also held at a minimum of midway through and upon completion of each treatment component. This allows those involved to provide ongoing input into programming.

Of significant concern is the need to address client/family support issues. State and local head injury support groups are often available. The H.I.R.E. program is developing a family support group specifically designed to address ongoing work/ school related issues. Families of H.I.R.E.

clients have expressed significant need for such a program.

### **Continuum of Services**

Part of H.I.R.E.'s uniqueness is the commitment not to duplicate services that are presently being offered in the Dayton community. The Dayton agencies that are productive in working with traumatically brain injured population are being utilized in a cooperative, working, professional manner. The strategies and techniques previously developed with/for the client in other programs are being continued for a smooth transition.

Throughout treatment, clients have contact with their Rehabilitation Services Commission counselor, Goodwill Industries Marketing and Placement Specialists, Job Coaches, and FOCUS staff services. Personnel from Jewish Vocational Services' Learning Capacities program are also available to assist the client at any point in the rehabilitation process. The potential for any and/or all of the above mentioned professionals to give guidance and consultation in the field of TBI vocational rehabilitation to individual clients is available at any juncture of the client's program.

The following is an example of how this continuum of services works: 1) ARSC counselor refers a client for evaluation. Following the presentation of results, refers again for all three treatment phases. The counselor is involved in all interim and component discharge staffings. 2) The Marketing and Placement Specialists from GWI's FOCUS staff become involved during the Work Simulation component, initiating their portion of the process. This addition to the team becomes an integral part in the subsequent staffings. 3) During Job Try Out a community job coach begins interaction with the client in preparation for job placement. This addition completes the team, and will be present at the discharge conference. Following discharge and placement, the FOCUS employment support group provides an ongoing system for assistance to the client.

### **Community Involvement/Inservices**

Although the H.I.R.E. program is a multi-faceted program, it is not all inclusive. Therefore, it is

important that the continuum of services for the TBI individual involve community-based resources to assist the TBI client.

The H.I.R.E. program is currently working with Goodwill Industries of Dayton, Inc. for to provide job placement services following completion of H.I.R.E. program components. In addition, the Bureau of Vocational Rehabilitation, is not just a referral source, but serves as a resource for recommendations for additional services of those referred.

For the purpose of providing community education, the H.I.R.E. program presents inservices to groups and organizations, i.e., local police departments, college student service groups. This process outlines the various needs, physical performance capabilities and abilities of individuals who have TBI.

### **Complicating Issues**

Due to the special needs that most individuals have, flexibility and teamwork are vital components necessary for H.I.R.E.'s success when facing complicating issues. Such issues may include, but not limited to: behavioral problems, family difficulties, scheduling of evaluation and treatment times, and transportation for programming.

Behavioral problems, which is a common issue among the traumatically brain injured are addressed through individual and group sessions and feedback. H.I.R.E. stresses at least 70% group work during the vocational/cognitive treatment phase because of the benefits that are derived from effective peer support and communication. By addressing inappropriate comments/activities and redirecting the client's behavior, compensatory strategies can be developed and reinforced.

Families can present a host of individualized difficulties from learning about the survivor's opportunity for increased independence to dealing with what has probably been a slowly progressing recovery. Because the H.I.R.E. program recognizes that this network plays an integral part in treatment success, we offer support to the family also. Encouragement to become involved in the local chapter of the Head Injury Support Group meetings and accept the assistance of individualized H.I.R.E. family counseling as a part of the



Vocational/Cognitive treatment component serve as two of the ways we suggest to help resolve complicated family issues.

Flexibility in scheduling is a part of all components. Since evaluation is conducted on a half day basis, H.I.R.E. offers both a morning and an afternoon time block to accommodate client and family needs. Treatment times for groups are flexible around needed one-to-one treatment sessions with staff therapists.

As with all disabled individuals, transportation is a major concern. Independent mobility is always encouraged, but when this is not possible, H.I.R.E. provides transportation coordination services to help link the client with public agencies. As many community services as possible are utilized to assist the client in getting to and from treatment. When this is impossible due to unavoidable circumstances such as the client living in a rural area with no public transportation services, transportation can be provided by the H.I.R.E. program. A fully accessible van, owned by Miami Valley Hospital, can be an alternative among transportation options available to the client.

### **Program Evaluation**

H.I.R.E.'s program evaluation system is based on a seven-point rating scale used to evaluate five performance categories. The performance evaluation categories, entitled: communication, vocational/education, independent living skills, health/fitness, and cognitive/behavioral, are each divided into seven subcategories with descriptions of optimal levels of performance for each. Upon entering the program, all H.I.R.E. clients are rated (one to seven) on the above performance categories for baseline data and upon discharge. The rating scale ranges from complete independence (seven) to complete dependence (one) for each specific subcategory within a performance category. The baseline rating scores for each subcategory are averaged to obtain five overall performance category scores. The averaged scores are then compared to the discharge ratings for determination of individual progress.

Vocational Status Indicators are also included and recorded after completion of the H.I.R.E. program and after three, six, and twelve months.

Vocational status may range from full time competitive employment to unemployed, and seeking sheltered employment to enrolled in an undergraduate college program.

The H.I.R.E. program was developed in an attempt to fill a void in current services for traumatically brain injured individuals. The hope is that a full continuum of services, which includes a functionally oriented vocational/educational component will meet at least some of the communities current needs. H.I.R.E. plans to be a vital contributor to the needs of the traumatically brain injured individuals in Dayton and the surrounding area while on the grant and for an extended period of time to come.