

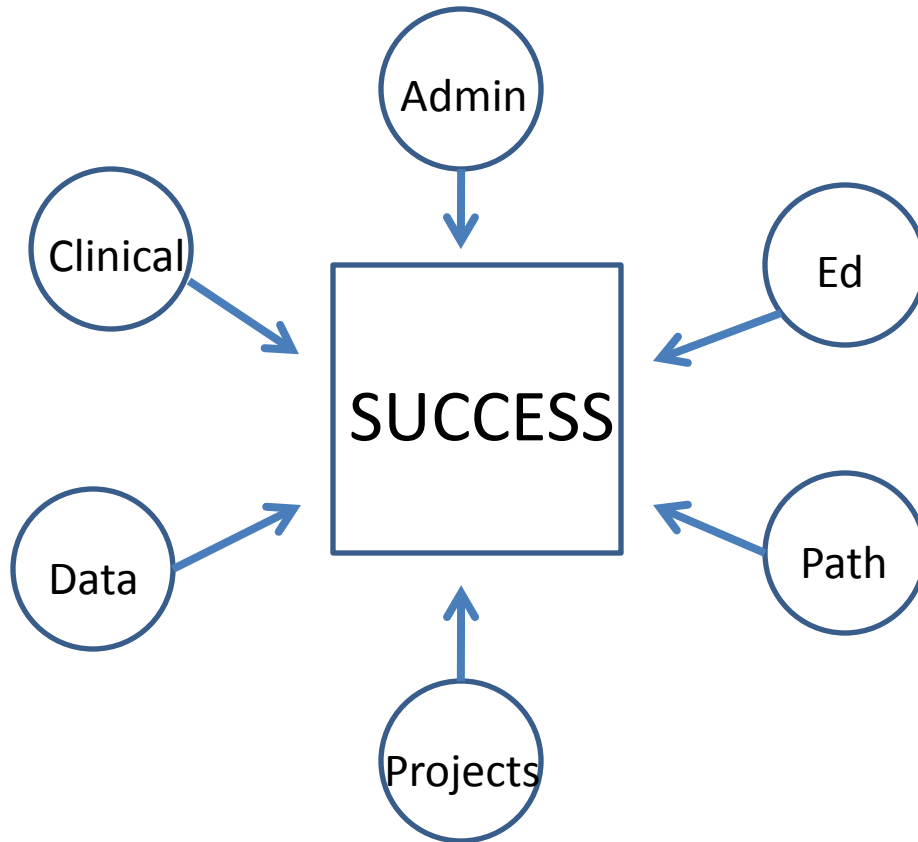
The Role of Evaluation in Education Cores

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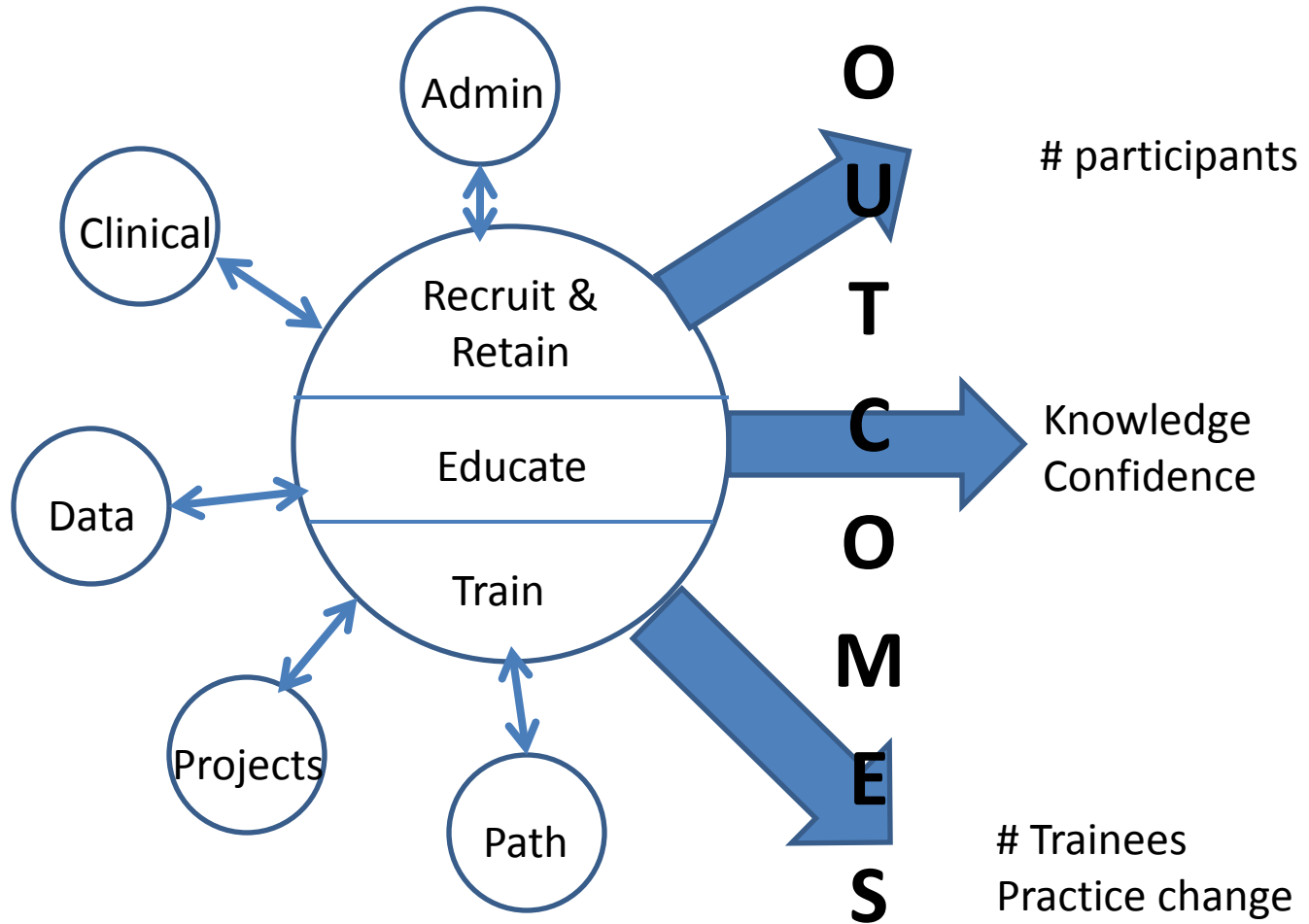


Langone Medical Center
Center of Excellence on Brain Aging

Role of Education Core



Role of Education Core



Program Evaluation

- Use social science research methods to determine whether programs are sufficient, appropriate, effective and efficient
- Generates information about how to improve programs that do not meet criteria
- Discover unexpected benefits or unforeseen problems
- Ensures program is conducted as it was designed
- Monitor whether program produces desired results and progress toward desired goals
- Informs Stakeholders:
 - Participants
 - Program staff
 - Funders
 - Community partners
 - Interest from media for further promotion

Stakeholders and Target Population

- Stakeholders include all who have interest in the program being evaluated
 - Planners, participants, program staff, community partners, funding agency
- Target population is the group the program is intended to serve
 - The more clearly defined, the easier it is to determine whether they have been reached and if the program was effective

Evaluation vs. Research

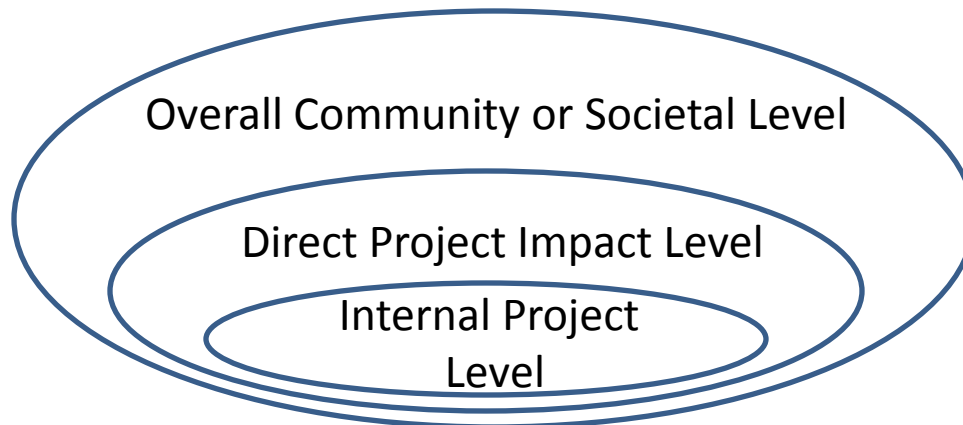
- Primary purpose is to provide information to decision makers to help them make judgments about effectiveness of a program and make improvements
- Guided by needs of stakeholders
- Tends to be dynamic
- Balance scientific rigor with minimal disruption to program operations

Evaluation Planning

- Frequent error is to add an evaluation after the fact
- Evaluation should begin while the program is being created, ending only after the final assessment has measured the extent to which the program met its intended goals
- During the course of the program, the program should produce most of the information needed to evaluate its effectiveness in achieving goals and objectives
- Failure to evaluate is irresponsible and to some extent unethical
 - Only way to determine whether a program benefits or harms
 - Ineffective programs discourage behavioral change
 - Insensitive programs can build public resentment
- Budgeting for the evaluation is important part of planning
- A report to summarize evaluation process

Ecological Models

- Considers connections between people and their environments
- Behaviors are influenced by intrapersonal, social, cultural and physical environment variables by themselves and as interactions, existing in multiple levels and dimensions



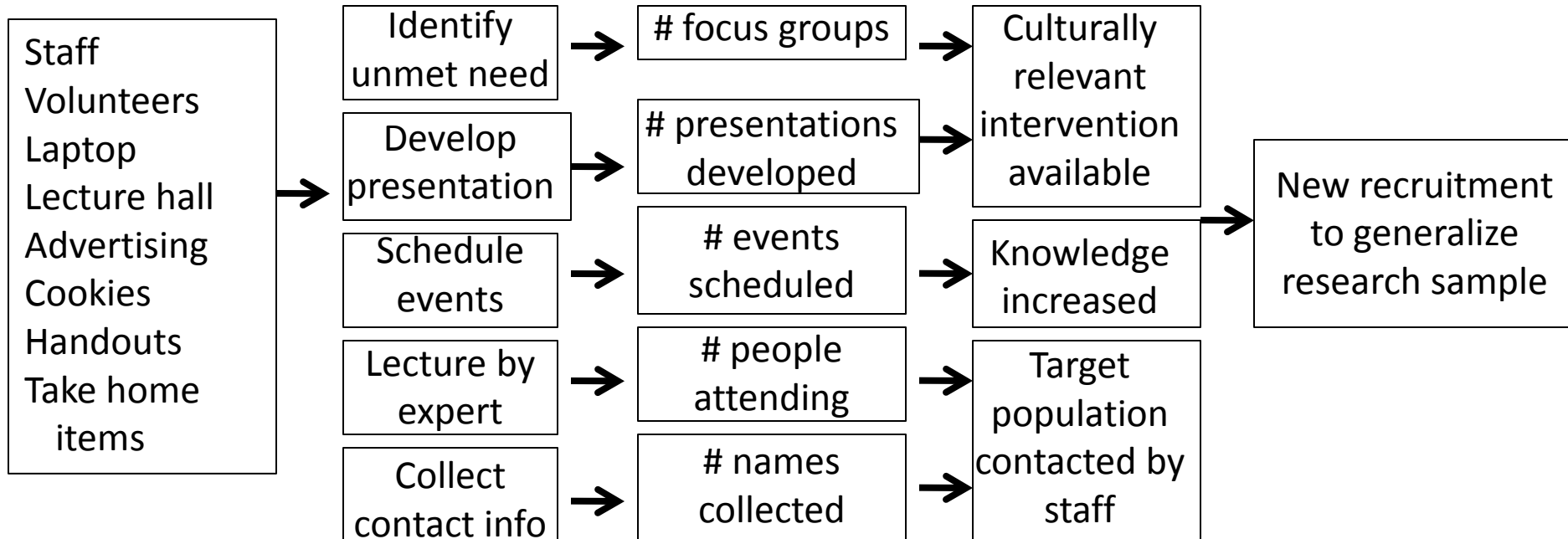
Logic Models

- Identify program goals and how programs activities are expected to reach goal
- Logic model provides graphic representation of the relationship among program aspects:
 - Inputs: resources needed to conduct program
 - Activities: actual events that will take place
 - Outputs: measures that are used to demonstrate program conducted as planned, the *process* the program uses to achieve outcomes
 - Outcomes: indicators such as increase in knowledge or change in attitudes and/or behavior
 - Impact: measure whether overall program goal was achieved, usually long-term in nature

Example of Logic Model



Educational program for community to increase recruitment



Evaluation

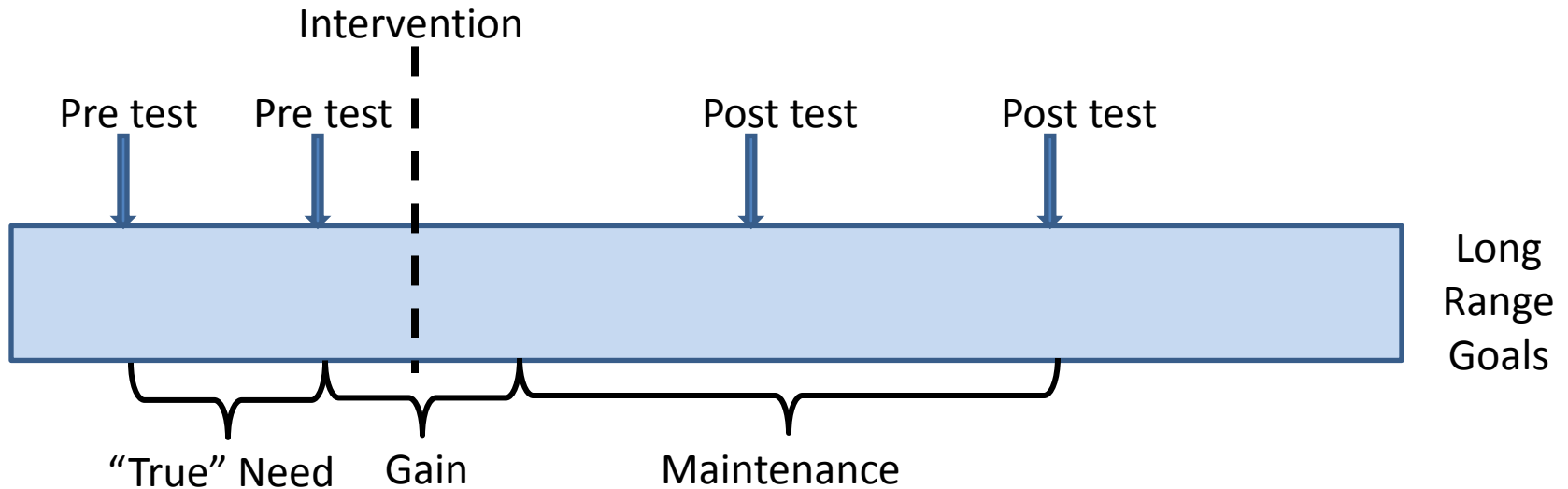
- Formative: determine program elements are feasible, appropriate, meaningful and acceptable (inputs and activities)
 - Interviews, Focus groups and surveys
- Process: assess way program being delivered and serves as quality control (activities and outputs)
 - What was done, how often, who was there, what worked and what didn't, satisfaction
- Outcome: provide indicator of program effectiveness and extent program objectives are being met
 - Short term: rapidly changing measures such as knowledge, attitudes and intended behaviors (pre/post test design)
 - Long term: actual behavioral change (follow-up assessment), often comparison group, difficult to measure

Quasi-Experimental Designs

- Assume no control group
- Interested in construct validity
- Reduce threats to internal validity
- Meets basic requirements
 - Cause precedes effect
 - Cause covary with effect
 - No other plausible explanation
- Design Principles
 - Identification and study of plausible threats to internal validity (covariates)
 - Primacy of control by design (prevent confounders)
 - Coherent pattern matching (predict causal hypothesis)

Quasi-Experimental Designs

- Posttest only design ($X O_1$)
- Posttest only design with multiple posttests ($X O_{1A} O_{1B}$)
- Pretest-Posttest design ($O_1 X O_2$)
- Pretest-Posttest design with multiple posttest ($O_1 X O_2 O_3$)
- Pretest-Posttest design with multiple pretests ($O_1 O_2 X O_3$)
- Pretest-Posttest design with a nonequivalent dependent variable ($O_{1A} O_{1B} X O_{2A} O_{2B}$) where A hypothesized to change; B hypothesized not to change



Getting Started

- Conduct a **Needs Assessment** to identify challenges, barriers and opportunities
 - description of how you intend to address the identified need.
 - Overcome barriers : how will you identify and overcome a barrier
 - How will you enhance recruitment or interact with a community partner
- **Describe** how this will be accomplished
 - For each program, define ultimate goals
 - raise awareness , increase knowledge or some other noble construct
 - enhance recruitment.
 - Qualitative outcomes: track various numeric indices, gather quality ratings (Likert Scale, open-ended questions on what went well and what could be improved) and assess program satisfaction.
 - Quantitative measurements (pre-test/post-test):
 - For professional audiences: **changes in attitudes, clinical practice and referral patterns.**
 - For lay audiences: **increases in knowledge and willingness to participate .**
 - At the end of each event, distributes brochures and collects contact information from those attendees who express interest in research participation.
 - Follow-up phone calls are made by the staff to maintain contact, and a referral to the Clinical Core is made.
 - The Clinical Core keeps data from each phone intake transmitted to the Data Management & Statistics Core.
 - This intake form includes entry fields to identify initial point of contact and how the participant became aware .

**Aging and Dementia Research at the Center of Excellence on Brain Aging
Intake Form**

Name _____ Date _____

Address _____

Phone _____ Age _____ DOB _____

Primary care physician _____

Study Partner/Family Member _____

Reason for Interest in Participation: _____

How did you hear about us?

Referring Physician (name): _____

Another Participant (name): _____

Radio: _____ TV: _____ Print: _____ Internet: _____

Self referred: _____ Barlow referral: _____ Alzheimer Association: _____

Attended a talk or program (Where): _____

Health Fair (where): _____

Senior center (where): _____

Community Advisory Board (CAB) referral: _____

Other (specify): _____

Outcomes:

Appointment made _____ Request Information Only _____ Brochure mailed/e-mailed _____

Decline further contact (reason) _____

Tracking Considerations

- Breakdown logistics of each recruitment method:
 - Characteristics of attendees
 - Ratio of inquiry/eligibility/enrollment
 - Number and types of inputs
 - Costs (personnel, time, money, materials)
- Following each activity, document
 - What worked and what did not
 - What was implemented
 - Lessons learned
 - Modifications and adjustments to message

Three Examples

- “Dementia-Friendly Hospitals: Care Not Crises:” Improving the Care of Hospitalized Patient with Dementia
- Clinician Partners Program: Increasing Knowledge and Enhancing Recruitment
- Project LEARN MORE: Expanding Service Usage of Individuals with Early Stage Alzheimer’s Disease

“DEMENTIA-FRIENDLY HOSPITALS: CARE NOT CRISIS”

- Approximately 3.2 million hospital stays annually involve a person with dementia, leading to higher costs, longer lengths of stay and poorer outcomes. Older adults with dementia are vulnerable when hospitals are unable to meet their special needs.
- We developed, implemented and evaluated a training program for 540 individuals at 4 community hospitals. Pre-test, post-test and a 120-day delayed post-test were collected to assess knowledge, confidence and practice parameters. The mean age of the sample was 46y; 83% were Caucasian, 90% were female and 60% were nurses.
- This study was supported by grants from the National Institutes of Health P50 AG05681, the Retirement Research Foundation and the Alzheimer Association.
- Galvin JE, Kuntemeier B, Al-Hammadi N, Germino J, Murphy-White M, McGillick J. “Dementia-Friendly Hospitals: Care not crisis” Improving the care of the hospitalized patient with dementia. *Alz Dis Assoc Disord*, 24:372-379,2010.

Gains in Knowledge and Confidence

	Pre-Test		Post-Test		P-Value
	Mean	SD	Mean	SD	
Knowledge	9.97	2.9	12.90	1.5	<0.001
Level of Confidence	0.86	1.4	2.42	1.9	<0.001
	N	%	N	%	
Assess and Recognize					<0.001
Not at all - Reasonably	290	73	196	49.4	
Very Much - Extremely	78	19.6	155	39	
Manage Care					<0.001
Not at all - Reasonably	284	71.5	182	45.8	
Very Much - Extremely	84	21.2	168	42.3	
Differentiate from Delirium					<0.001
Not at all - Reasonably	326	82.1	199	50.1	
Very Much - Extremely	40	10.1	150	37.8	
Discharge Planning					<0.001
Not at all - Reasonably	315	79.3	194	48.9	
Very Much - Extremely	39	9.8	147	37	
Communicate with Patient and Family					<0.001
Not at all - Reasonably	278	70	138	34.8	
Very Much - Extremely	90	22.7	212	53.4	

Gains in Attitude and Practice

	Disagree		Neutral		Agree		P-Value*
	N	%	N	%	N	%	
Is it difficult to work with dementia patients?							<0.001
Pre-Test	54	13.6	94	23.7	226	56.9	
Post-Test	106	26.7	82	20.7	174	43.8	
I do not have enough time to provide comprehensive care							<0.001
Pre-Test	122	30.7	102	25.7	148	37.3	
Post-Test	162	40.8	90	22.7	107	27.0	
I believe in help from family members and caregivers							ns
Pre-Test	10	2.5	8	2.0	358	90.2	
Post-Test	14	3.5	0	0.0	347	87.4	
I have received sufficient training to take care of dementia patients							0.02
Pre-Test	170	42.8	113	28.5	91	22.9	
Post-Test	21	5.3	43	10.8	295	74.3	
Admission procedures should be no different than for patients without dementia							<0.001
Pre-Test	296	74.6	35	8.8	45	11.3	
Post-Test	307	77.3	17	4.3	36	9.1	
I rarely see a diagnosis of a dementia disorder upon hospital admission							<0.001
Pre-Test	224	56.4	62	15.6	84	21.2	
Post-Test	202	50.9	67	16.9	86	21.7	

Knowledge and Confidence Levels at the End of the Program and 120 Days

	Knowledge			Confidence		
	Post-Test	Maintenance		Post-Test	Maintenance	
	Mean (SD)	Mean (SD)	P-value	Mean (SD)	Mean (SD)	P-value
Hospital A (suburban)	12.9 (1.5)	11.2 (2.2)	0.01	2.9 (1.8)	0.9 (1.4)	0.02
Hospital B (rural)	12.8 (1.5)	11.6 (1.5)	0.03	2.8 (1.9)	2.2 (1.8)	ns
Hospital C (urban)	12.4 (1.8)	9.8 (2.4)	0.02	2.6 (1.8)	2.1 (1.9)	ns
Hospital D (suburban)	12.8 (1.4)	12.1 (2.1)	ns	2.3 (2.1)	1.6 (2.1)	ns

Understanding Gains and Losses

- Compared Hospital D (maintenance of knowledge and confidence) and Hospital A (loss of knowledge and confidence).

Variable	Hospital A			Hospital D		
	Original	Retention	p-value	Original	Retention	p-value
Age, y	44.4 (13.2)	53.0 (7.3)	.02	45.4 (11.9)	44.6 (11.8)	ns
Gender, % Female	92.5	100	.01	95.1	88.9	ns
Race, % White	95.5	76.9	ns	87.9	100	<.001
Profession, % Nurses	53.7	69.2	<.001	66.9	30.8	<.001
Years of practice	17.7 (18.6)	23.9 (13.6)	.03	17.7 (12.9)	11.3 (13.2)	ns
Schedule, % Days	77.9	75.0	ns	79.9	88.9	ns
Patients > 65, %	72.5	71.5	ns	71.7	76.7	ns
Patients with dementia, %	34.8	34.1	ns	25.2	29.2	ns
Dementia Training > 3hrs, %	20.9	25.0	ns	12.5	0	<.001

In a Step-wise Regression Model, respondents who reported receiving dementia training for more than 3 hours in the past 2 years unexpectedly had a 1.3-fold decrease in knowledge after the program.

Unanticipated Benefits

- Three of the trained hospitals have instituted activity kits for hospitalized persons with dementia.
- Hospital B created “Chris’ ARK” (Alzheimer’s Recreation Kits) named after a donor’s husband. To date, they have created 100 kits and are seeking additional funding to continue the program. Each kit includes: Twiddle muff™ (<http://beaulily.com/>), a photo album for the family to fill with pictures, soft books, Tangle Toys, an Alzheimer’s Association catalog, a copy of “[The Forgetting: Alzheimer's: Portrait of an Epidemic](#)” by David Shenk and a 4 CD box set of music. The kits are being distributed to patients in the hospital with a dementia diagnosis, patients seen on the mobile van, and through the Lutheran Family Services Alzheimer’s group.
- Hospital A created a team of volunteers (called the “A-Team”) especially trained to assist in the care of the hospitalized person with dementia. The “A-Team” centers its activity on geriatric unit of the hospital, where volunteers spend weekday afternoons with patients with Alzheimer’s disease or other forms of cognitive impairment. They provide companionship, alert a nurse if the patient tries to do something unsafe, and provide activities. The A-Team was launched at the end of October 2008 and is a pilot program of specialized care for patients with dementia.
- Hospital A instituted a “Code Green” procedure that placed patients at risk for elopement in green gowns and trained staff on appropriate dementia-friendly responses and precautions.

Summarizing Success

- We were able to successfully train over 500 individuals at 4 area hospitals on dementia-friendly care.
- Most participants had little to no prior training in dementia care within the last 2 years although they reported 2/3 of their patients were over age 65 and thus at risk for having dementia.
- Following completion of the training program, an improvement in knowledge about and confidence dealing with the hospitalized person with dementia was seen and was associated with a significant change in attitude toward dementia care.
- We were able to identify unmet needs and barriers to improving care for the hospitalized dementia patient.
- The program was well received by the attendees and several unanticipated benefits resulted, including the development of specialized care teams, hospital procedures and activity kits for dementia patients.

Summarizing Disappointments

- Delayed post-tests demonstrated maintenance of confidence in assessing and managing dementia patients in 3 of 4 hospitals trained.
 - This was surprising given that the hospital that did not retain knowledge or confidence (Hospital A) was the most proactive of the 4 hospitals, participating in the pilot program and developing ancillary care teams, procedures and activities for dementia care.
- It was also interesting that the strongest predictor for the *lack* of a gain in knowledge was in the 15% of attendees who reported they had had more than 3 hours of dementia training in the past 2 years.
 - This may explain, in part, the loss of maintenance at Hospital A since staff from this institution reported the highest percentage of dementia education prior to the training programs.
- Participants who received such training may have relied on previously learned information and had limited uptake of new knowledge from the sessions.
- Alternatively, the information the staff received during previous training may have been incorrect or misremembered.

Moving forward

- To improve care for the hospitalized person with dementia, changes in practice delivery are certainly needed.
- Such a plan could include the following steps:
 - 1) Creation of a team to implement change;
 - 2) Adequate supervision and guidance;
 - 3) A plan for staff development and training;
 - 4) An accreditation process;
 - 5) Effective quality monitors.
- One of the goals of this program was to increase referrals to appropriate community resources such as the Alzheimer's Association during discharge planning.
- Our study suggests that maintenance of knowledge and practice changes may not be long-lasting without continued in-service training.

THE CLINICIAN PARTNERS PROGRAM

- The Clinician Partners Program (CPP) was initiated to enhance rural health providers' ability in dementia diagnosis and care, and to increase research recruitment into dementia research studies of participants from rural communities.
- The CPP is a 3-day “mini-residency” of didactic, observational and skill-based teaching techniques. Participants completed pre- and post-tests evaluating dementia knowledge, confidence in providing care, and practice behaviors.
- Between 2000-2009, 146 healthcare professionals with a mean age of 45.7±10.8y attended the CPP; 79.2% were Caucasian, 58.2% were female, and 58% of participants had been in practice for more than 10y.
- **Funding:** This work was supported by grants from the National Institute on Aging at the National Institutes of Health (P01 AG03991, P01 AG026276, and P50 AG05681).
- Galvin JE, Meuser TM, Morris JC. Improving physician awareness of Alzheimer's disease and enhancing recruitment: The Clinician Partner Program. *Alz Dis Assoc Disord* 2011 Mar 10. [Epub ahead of print]

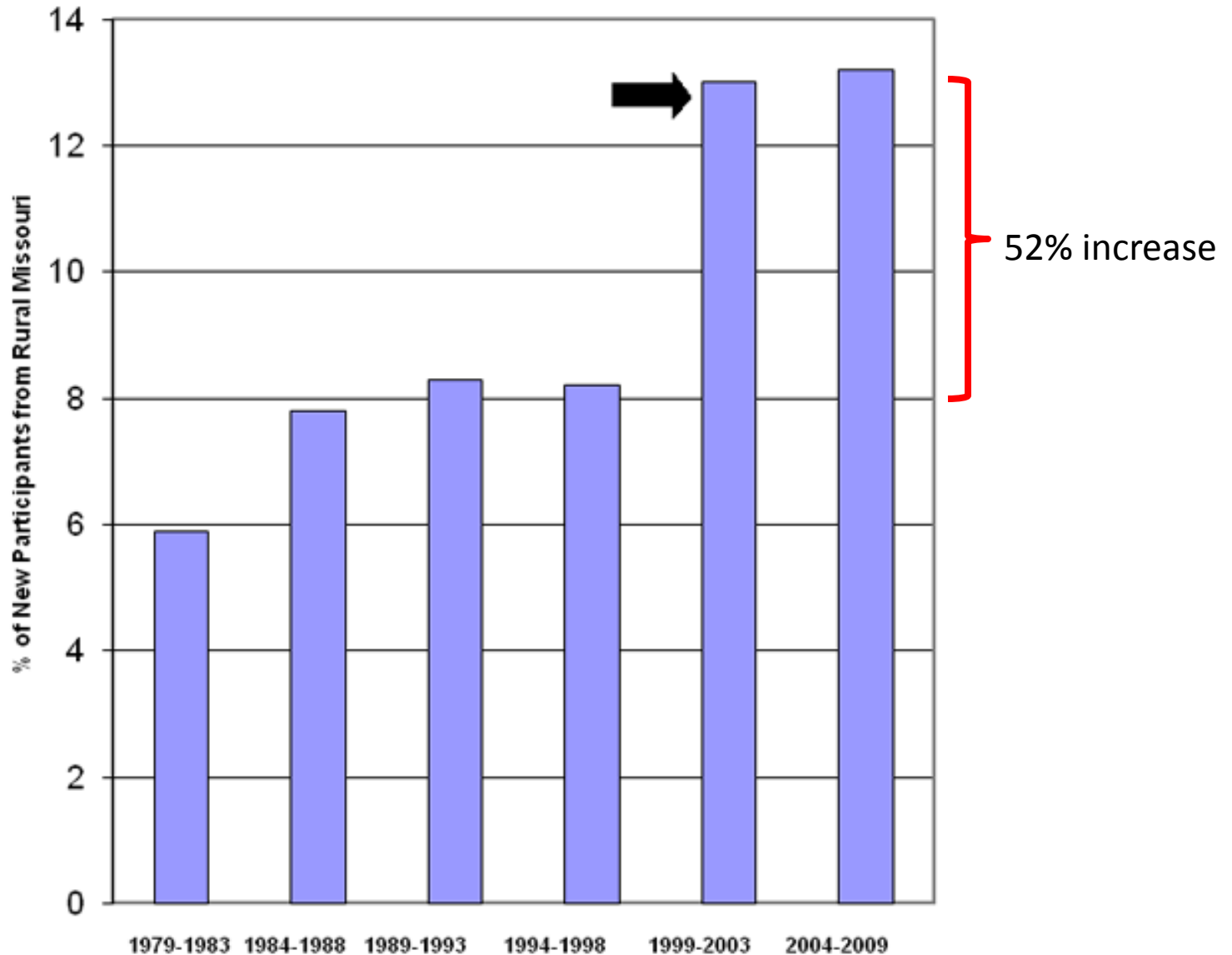
Outcome Measurements

- Participants completed the following evaluation materials:
 - (1) a pre-test evaluating demographics, clinical practice characteristics, medical knowledge about dementia, confidence in providing care, and various practice behaviors;
 - (2) a standard program quality rating form completed immediately after training;
 - (3) a 3-month post-test questionnaire similar to the pre-test to assess immediate gains in knowledge and confidence;
 - (4) a delayed post-test at 120 days to test maintenance of knowledge and confidence.
- Questions were investigator generated following input from focus groups, a review of the literature, published valid scales, and comments from the advisory panel.

Gains in Knowledge and Confidence

Parameter	Pre-test ¹	3-month Post ²	12-month Post ²	Difference ³ Pre v. 3mo Post	Difference ³ Pre v. 12 mo Post
Knowledge of AD	9.0 (2.1)	10.2 (1.6)	9.9 (2.2)	0.02	0.1
Dementia Care Confidence	20.7 (6.0)	25.9 (5.1)	26.5 (6.4)	0.005	0.001
Use of screening tests ⁴	1.5 (0.8)	1.7 (1.1)	1.9 (1.0)	0.1	0.01
Care Confidence Construct				Difference¹ Pre v. 3 mo Post	
Confidence assessing and diagnosing dementia				.003	
Confidence treating symptoms of dementia				.02	
Confidence managing the care of the demented patient				.005	
Confidence differentiating delirium from dementia				.06	
Confidence differentiating depression from dementia				.08	
Comfort disclosing dementia diagnosis to patient				.06	
Comfort disclosing dementia diagnosis to family				.09	

Increasing Rural Recruitment



Changes based on Evaluation

- New curriculum models addressing differentiation of delirium, depression and dementia, and disclosure of diagnosis to patients and families, have been added to address deficiencies identified in the previous curriculum.
- Changed the test of knowledge to a more up-to-date evaluation, The Alzheimer's Disease Knowledge Scale.
- At 3-months it is difficult to assess knowledge gained from the CPP as opposed to other educational opportunities available to the CPP attendees.
 - Added a post-test to be completed at the end of the CPP alongside the satisfaction survey. This will allow us to test gain in knowledge as a direct result of the CPP.
- Changes were also implemented to allow us to more directly address our second and sometimes less tangible goal (given the distance of the rural population from our center), to enhance recruitment to ongoing research projects.
 - New fields added to Center's intake form ("*How did you hear about us?*") in order to enhance our efforts to determine how new participants heard about our Center and its research studies.
 - This new data entry will allow us to directly link participants with programming.

Project LEARN MORE

- The major goal is to provide a coordinated method to identify and guide those experiencing cognitive impairment who have not sought medical evaluation and/or are not fully utilizing supportive services and provide them with tools to increase their ability to cope with the disease
- Train Area Agency on Aging workers to screen clients for dementia and then refer to 4 Missouri chapters of Alzheimer Association
- Association would perform tailored intervention (LEARN MORE) to reduce caregiver burden, depression and improve caregiver confidence and coping skills (Individualized and Comprehensive Care Consultation)
 - LEARN: Listen, Educate, Adjust, Resolve, Navigate
 - MORE: Missouri Outreach and Referral Expanded
- Participants completed the following evaluation materials:
 - (1) a pre-test evaluating burden, mood, confidence and concern about driving
 - (2) program quality and satisfaction rating form completed immediately after intervention;
 - (3) a post-test questionnaire similar to the pre-test to assess gains in confidence and reduction in burden and mood disturbance
- **Funding:** This work was supported by grants from the State of Missouri HHS-2010-AoA-AI-1012

Project LEARN evaluation

- CMAAA Experience with AD8 dementia screening
 - Did you find it burdensome to administer: **100% No**
 - Did you have problems with administration: **100% NO**
 - Do you think using the AD8 helped you identify people with memory loss that you might otherwise have missed: **69% Yes**
- January 2009-February 2010
 - 725 visits were made to CMAAA clients
 - 717 AD8s were administered (just 8 refused)
 - 229 (32%) scored 2 or more, all were referred to Association
 - 74 (32%) accepted a referral to the Alzheimer's Association
 - Those not referred were provided with literature about AD and Association
 - Those who qualified were served through *Project LEARN*
 - Those who were not qualified were served through other Association services

Survey for Family Member

ID: _____

Care Consultation Post Survey for Family Member

ID: _____

On a scale of 1 (strongly disagree) to 10 (strongly agree), please rate the following statements:

Do you feel....	Never (0)	Rarely (1)	Sometimes (2)	Quite Frequently (3)	Nearly Always (4)
that because of the time you spend with your loved one that you don't have enough time for yourself?	CG_Pre_B1	CG_Post_B1			
stressed between caring for your loved one and trying to meet other responsibilities (family/ work)?	CG_Pre_B2	CG_Post_B2			
angry when you are around your loved one?	CG_Pre_B3	CG_Post_B3			
that your loved one currently affects your relationship with other family members or friends in a negative way?	CG_Pre_B4	CG_Post_B4			
strained when you are around your loved one?	CG_Pre_B5	CG_Post_B5			
that your health has suffered because of your involvement with your loved one?	CG_Pre_B6	CG_Post_B6			
that you don't have as much privacy as you would like because of your loved one?	CG_Pre_B7	CG_Post_B7			
that your social life has suffered because you are caring for your loved one?	CG_Pre_B8	CG_Post_B8			
that you have lost control of your life since your loved one's illness?	CG_Pre_B9	CG_Post_B9			
uncertain about what to do about your loved one?	CG_Pre_B10	CG_Post_B10			
you should be doing more for your loved one?	CG_Pre_B11	CG_Post_B11			
you could do a better job in caring for your loved one?	CG_Pre_B12	CG_Post_B12			
worried about discussing driving with your loved one?	CG_Pre_D1	CG_Post_D1			
worried about your loved one's ability to manage their daily activities?	CG_Pre_A1	CG_Post_A1			
comfortable discussing your loved ones memory problems with others?	CG_Pre_C1	CG_Post_C1			
sad, blue, depressed or hopeless?	CG_Pre_M1	CG_Post_M1			
confident in your knowledge about Alzheimer disease?	CG_Pre_C2	CG_Post_C2			
confident that you can seek out and find resources to help you care for your loved one?	CG_Pre_C3	CG_Post_C3			
confident that you have the needed coping strategies to face the challenges of caring for your loved one?	CG_Pre_C4	CG_Post_C4			
confident you can identify sources of support for your mental and physical health?	CG_Pre_C5	CG_Post_C5			

1. Overall, you are satisfied with your experience in Project Learn MORE. **CG_Post_S1**

1 2 3 4 5 6 7 8 9 10

2. Being part of Project Learn MORE reduced fears associated with the new diagnosis. **CG_Post_M2**

1 2 3 4 5 6 7 8 9 10

3. Being part of Project Learn MORE assisted with addressing the sadness or emotional distress associated with the new diagnosis. **CG_Post_M3**

1 2 3 4 5 6 7 8 9 10

4. Being part of Project Learn MORE allowed you to feel more comfortable and confident in discussing the new diagnosis with others. **CG_Post_C6**

1 2 3 4 5 6 7 8 9 10

5. Being part of Project Learn MORE allowed you to see positive ways to cope with the new diagnosis. **CG_Post_C7**

1 2 3 4 5 6 7 8 9 10

6. The knowledge and services gained from participating in Project Learn MORE will help the person with dementia remain at home longer that would have been possible otherwise. **CG_Post_A2**

1 2 3 4 5 6 7 8 9 10

7. You would recommend Project Learn MORE to others. **CG_Post_S2**

1 2 3 4 5 6 7 8 9 10

For those families receiving financial grants:

8. The financial resources made available allowed us gain access to services (driving evaluations, transportation, safety products, medications, etc) that were desired. **CG_Post_F1**

1 2 3 4 5 6 7 8 9 10

9. The financial resources made available allowed us to more effectively care for our loved one. **CG_Post_F1**

1 2 3 4 5 6 7 8 9 10

Please return completed form to:

Deb Bryer, RN Early Stage Coordinator
Alzheimer's Association St. Louis Chapter
9370 Olive Blvd, St. Louis, MO 63132

Summarize

- Evaluation activities can and should be integrated into the design and implementation of *all* programs
- Involving stakeholders and taking time to plan execute and analyze the evaluation ensures the evaluation will have value
- Without an evaluation, a program is largely worthless
- Without an adequate report of the findings, the evaluation is largely worthless

Useful Websites

- Link for Logic Models
 - <http://www.wkkf.org/Pubs/Tools/Evaluation/Pub3669.pdf>
- Ecological Models
 - <http://learningforsustainability.net/evaluation/scale&intensity.php>
- Harvard Family Research Project -describes 8 different models:
 - http://www.hfrp.org/evaluation/the-evaluation-exchange/issue-archive/evaluation-methodology/eight-outcome-models#_ftn3
- University of Wisconsin Program Development and Evaluation Unit -provides training and technical assistance to plan, implement and evaluate high quality educational programs
 - <http://www.uwex.edu/ces/pdande/>
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