

Developing and Fielding Primary Care Internet-Based Interventions to Prevent Adolescent Depression in Randomized Clinical Trials



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- 1 Centers for Disease Control, Prevention Research Centers, Grant #U48/CCU309674 (2002)
- 2 National Association for Research on Schizophrenia and Affective Disorders Young Investigator Award (2004)
- 3 Robert Wood Johnson Foundation Depression in Primary Care Value Grant (2005)
- 4 K-08 National Institute of Mental Health Physician Scientist Career Development Award (2006)
- 5 RWJ Foundation Finding Answers Grant (2010)
- 6 1 R01 MH090035-01A1 Primary Care Internet-Based Depression Prevention for Adolescents (CATCH-IT) (2011)
- 7 P20MH090318-01A1 Technology Assisted intervention for Treatment and Prevention of Depression

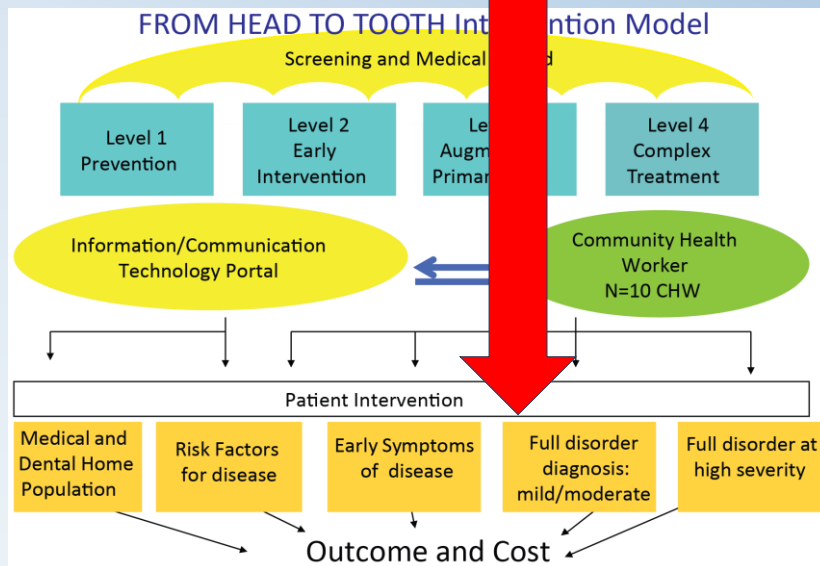


- Meivident, Inc
 - Received \$4,000 to assist in revising version of CATCH-IT for schools
- Prevail Health Solutions, Inc.
- Social Kinetics, Inc
- Chinese International School, Hong Kong
- University of Hong Kong
- Alberta Medical Association
- Dalhousie University
- Hong Kong Government, SA, PRC

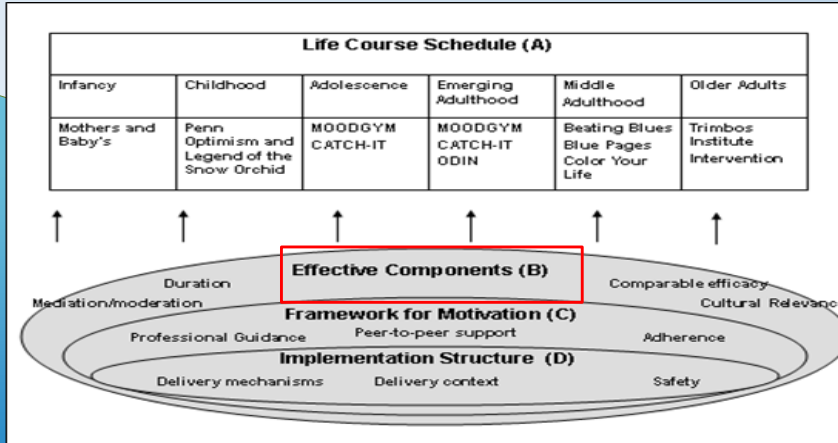


Disclosures/Rise Consulting, LLC

Accountable Care Organization (ACO): Preventing onset of a mental disorder in childhood could save healthcare system \$1,121/year



Behavioral Vaccine Model-A potentially effective approach to reduce overall health care costs in an ACO model



Van Voorhees, et al, 2011

HELP FREEDOM LIFE NEGATIVE SKILL RESILIENT SHAKE CONFLICT BLUES

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Project CATCH-IT is made up of 6 sections that we recommend you read in sequence. They are:

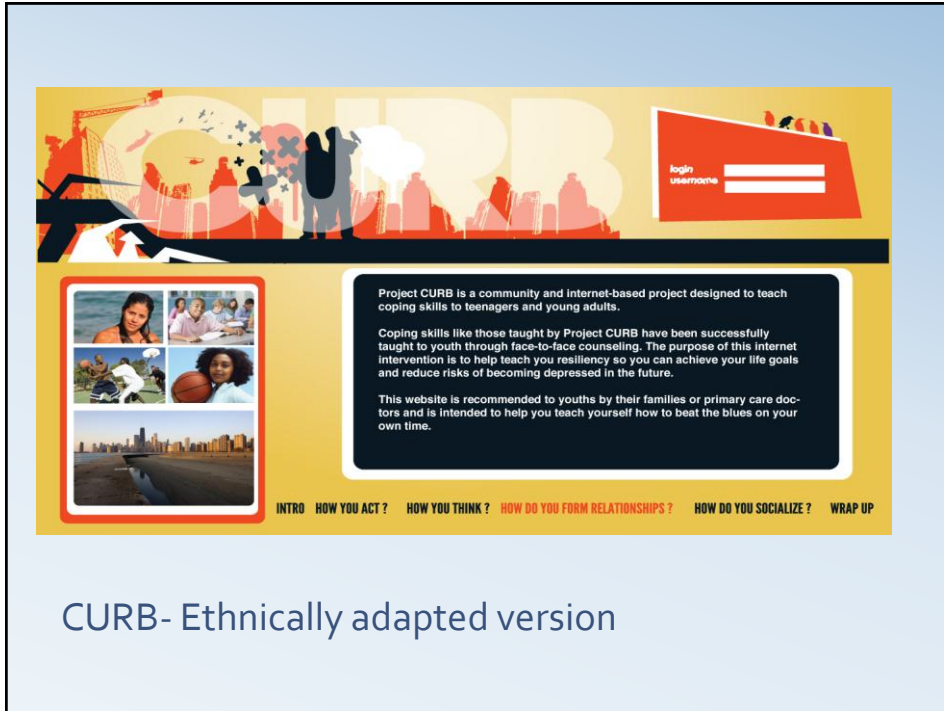
- 1 - Intro
- 2 - How You Act
- 3 - How You Think
- 4 - How Do You Form Relationships
- 5 - How Do You Socialize
- 6 - Wrap Up

Each section has at least 2 chapters that cover different topics. These topics include:

- WHAT YOU WILL LEARN:** Section basics and Chapters
- REVIEW:** Recap what you learned in the last module
- LESSON:** Questions, examples, and discussion
- STORIES:** Read how people like you apply the skills in each module to their lives
- SKILL BUILDERS:** Apply what you learned to your own life
- FEEDBACK:** Tell us what you think about the program or what you learned
- WRAP UP:** See the big picture of each module
- THINK GOALS:** New things you can learn or ways of training yourself
- REWARD:** Something fun you can do on the web

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CATCH-IT Intervention



CURB- Ethnically adapted version

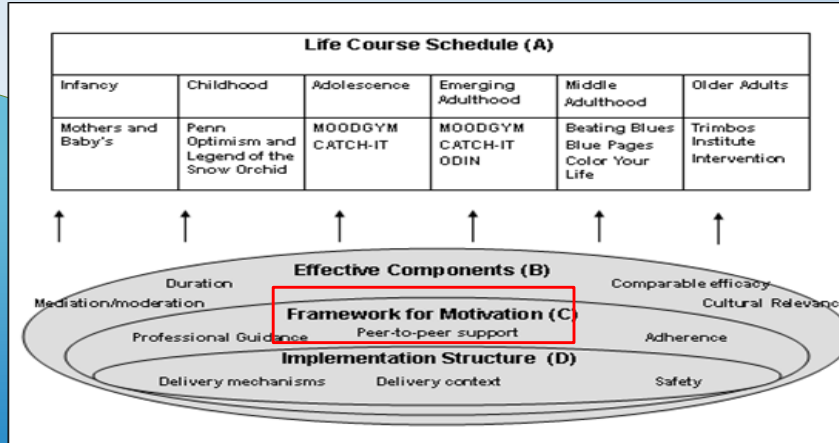
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- Observations
 - Artists and web designers do not easily integrate
 - Development works best when under one organizational umbrella
 - Challenge is few organizations “have it all”
 - Changing teen sensibility toward entertainment and concerns about additional “academic” work
 - Art may not be enough to overcome amount of “perceived work”
 - “Pastiche learning”
- How we adapted
 - Rebuilding internet site to put videos FIRST
 - Possibly drop self-efficacy exercise at beginning of module
 - Reduce introductory module to FAQ
 - Make usable on smart phone or tablet

Lessons learned-Effective Components

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Behavioral Vaccine Model



Van Voorhees, et al, 2011



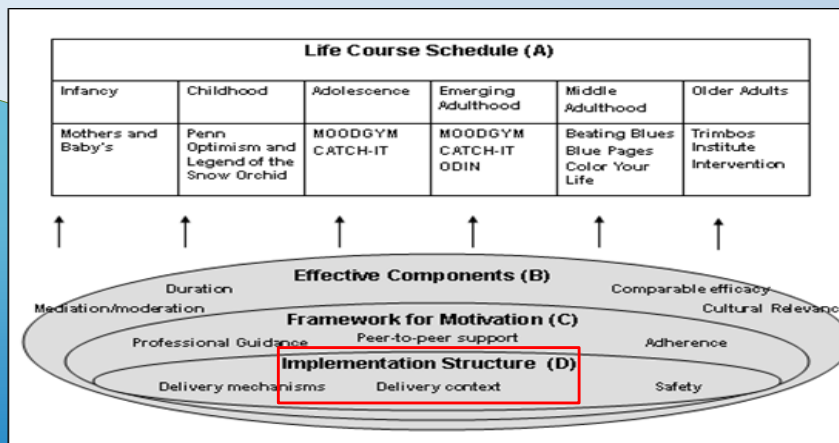
Van Voorhees BW, Ellis J, Stuart S, Fogel J and Ford DE. 2004. Pilot study of a primary care-based depression prevention intervention for late adolescents. *Canadian Child and Adolescent Psychiatry Review*, 14 (2), 40-43.

- Observations- Changing frameworks of motivation
 - Increased existential anxiety –future jobs
 - Increased focus on academic achievement
 - Parents and adolescents want to avoid “distractions”
 - Possible increase in self-stigma
 - Paradox of high apparent motivation but low levels of participation
- How adjusted the protocol
 - Added additional, shorter phone calls to increase relationship strength
 - Conducted fidelity audit of motivational interviews-focus on relational engagement
 - Re-trained staff to contextualize study into current family priorities

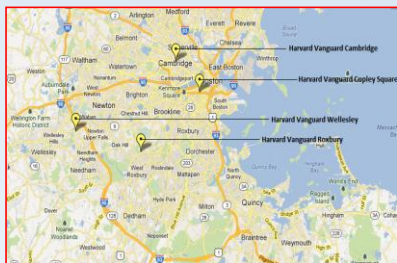
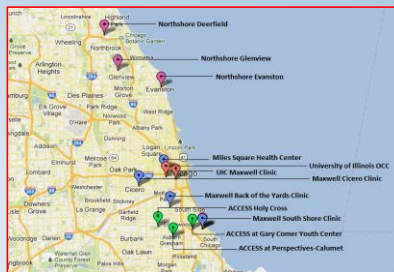
Lessons learned-Motivational Framework



Behavioral Vaccine Model



Van Voorhees, et al, 2011

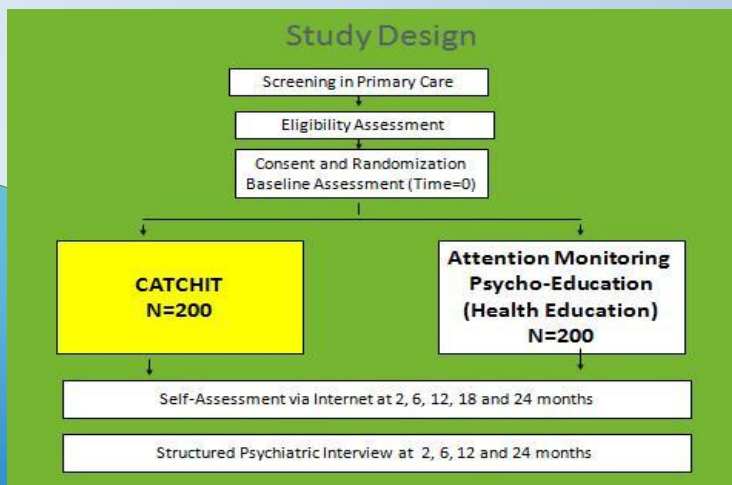


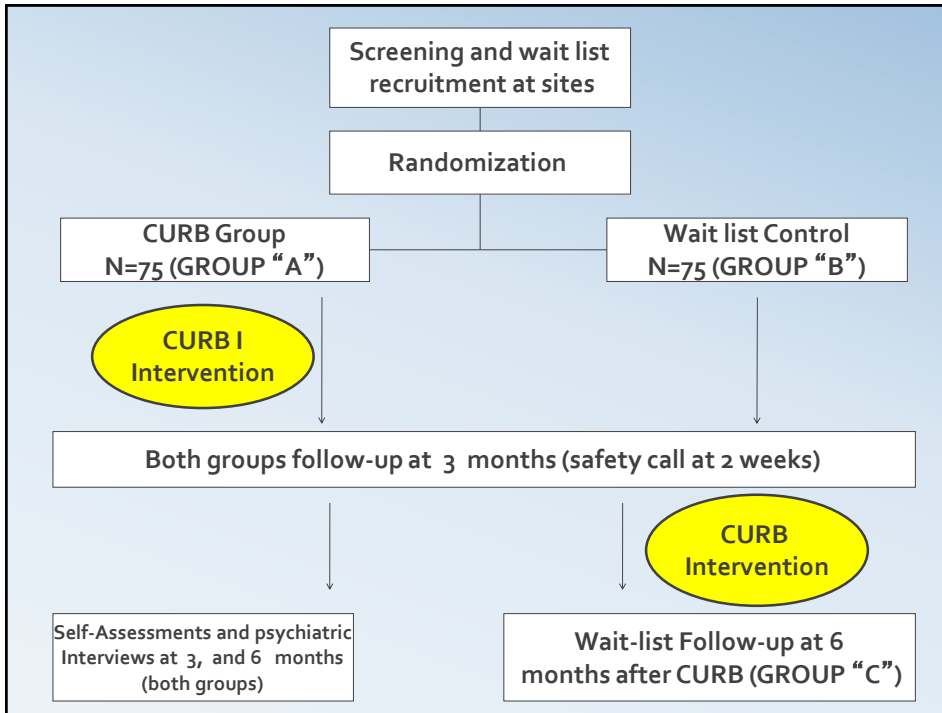
Multi-site study - Chicago, Boston and Miami

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PATH and CURB Studies





- **N=83/410** enrolled from **N=18** primary care sites **N=4** major US health systems
 - Largest trial to date attempting to prevent major mental disorder in in children primary care settings
 - Very ethnically diverse
 - Parent and child both enrolled as dyad
- **Estimated >3,000** adolescents offered screening
 - 14-28% of adolescents at risk for major depressive disorder identified in screening process
- Participation in Health Education arm greater than expected

Making it happen-PATH and CURB

- Observations
 - Introducing a “simple” intervention into large organizations is actually quite complex
 - Systems already taxed
 - Need for strong relational framework- ”not corporate”
 - 7 day/week operation required to manage sites and engage adolescents in eligibility assessments by phone
 - Strong relational focus needed to engage at every level
- How we adapted
 - Hired additional therapeutically oriented staff
 - Completely changed practice training model to be “not corporate”
 - Used process management theory – ”lag” and “lead” indicators
 - **Small differences in presentation of study at screening had major impact in percent of adolescents at risk engaged in study**

Lessons learned

- Major social and economic forces pushing forward technology based preventive strategies for chronic diseases- rationale of low cost, easy distribution and potential universal coverage
- Scientific agendas that need to be addressed
 - Framework for motivation: Least expensive and most effective manner to motivate engagement
 - Effective components: Mix of media strategies needed to fully engage in the learning process
 - Implementation strategy: Can health systems automate much of the engagement process so it fits their work flows more easily

Conclusions



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- **Variations in learning style:** As we would still like to incorporate the learning theory (three different types of learner)
- **Three voices:** allows to gradually approach behavior change
- **Identification:** the auditory (potentially 6 voices that match the character's ethnicity)
- **Synchronization of the Senses**
 - Script that incorporates the main theme of that module
 - Visual (images that could be abstract i.e. not a person and age specific, which are the most acceptable for the target population) and
 - Auditory-video diary

CATCH-IT 3 Integral Theory-
Mark Kaplan

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Lessons learned –Site Construction

- Artists and web designers do not easily integrate with backend data base and programmers – careful construction of team and organizational framework
 - Works best when under one organizational umbrella
 - Challenge is few organizations “have it all”
- Complexity builds on complexity
- Importance of cost tradeoffs
- Don't forget ease of use, beauty and meaningful narratives

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Importance of theoretical integration in overall model development

YEAR	Major Theory	Implication	Citation
2002	Self-directed Intervention	Understanding, identification release- “book on line”	Citation
2002	Theory of Planned Behavior	Utility model of choice of mental health services	Azjen, 1977
2002	Trans-theoretical Model of Change and Motivational Interviewing	Contact with primary care needed for sustained participation	Miller and Rollnick
2003	What works in prevention. Principles of effective prevention programs	Need to integrate into community model	Nation, 2003
2005	Instructional design	Ordered presentation of material for optimal on-line learning	Gagne, 1992
2005	Para-social Learning	Learning through experience of others using narratives	Gagne, 1992
2007	Bio-ecological Model	Layered influences	Bronfenbrenner, 1994
2010	Integral Theory/Synchronization of the Senses	Creative cohesive media based experience linking all elements in artistic/psychological theory	Frank, 2004
2011	Self-Efficacy	Key mediator may be self-efficacy – added warm up exercise	Bandura and Munoz, 1977
2012	Supportive Accountability	Reinforcement from ongoing relationships needed	Mohr, 2012

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