Northwestern University Feinberg School of Medicine

Project TECH: an Internet depression prevention program for adolescents.

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cbits center for behavioral intervention technologies

Role of closed social network in increasing adherence

Challenge of web based interventions
- Poor utilization and low adherence

Using closed social network to increase adherence by
- Create accountability for each patient's actions
- Foster a sense of responsibility towards other networked peers
- Provide forum for collaborative learning.
- Strengthen bonds among networked peers
- Promote prosocial behavior

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Aims

- Create an Internet depression prevention program for adolescents where closed social network interactions are engineered to increase adherence to site.

- Refine the online peer network.

- Conduct feasibility and beta-testing.

Project TECH
(Teens Engaged in Collaborative Health)

A 10-week CBT based depression prevention program for adolescents

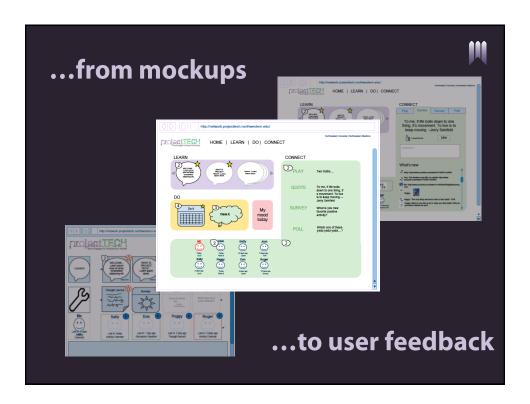### Intervention Design: basic site components

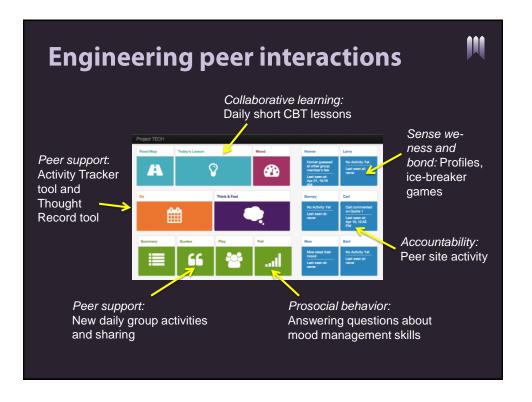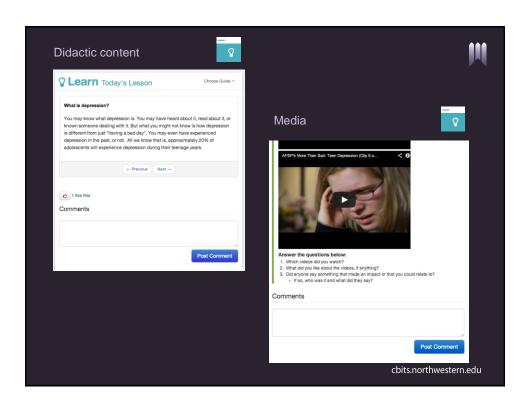|	Intervention ingredient	Site feature
1.	Mood management skills	Didactic lessons
2.	Behavioral activation	Activity tracker
3.	Cognitive restructuring skills	Thought record
4.	Mood awareness	Mood rating widget

Project TECH

Intervention Design: peer networking components

	Increase site adherence by promoting…	Site feature examples
1.	Accountability	• Displaying last log in, tool use and lesson activity • Sharing tool use and lesson activity • Ability to prompt members to log in
2.	Prosocial behavior	• Questions to group about mood management skills • Commenting and discussion
3.	Collaborative learning	• Discussion boards to allow discussion of intervention topics
4.	Peer Support	• Sharing and commenting on each other's responses and reactions
5.	Sense of "we"-ness, bond and commonalities	• Initial ice breaker game, personalisable member profiles

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…from mockups

…to user feedback

...to launch

Project TECH

Road Map	Today's Lesson	Mood	Homer	Larry
			Homer guessed at other group member's lies Last seen at: Apr 21, 10:16 AM	No Activity Yet Last seen at: never

Do	Think & Feel		Barney	Carl
			No Activity Yet Last seen at: never	Carl commented on Quote 1 Last seen at: Apr 10, 12:45 PM

Summary	Quotes	Play	Poll	Moe	Bart
				Moe rated their mood Last seen at: never	No Activity Yet Last seen at: never

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Engineering peer interactions

Collaborative learning: Daily short CBT lessons

Peer support: Activity Tracker tool and Thought Record tool

Sense we-ness and bond: Profiles, ice-breaker games

Accountability: Peer site activity

Peer support: New daily group activities and sharing

Prosocial behavior: Answering questions about mood management skills

Didactic content

Media

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Activity Tracker tool

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Methods

Initial feasibility pilot sample

Recruitment: high schools, social media, youth centers, flyers

Sample: A group of five teenagers ages 14-18
- All CESD scores <6
- 4 girls, 1 boy
- 2 White, 1 Alaskan/Native American, 1 Hispanic, 1 African American

Assessment: 1) Baseline interview, 2) Week 1 and Week 2 feedback interviews

The website is monitored by a licensed child clinical psychologist.

Initial use results

5 adolescent users in a 14-day period…

Teen	# of days accessed	# of use sessions	Mean session duration with activity	Out of 14 didactic lessons, accessed…
A	4	5	3 minutes	3
B	9	10	4 minutes	9
C	7	13	4 minutes	10
D	13	21	8 minutes	13
E	7	8	9 minutes	5

Initial use results

5 adolescent users in a 14-day period…

Teen	# "LIKES"	# times rated mood	# of comments to a site feature	# of comments to another teen
A	1	4	0	0
B	0	12	9	2
C	0	6	6	0
D	9	13	29	2
E	2	5	5	5

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Qualitative feedback

What was liked:
1) Simple homepage design, bright colors
2) New material every day
3) Mood rating and mood graph
4) Ability to comment and 'like', reading others' comments
5) Ability to see other members' site activities

What needed improvement:
1) More ways to interact with other group members
2) Better member profile page to get to know who other members are
3) Better ways to know which tools are getting the most comments and discussion, i.e. where the action is.
4) Activity Tracker tool

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Qualitative feedback

Barriers to using the site:
1) Too many commitments during school day
2) Too busy after school: jobs, sports
3) "I can only do it on a computer"

Ways to increase site use:
1) SMS Text or email reminders
2) Ability to access via smartphone

Conclusions

…from a brief 14-day period with 5 adolescents

1. High acceptance of this closed social network model of web intervention delivery.

2. Teens were immediately drawn to social network interactions, and demanded more opportunities for interactions.

3. High number of logins, lesson views and commenting activity.

1. Promising number of commenting in response to another user

Next steps

1. Continue development of web intervention by building more tools and social network interaction opportunities.

2. Lab usability and beta testing with groups of adolescents.

3. Field trial of adolescents with higher depression scores.

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Thank you!