Detection and Prevention of Suicide in Primary Care

Jewish Healthcare Foundation
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Disclosures

- Royalties: Guilford Press, UpToDate, eRT (electronic version of C-SSRS)
- Consultation: Healthwise
- Boards: AFSP, Klingenstein Third Generation Foundation
- IP: BRITE, Screening Wizard, Computerized Adaptive Screen for Suicidal Youth (CASSY)

Objectives

- Rationale for a focus on primary care
- Approaches to screening
- Triage and interventions
- Challenges and how they may be addressed

Why try to prevent suicide in primary care?

- Sutton's law– Where the patients are!
- 30-50% of suicide decedents seen in primary care within 30-90 days of death
- Primary care physicians are trusted figures
- Improves access and outcome with collaborative care
- Improving PCPs' tx of depression can reduce suicide

Screening

- PHQ-9– item 9 asks about frequency of SI
- PHQ-9M- asks about recent ideation (in past month) and lifetime history of an attempt
- Ask Suicide Questionnaire (ASQ)
- Computerized Adaptive Screen for Suicidal Youth
- Machine learning of EHRs
- Other tools developed by the ETUDES Center

PHQ-9 and PHQ-9M

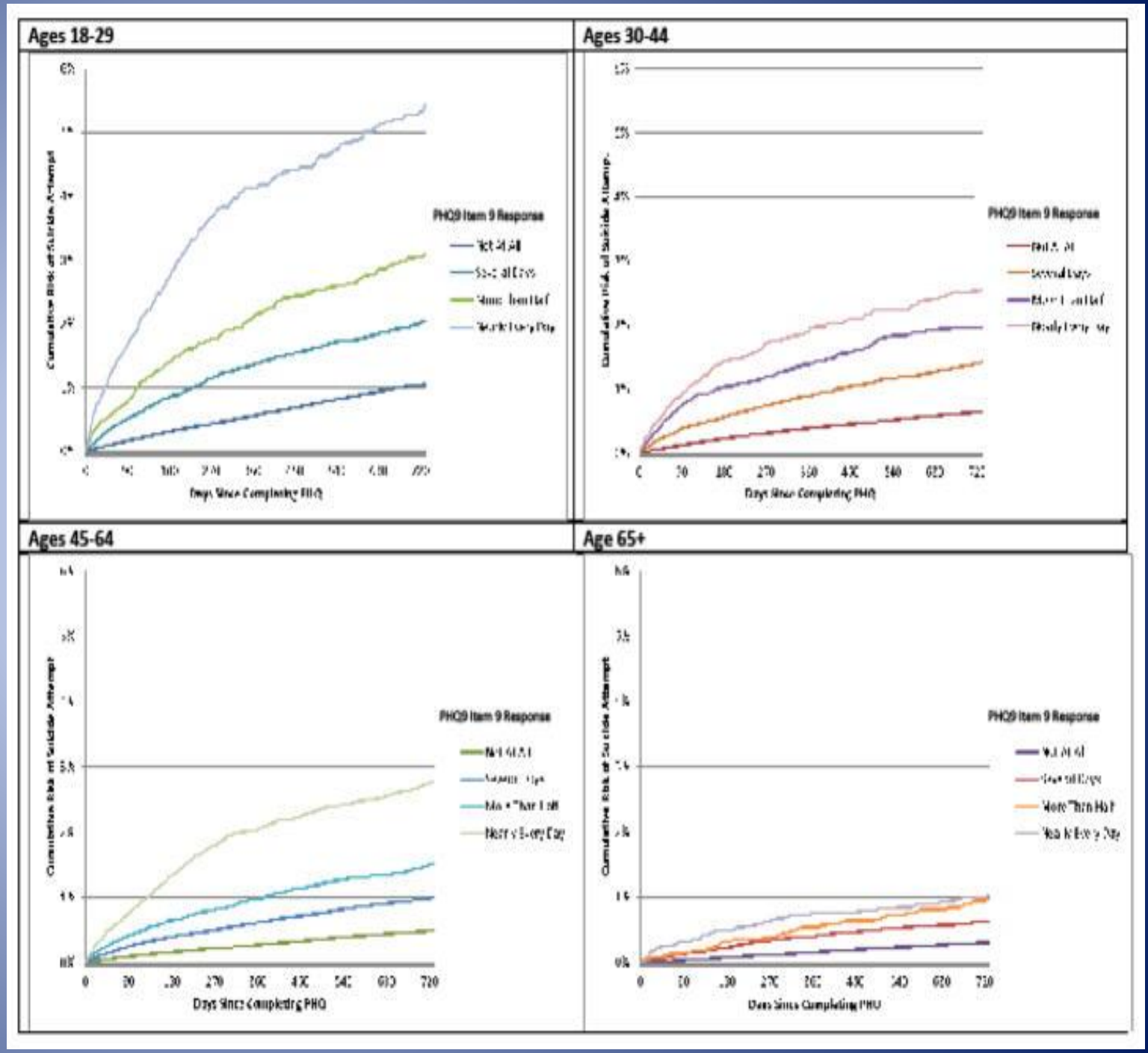
- Positive response to item 9 (how frequently do you think about ending your life or harming yourself?) associated with an increased risk for suicide and suicide attempt
- BUT– nearly 40% of those who died by suicide within 30 days of screening denied ideation
- PHQ-9M– AUCs 0.80-0.85 predicting suicide attempt within 30-365 days, but sleep, anhedonia stronger predictors of an attempt than ideation
- PHQ-9M doesn't assess other important contributors to suicidal risk: e.g., alcohol/substance abuse, availability of guns

Screening for Suicide with the PHQ-9

Item 9: In the past 2 weeks have you had thoughts that you would be better off dead or about hurting yourself in any way

Dose-response relationship between severity of item 9 response and suicide and suicide attempt within 30 days (3-fold elevation) (Rossom, 2017)

However, more than 1/3 of attempters and suicide decedents denied ideation on the PHQ-9 (Simon et al., 2016)



Ask Suicide Questionnaire (ASQ) and the Computerized Adaptive Screen for Suicidal Youth (CASSY)

- **ASQ** is 4 items
  - Passive ideation (wish were dead)
  - Burdensomeness
  - Ideation
  - Lifetime history of attempt
- Free, widely used
- AUC for predicting an attempt=0.78
- AUC for predicting an attempt in those with psychiatric complaint=0.57

- **CASSY**=3 items from ASQ plus an average of 8 additional items
- Proprietary
- Needs computer interface
- Provides a continuous measure=probability of an attempt in the next 3 months
- Can customize sensitivity and specificity to setting
- AUC=0.87; for those with MH complaints, AUC=0.72

Once identified, then what?

- Determine risk, level of care required, type of treatment
- Develop a safety plan– structured plan for coping with suicidal urges:
  - Personal strategies (e.g., distraction, relaxation)
  - Interpersonal strategies
  - Clinical/Professional coping strategies (e.g., call to ED)
  - Making environment safe
- Follow-up to encourage adherence to treatment recommendations

- Brief interventions, such as safety planning can reduce risk of suicide attempt by 31-50% (Doupnik et al., 2020)
- Brief interventions can increase likelihood of pursuing treatment 3-fold
- Patients willing to be counseled on firearms safety, but not on removal of firearms from the home
- 1-minute intervention can increase safe storage at least 2-fold

Enhancing the capacity of primary care to assess and manage depressed and suicidal youth– The ETUDES Center

Challenge	ETUDES Response
PCPs uncertain about next steps after a positive screen	**Screening Wizard** assesses suicidal risk, comorbidity, tx preferences
Patients often do not follow up with treatment referrals	**Text2Connect** provides nudges to encourage treatment adherence
PC staff uncertain about how to generate a safety plan	**BRITEPath** leads the clinician step-by-step in the generation of a safety plan
Lack of access to MH care	Integrate SW, T2C, BP into **iCHART**
Many at-risk patients deny SI	Algorithms using EHR, mobile phones
PCPs not trained in MH care	Provide 1-year long training program.

Screening Wizard
AN ETUDES STUDY

Ana Radovic, MD, MSc

Oliver Lindhiem, PhD

Sam Shaaban, MBA

NuRelm

- SW 2.0 is a brief screening tablet-based tool (7 mins)
- Administered to both the adolescent and caregiver
- Assesses comorbidity, treatment readiness, treatment preferences, barriers to care
- Promotes shared decision-making
- Increases referrals by 68%

Readiness, Preferences, & Barriers

ADOLESCENT

READINESS FOR TREATMENT

Yes, I would be ready to start therapy, medication, or both today.

PREFERENCE FOR TREATMENT

I would prefer medication only

PARENT

READINESS FOR TREATMENT

Yes, I would be ready for my child to start therapy, medication, or both today

PREFERENCE FOR TREATMENT

I am not interested in any treatment at this time

BARRIERS TO TREATMENT	ADOLESCENT	PARENT	DISCREPANCY
Cost	Slightly Agree	Disagree	⚠
Transportation	**Strongly Agree**	Disagree	⚠
Time	**Strongly Agree**	Slightly Agree	⚠
Confidentiality	Slightly Agree	Disagree	⚠
Stigma	Slightly Agree	Disagree	⚠
Medication	Disagree	Slightly Agree	⚠

Find information on treatment guidelines, referral sources, and item responses in Screening Wizard Item Level Report. Remember if no safety risk, can schedule a follow-up visit.

Study 2: Text to Connect (T2C)

Even with screening, ~20% of youth referred access MH care in 6 mos (Chisolm et al., 2009)

Major barriers are motivational.

- **Problem:** How do we help youth and families follow up with treatment recommendations?
- **Solution:** Automated text messaging system addressing motivational barriers.
- **Text2Connect** prompts awareness of treatment targets in daily life and delivers on-demand tailored support to patient and parent to target attitudes, readiness to change, and perceived need for treatment; doubles rate of adherence

PIs: Tina Goldstein, PhD & Brian Suffoletto, MD

Dawn Gotkiewicz, MD

Jack Doman, MS

BRITE:
A SAFETY PLANNING APP TO PREVENT TEEN SUICIDAL BEHAVIOR

BRITE App

App developed by:
David Brent, Betsy Kennard, Candice Biernesser,
Jamie Zelazny, Tina Goldstein, and Stephanie Stepp

Creation of safety plan in BRITE

Carrier 2:44 PM

← BACK REASONS TO LIVE

You have the power to choose to remain alive

This space holds your most important reasons for staying alive

Edit

People that are important to me

12:51 LTE

← BACK SAFETY PLAN

Don't Give up. Every day is a new day to recreate yourself

This space holds the skills you will need for daily use and when you are having a rough time.

Edit

I can stay calm by

12:50 LTE

← BACK SAFETY PLAN

I can stay well by

I can cope with stress by

To make my environment safe, I will

12:51 LTE

← BACK SAFETY PLAN

Reaching Out

Call or text your chosen people below when you need to chat with someone.

Mom
123-456-7890

Dad
121-456-7890

Brother
221-456-7890

Professional Help

Call your chosen professionals when you need to chat with someone

Therapist
800-000-0000

UPMC Phsychiatry
800-000-0000

Emergency Room
800-000-0000

Efficacy of BRITE

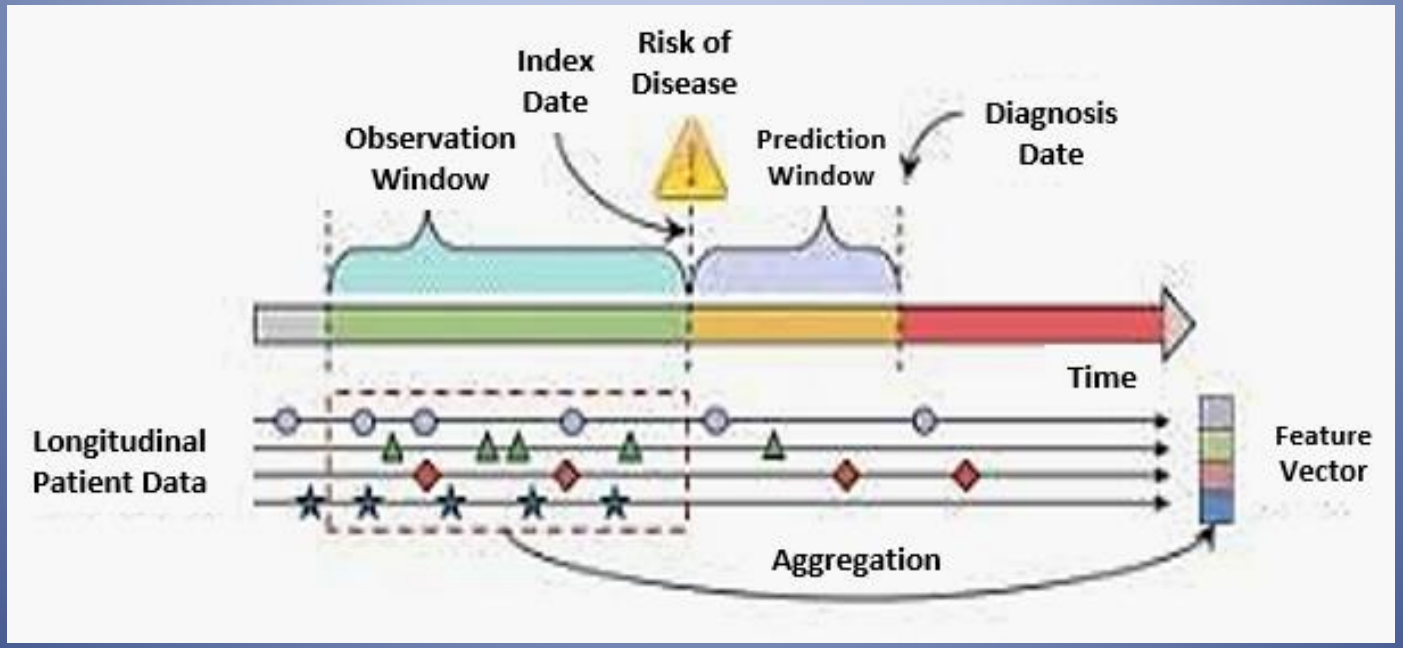
- In clinical trial of adolescent psychiatric inpatients, cut rate of suicide attempts in half (16% vs. 31%) 6 months post-discharge (Kennard et al., 2018)
- In RTC N=121 suicidal youth randomized to either BRITEPath + UC or UC alone
  - Reduced depression (PHQ-9), d=0.67
  - Reduced suicidal ideation (PHQ-9, item 9), d=0.54
  - 91.2% of users would recommend to a friend; High usability (5.5/7)
- Time for training around 60-90 minutes, 30-45 minutes to develop safety plan.
  - https://www.etudes.pitt.edu/britepath-clinical-use

Machine learning and electronic health records

Neal Ryan, MD

Fuchiang “Rich” Tsui, PhD

Candice Biernesser, PhD



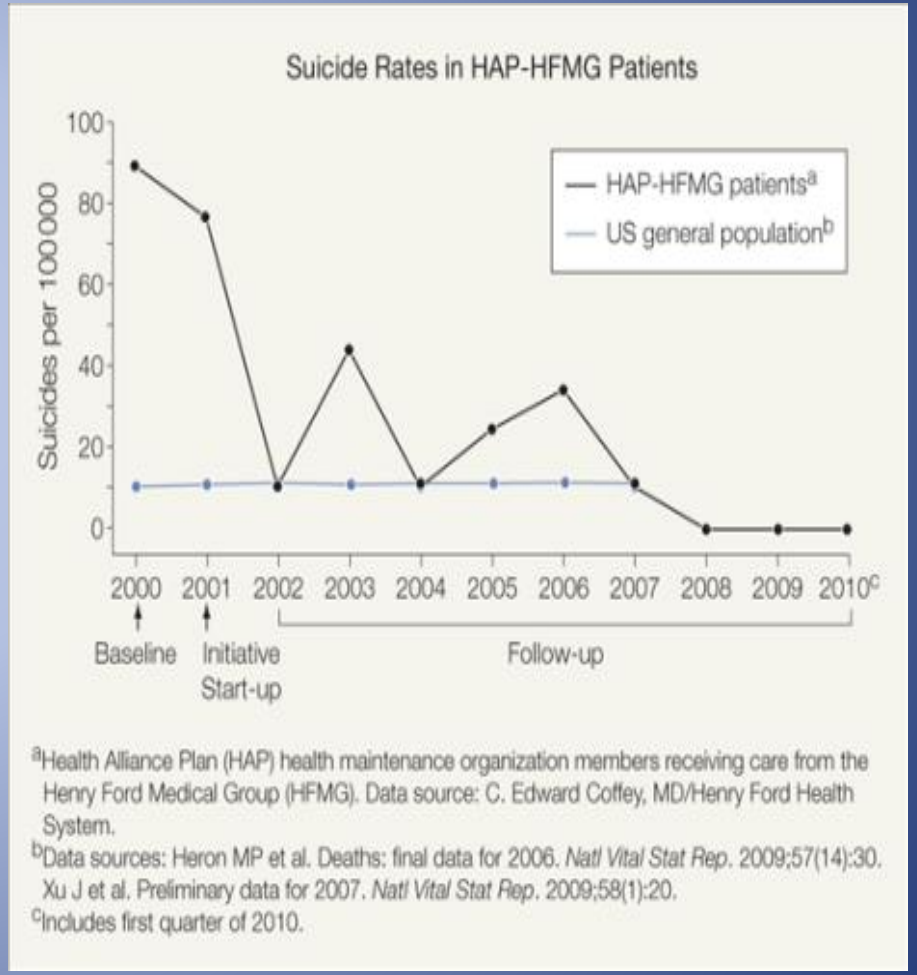
Results: ML, including use of NLP

Time Window	AUC	Sensitivity	Specificity
<7 days	0.93	0.90	0.79
90 days	0.93	0.95	0.70

Strata	M	F	<35 yrs	>35 yrs	MA	Prev visit ED	Prev visit inpt	RaceW	Race AA	Dep
AUC	0.94	0.92	0.91	0.94	0.88	0.92	0.99	0.93	0.91	0.88

Systems Change:
Henry Ford Hospital aims to achieve Zero Suicide

- Consumer advisory group
- Training in CBT and risk assessment
- Rapid access to care
- Assertive follow-up
- Removal of lethal agents
- Support and education for families, patients, and staff



[a]Health Alliance Plan (HAP) health maintenance organization members receiving care from the Henry Ford Medical Group (HFMG). Data source: C. Edward Coffey, MD/Henry Ford Health System.
[b]Data sources: Heron MP et al. Deaths: final data for 2006. *Natl Vital Stat Rep*. 2009;57(14):30. Xu J et al. Preliminary data for 2007. *Natl Vital Stat Rep*. 2009;58(1):20.
[c]Includes first quarter of 2010.

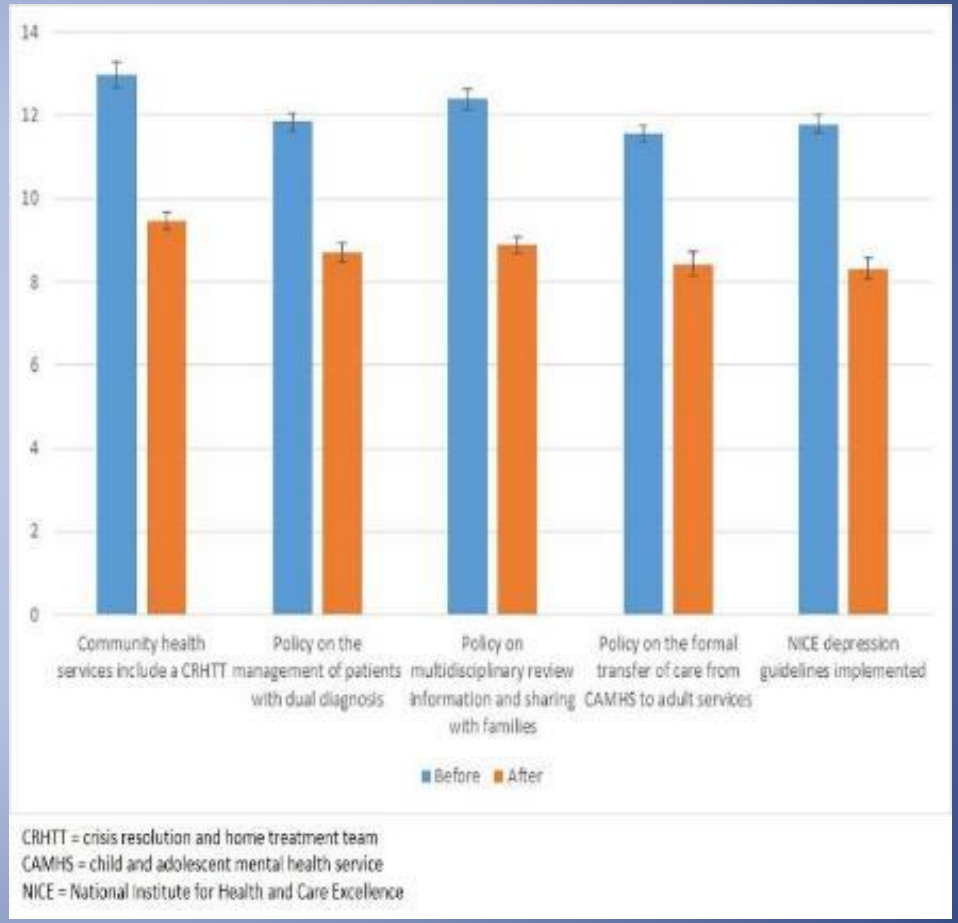
Hampton, 2010

Effects of system changes on suicide, 1997-2012 (Kapur et al., 2016)

- Made recommendations for service improvements
- Implementation of service improvements→ 21-29% reduction in local rates of suicide
- Impact of service change greater in locales with lower staff turnover.

Strongest predictors of reduction in suicide (Kapur et al., 2016)

- Crisis response team
- Dual diagnosis
- Suicide review
- Transition of child to adult services
- NICE depression guidelines followed



Summary

- Primary care providers can play a critical role in the detection and amelioration of suicidal risk
- To maximize the impact, PCPs need decision support and digital extender tools, training, and access to specialty mental health care
- Reduction of suicide is not a “one-sector” problem, but will be best accomplished through multi-component system change


Thank you!