

# Suicide Prevention Outreach Trial

## Scaling up outreach interventions

Greg Simon

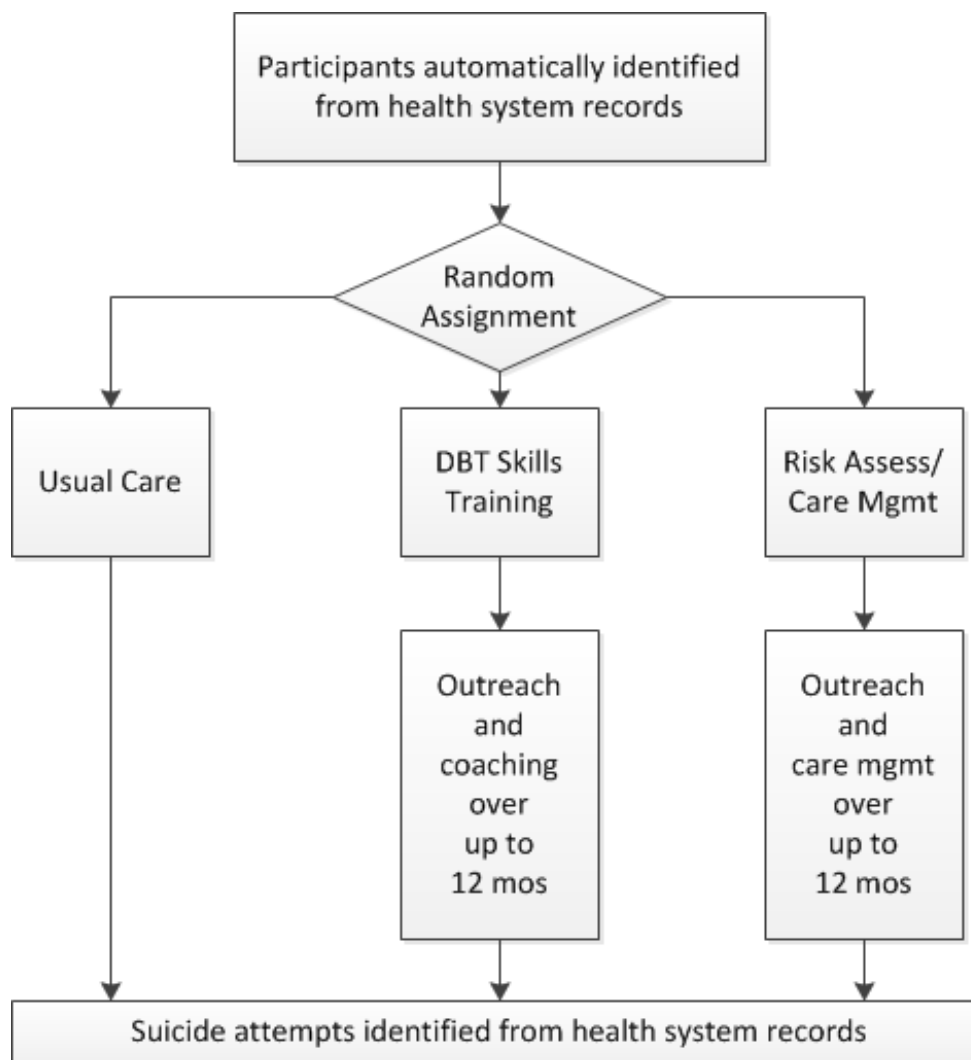


## SPOT Trial summary

- Pragmatic trial of two outreach interventions to reduce long-term risk of suicide attempt
- Automatically enroll health system patients who report frequent thoughts of death or self-harm
- Randomly assign to continued usual care or to one of two outreach-based interventions
- Examine risk of suicide attempt over 12-18 months after randomization



# In pictures:





# Intervention programs

- Dialectical Behavior Therapy Skills Training
  - Specific emotion regulation skills found to reduce risk of repeat suicide attempt
  - Delivered via interactive online program
  - Supported by an online health coach
- Risk Assessment and Care Management
  - Systematic outreach to assess acute risk
  - Care management to facilitate/maintain appropriate contact with outpatient mental health care



## Key points regarding intervention programs

- These are “cold calls” - unexpected outreach from an new and unknown representative of the health system
- Cost matters – NNT of 100 means that we are looking for an intervention like statins, not like revascularization. Our target cost is <\$100 per patient



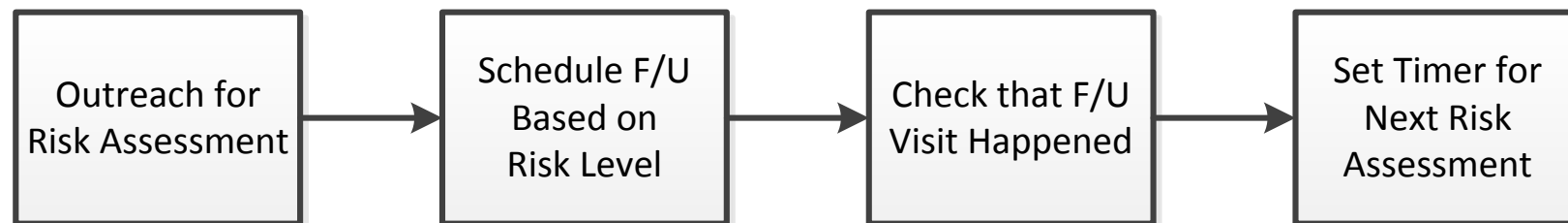
## Care Management program goals:



- Outreach and non-specific support
- Systematic assessment of current risk level
- Care management to promote appropriate follow-up care



## Original plan: “Path-based” logic



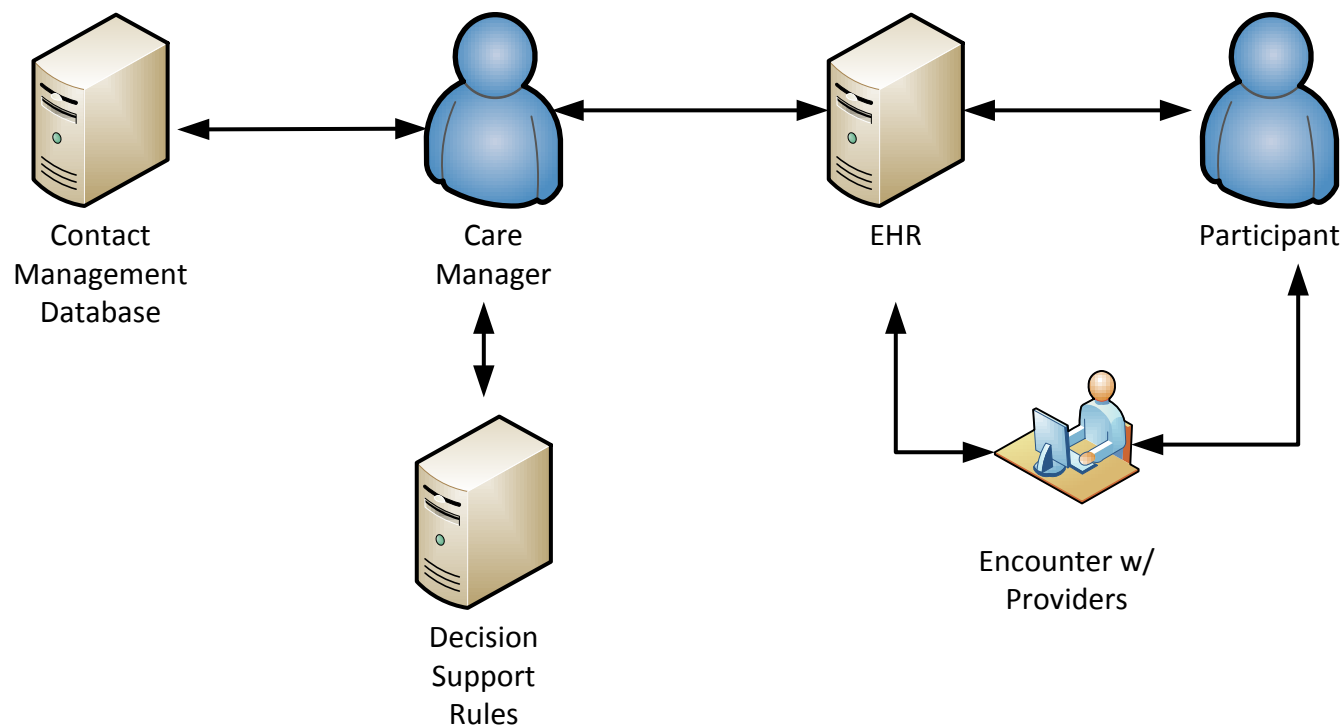
Discrete “cycles” of contact,  
with time between cycles depending on risk level

Separate logic (and technical structure) for:

- Contact management (When to send a message)
- Decision support (What to say)



# Separate applications for each function







## **Real life: Stuff happens while we're trying to work**



- Visits happen – and new risk assessments are recorded
- Appointments are made, cancelled, and/or missed
- People ignore our messages or don't always accept our advice



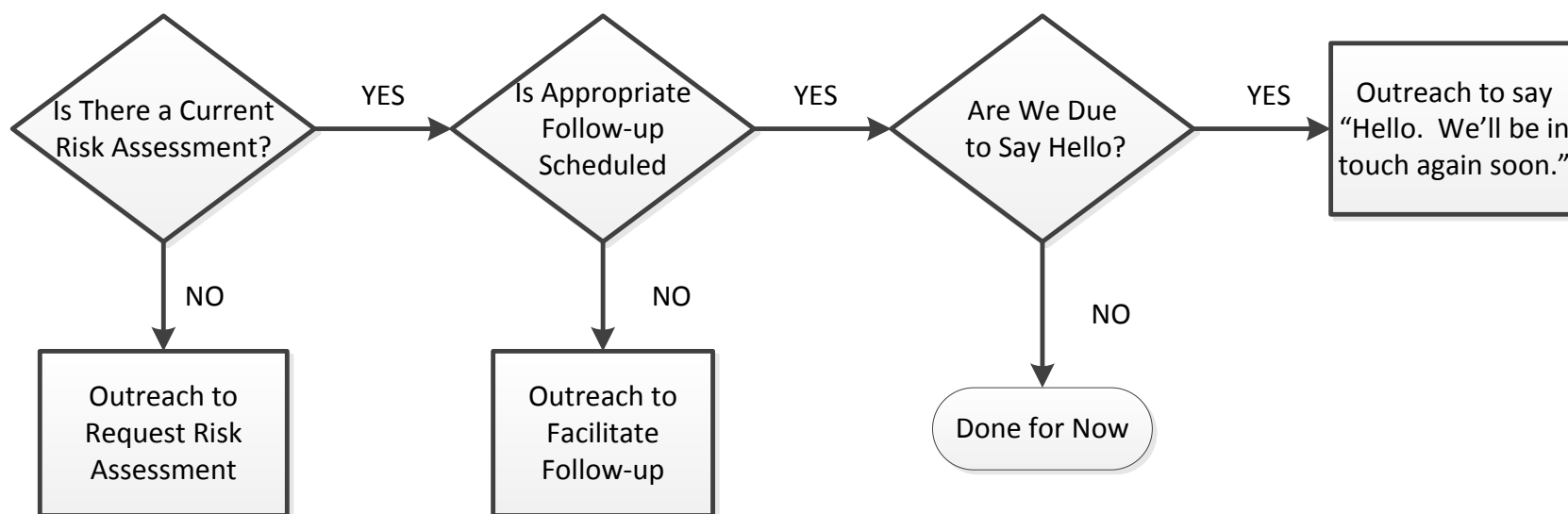
## Finding the right mix of structure and flexibility



- Our long-term goal is constant – maintaining engagement in effective mental health care
- Our short-term tactics are highly variable – across people and over time
- Our question is: Given where we are and where we want to go, what is the most helpful thing I could do right now?



# New plan: State-based logic



Contact management and decision support are inseparable




## **“Is there current risk assessment?” depends on:**

- Time since most recent risk assessment
- Risk level at most recent assessment  
(lower risk allows longer time til next assessment)
- Time until next scheduled mental health visit  
(no need for assessment if visit already scheduled)
- Allowing for care manager's judgment



## **“Is appropriate follow-up scheduled?” depends on:**

- Risk level at most recent assessment  
(lower risk allows longer time til next visit)
- Time until next scheduled mental health visit
- Allowing for care manager's judgment



# **“Are we due to say hello?” depends on:**

- Time since most recent risk assessment
- Risk level at most recent assessment  
(lower risk allows longer time til next assessment)
- Time until next scheduled mental health visit  
(no need for assessment if visit already scheduled)
- Allowing for care manager's judgment

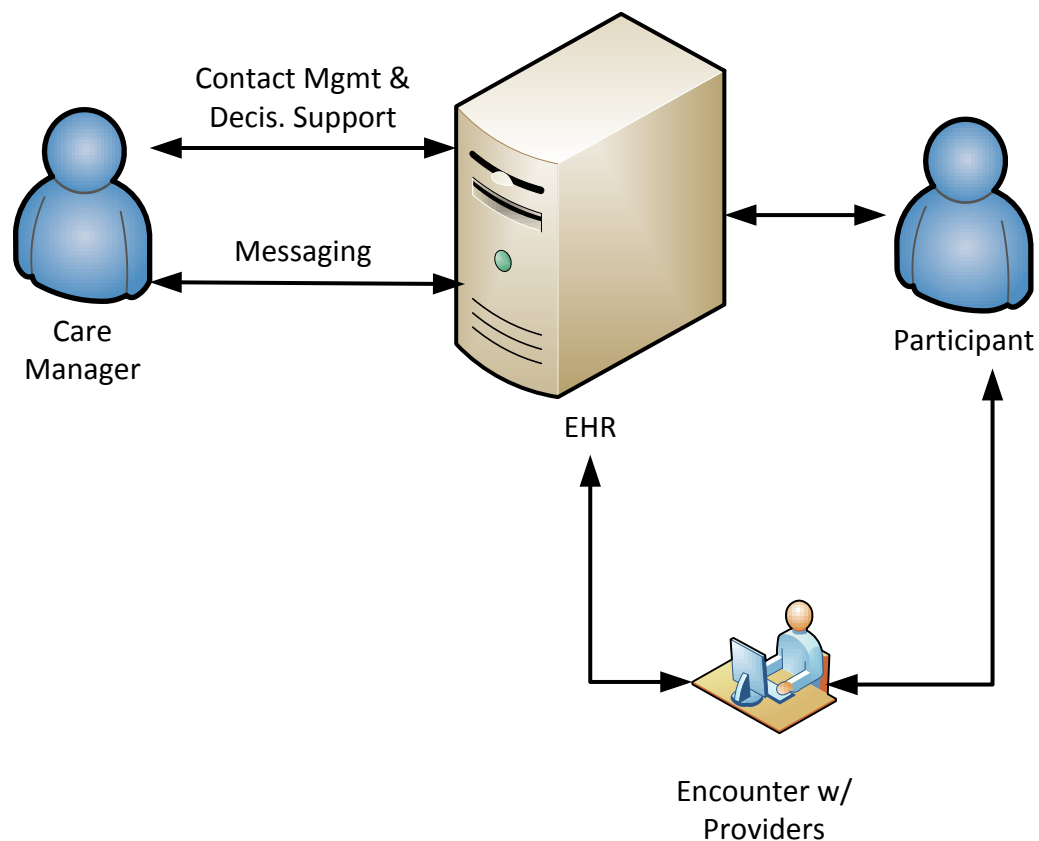


## One added wrinkle – because communication is asynchronous

- When we send a message, our participant:
  - Might or might not read it
  - Might or might not reply
  - Might or might not act on our advice
- So we need to wait a bit to see what happens – accomplished by a “snooze” feature with variable timing



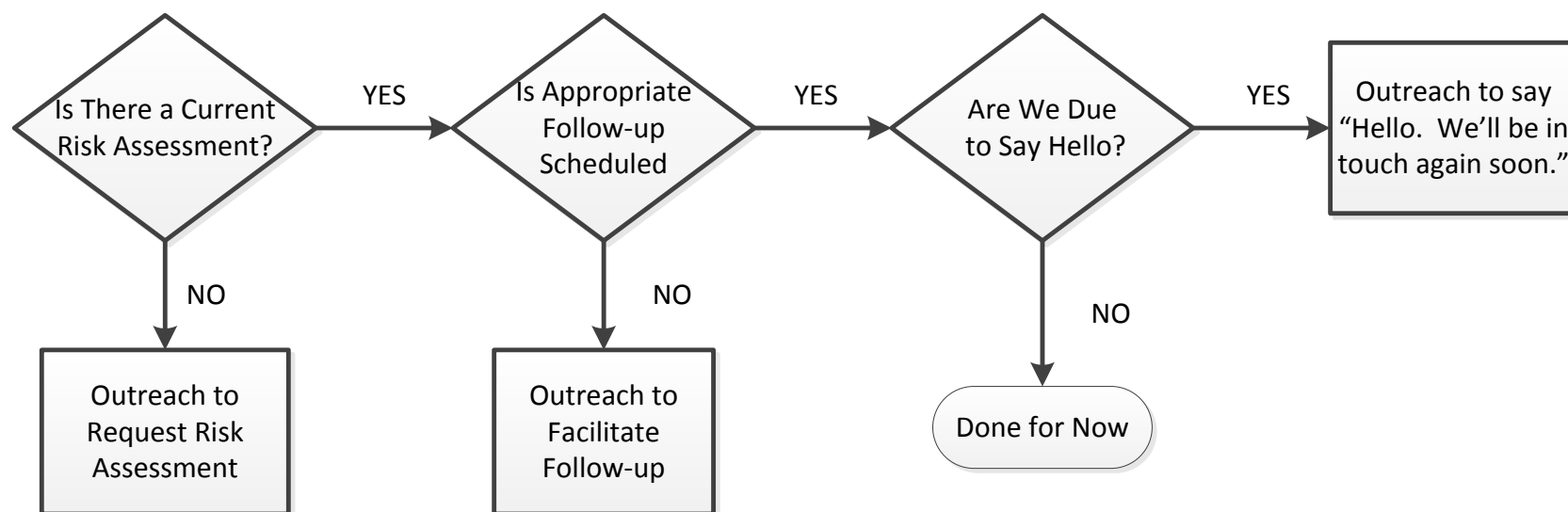
# Integrating functions in EHR







# For every participant every day:



Fortunately, algorithms don't get bored



# Implemented via Epic Registry and Reporting Workbench functions:

GHC Production - MPE BHS

Epic

UpToDate Print Secure Log Out

RACM Study Patients (CSSRS)

RACM Study Patients (CSSRS) x Behavioral Health Dashboard Personal - GHC MyEpic Dashboar... Communications and Training

**In Basket Glance**

Show only new messages

Letter Queue Letters My Open Encounters (24) Patient Call

Pt Secure Msg (12) Rx Authorization Staff Message Transcriptions (1)

Refresh as of: 12:30:00 PM

**All CM patients**

|        |  |
|--------|--|
| 103502 |  |
| 107485 |  |
| 112827 |  |
| 163539 |  |

Count unique values

Report completed: Fri 4/24 12:30 PM

Refresh View Report

**Manual Follow-up Schedule**

| Snooze until            | Patients |
|-------------------------|----------|
| Overdue                 | 0        |
| This week               | 2        |
| Next week               | 0        |
| Week after next or more | 2        |
| <b>Total count</b>      | <b>4</b> |

Report completed: Fri 4/24 12:30 PM

Refresh View Report

**Urgent Outreach**

|                  |          |
|------------------|----------|
| Urgent Outreach? | Patients |
| Urgent Outreach  | 0        |

Report completed: Fri 4/24 12:30 PM

Refresh View Report

**Arrange Follow-up**

|                    |          |
|--------------------|----------|
| Arrange follow-up? | Patients |
| Arrange follow-up  | 2        |

Report completed: Fri 4/24 12:30 PM

Refresh View Report

**Send Risk Assessment**

|                      |          |
|----------------------|----------|
| Send assessment?     | Patients |
| Send Risk Assessment | 0        |

Report completed: Fri 4/24 12:30 PM

Refresh View Report

**Send Hello**

|             |          |
|-------------|----------|
| Send Hello? | Patients |
| Send Hello  | 2        |

Report completed: Fri 4/24 12:30 PM

Refresh View Report

**Anniversary patients**

|                                    |          |
|------------------------------------|----------|
| Eligibility Date                   | Patients |
| 1 year or "older"                  | 0        |
| Between 11 months and 1 year "old" | 0        |

**All Candidate patients**

|        |   |
|--------|---|
| 100527 | 1 |
| 105319 | 1 |
| 110975 | 1 |
| 111066 | 1 |
| 114102 | 1 |
| 120137 | 1 |
| 130070 | 1 |
| 134428 | 1 |

Report completed: Fri 4/24 12:30 PM

Refresh View Report More

**Invites Due**

| Invite Due         | Patients |
|--------------------|----------|
| 2nd invite due     | 5        |
| <b>Total count</b> | <b>-</b> |

Report completed: Fri 4/24 12:30 PM

Refresh View Report

**Invite Reminders Due**

| Rmnldr Due         | Patients |
|--------------------|----------|
| Reminder 2 due     | 1        |
| Read               | 1        |
| <b>Total count</b> | <b>-</b> |

Report completed: Fri 4/24 12:30 PM

Refresh View Report

**Declined or withdrawn and high CSSRS score**

No instance of this report is ready to view

Report: RACM CSSRS Patients - Declined Candidates (no views)

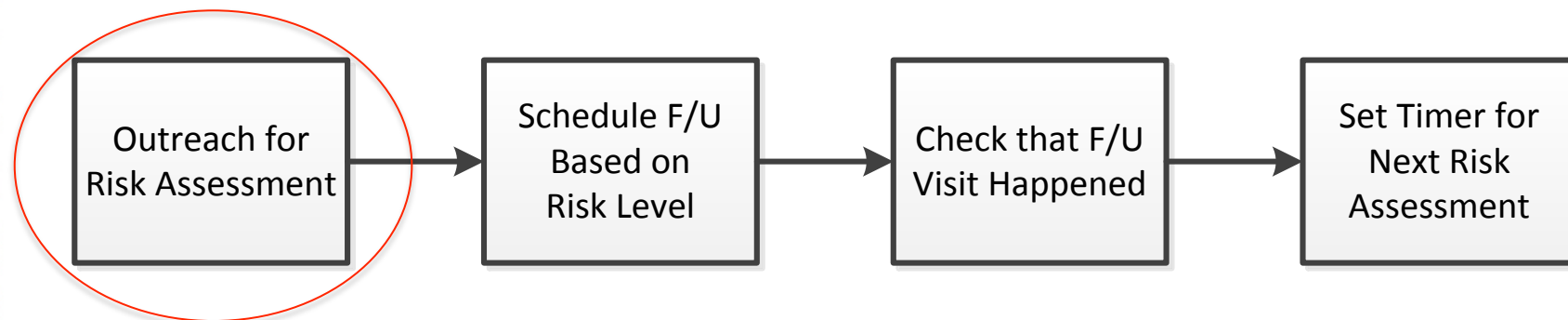
Refresh as of: 07:58:25 AM Run Report

GREGORY SIMON Rx Authorization CC'd Charts My Open Encounters Patient Call Pt Secure Msg Staff Message Transcriptions

12:31 PM



# Original plan for quality monitoring

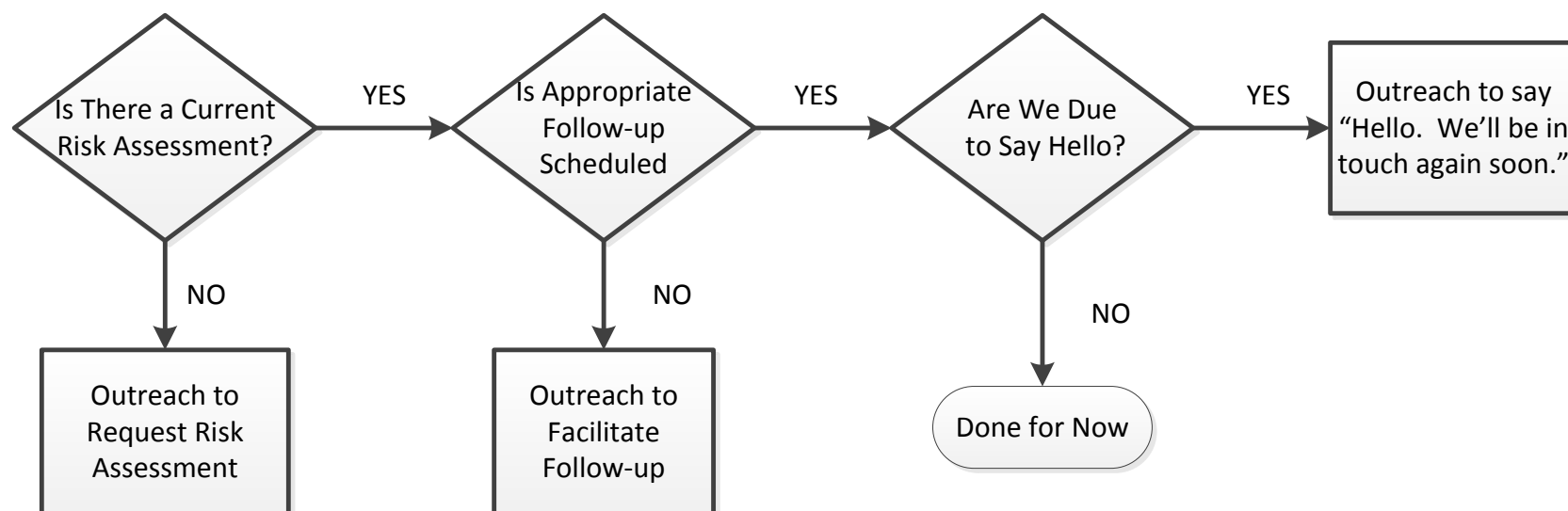


Every contact cycle starts with a risk assessment

Quality/fidelity metric: % of assessments >30 days past due



# But what's the performance metric for this?





## Skills Training program goals:

- Outreach and non-specific support
- Training in specific emotion-regulation skills shown to mediate effect of full-scale Dialectical Behavior Therapy
- Personalized encouragement from online coach



## **Skills Training technical requirements:**

- Deliver multimedia content
- Individualized pathways through content
- Support rules-based outreach and feedback
- Address health system privacy/security concerns
- Integration with usual mental health treatment

# No single solution meets all requirements:

Website

- Deliver multimedia content
- Individualized pathways
- Rules-based outreach and feedback
- Privacy/security concerns
- Integration with usual treatment

EHR Portal



## **Skills Training hybrid system:**

DatStat content management system:

- Deliver multimedia content
- Support individualized pathways
- Rules-based prompts to coach

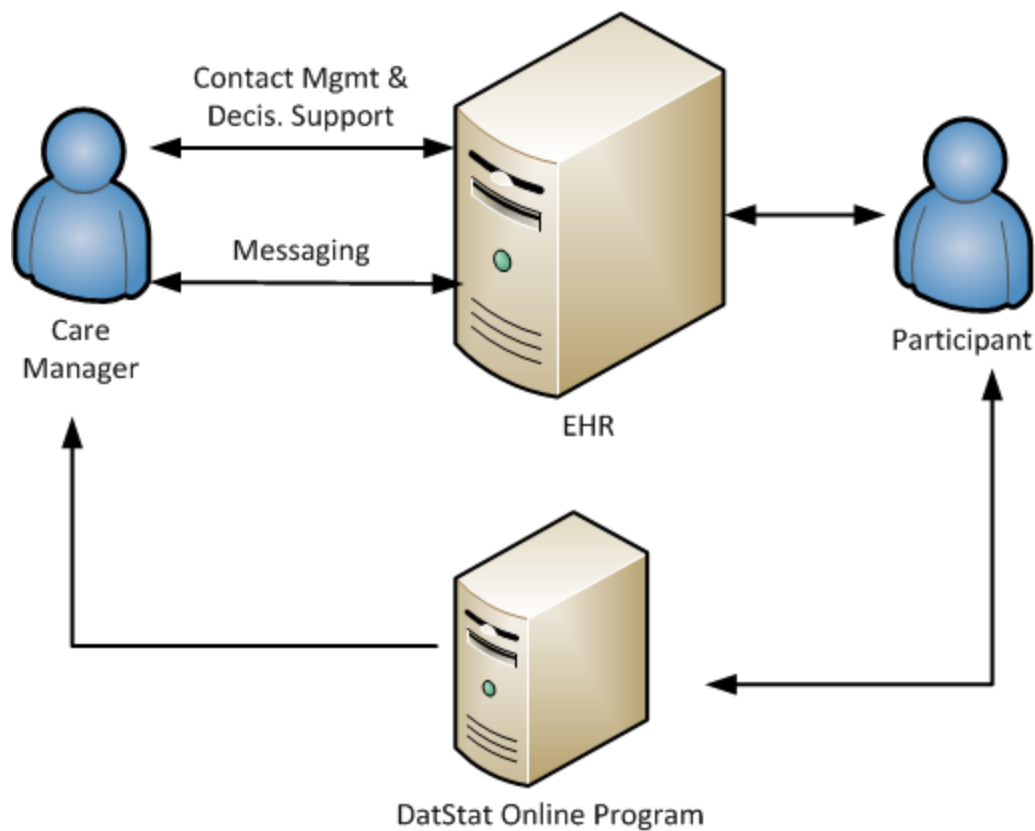
Epic patient portal:

- Outreach and feedback messages to participants
- Integration with usual mental health treatment



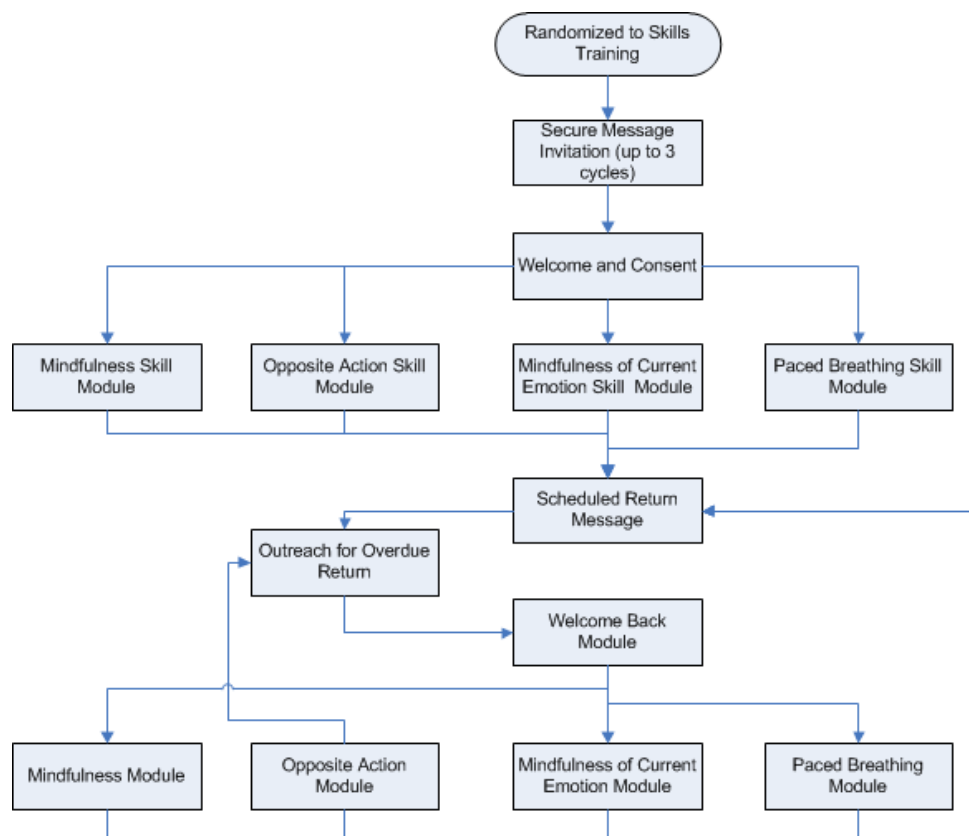


# Hybrid system to support skills training



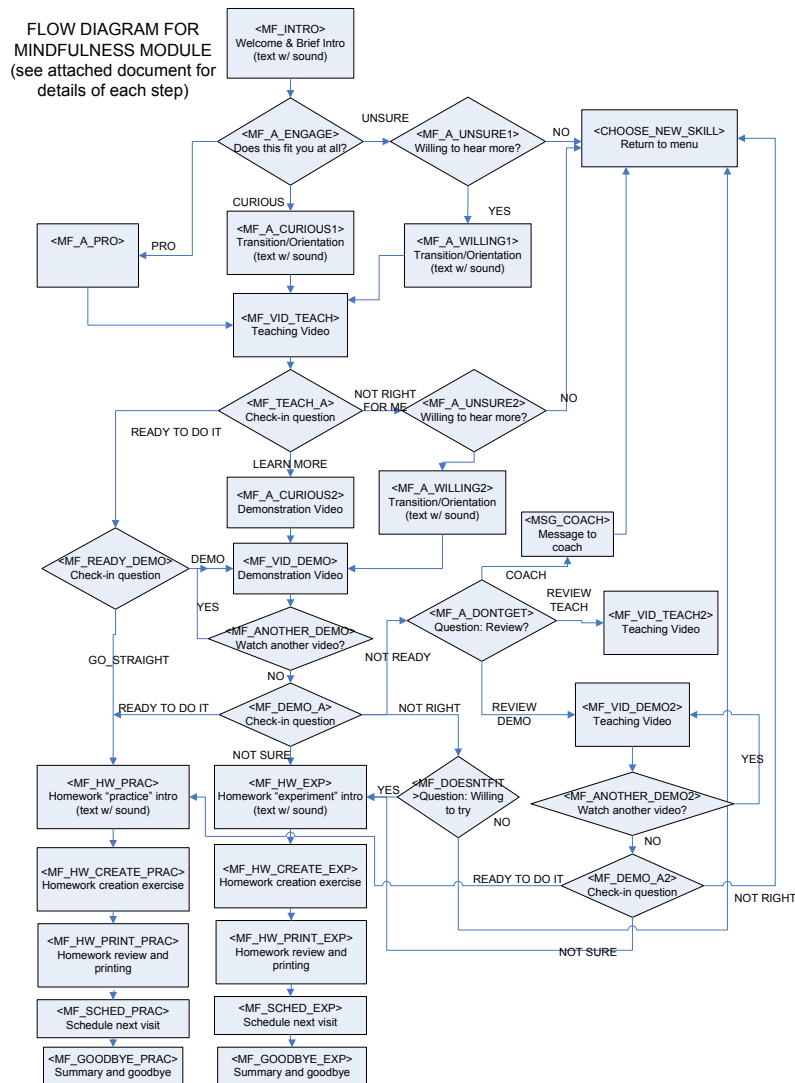


# Modular structure of overall program:





# Common structure for skills modules:





# Implemented via Epic Registry and Reporting Workbench functions:

GHIC Production - MPE BHS

Epic

Appts | Schedule | Quick Appt | In Basket | Staff | Chart | Encounter | Patient Lists | Dual-Pane Sched

UpToDate | Print | Secure | Log Out

DBT study patients

RACM Study Patients (CSSRS) | Behavioral Health Dashboard | Personal - GHIC MyEpic Dashboar... | Communications and Training | DBT study patients x

**In Basket Glance**

Show only new messages

Letter Queue | Letters | My Open Encounters (24) | Patient Call  
Pt Secure Msg (12) | Rx Authorization | Staff Message | Transcriptions (1)

Refresh as of: 12:34:12 PM

**All DBT enrolled patients**

|        |  |
|--------|--|
| 105263 |  |
| 111473 |  |
| 114081 |  |
| 129143 |  |
| 139625 |  |
| 147247 |  |
| 148749 |  |
| 159918 |  |

Report completed: Fri 4/24 12:34 PM

Refresh View Report More

**Manual Follow-up Schedule**

| Snooze until            | Patients |
|-------------------------|----------|
| Overdue                 | 0        |
| This week               | 0        |
| Next week               | 0        |
| Week after next or more | 1        |

Report completed: Fri 4/24 12:34 PM

Refresh View Report

**Anniversary patients**

| Eligibility Date     | Patients |
|----------------------|----------|
| 11 months or "older" | 0        |

Report completed: Fri 4/24 12:34 PM

Refresh View Report

**All DBT Candidate patients**

|        |   |
|--------|---|
| 109359 | 1 |
| 125256 | 1 |
| 138247 | 1 |
| 148910 | 1 |
| 163472 | 1 |
| 166725 | 1 |
| 167196 | 1 |
| 178182 | 1 |

Report completed: Fri 4/24 12:34 PM

Refresh View Report More

**Invites Due**

The data source returned no results.

Report: DBT Skills Training - Candidates (no views)

Report completed: Fri 4/24 12:34 PM

Refresh View Report

**Invite Reminders Due**

The data source returned no results.

Report: DBT Skills Training - Candidates (no views)

Report completed: Fri 4/24 12:34 PM

Refresh View Report

GREGORY SIMON Rx Authorization CC'd Charts My Open Encounters Patient Call Pt Secure Msg Staff Message Transcriptions

12:35 PM



## What about “nonspecific support”?

On the one hand:

- Evidence for effectiveness of “caring message” interventions
- Experience with persistent telephonic and secure messaging outreach interventions

On the other hand:

- Very heterogeneous needs – both between and within people
- Fear of intrusive or even coercive interventions



## Example language from invitation message



I am a clinical social worker from the Group Health Research Institute. I am working with Group Health mental health and primary care providers to test a support program for people who may be having thoughts about suicide or about hurting themselves. We care about you, and we want to make sure you get the help you need. A new online program called Now Matters Now was designed to give you that help when you need it. The program uses real people to teach specific skills for coping with difficult times.

If you are willing to try this program, click [here](#) to find out more.



## Reducing the chances of getting it all wrong

- Partnering with people with lived experience of suicidal ideation and self-harm
- Careful choice of language (borrowing extensively from Motivational Interviewing)
- (For DBT skills program) Extensive use of first-person content



**And that's why we decided to call it  
SPOT**







# **It's a collaborative effort (we need algorithms and puppies)**

## What computers do well

- Remember
- Apply specific rules
- Deliver information reliably

## What people do well

- Identify exceptions
- Communicate
- Care