

# Enabling Chronic Disease Care through Health IT

**Dean Schillinger, MD**

UCSF Professor of Medicine

Director, UCSF Center for Vulnerable Populations,

San Francisco General Hospital

Chief, Diabetes Prevention and Control; CA Dept of Public Health



# Current team (partial list)

**Margaret Handley MPH PhD\***

**Olin Lau NP**

**Alison Lum PharmD**

**Urmimala Sarkar MPH MD\***

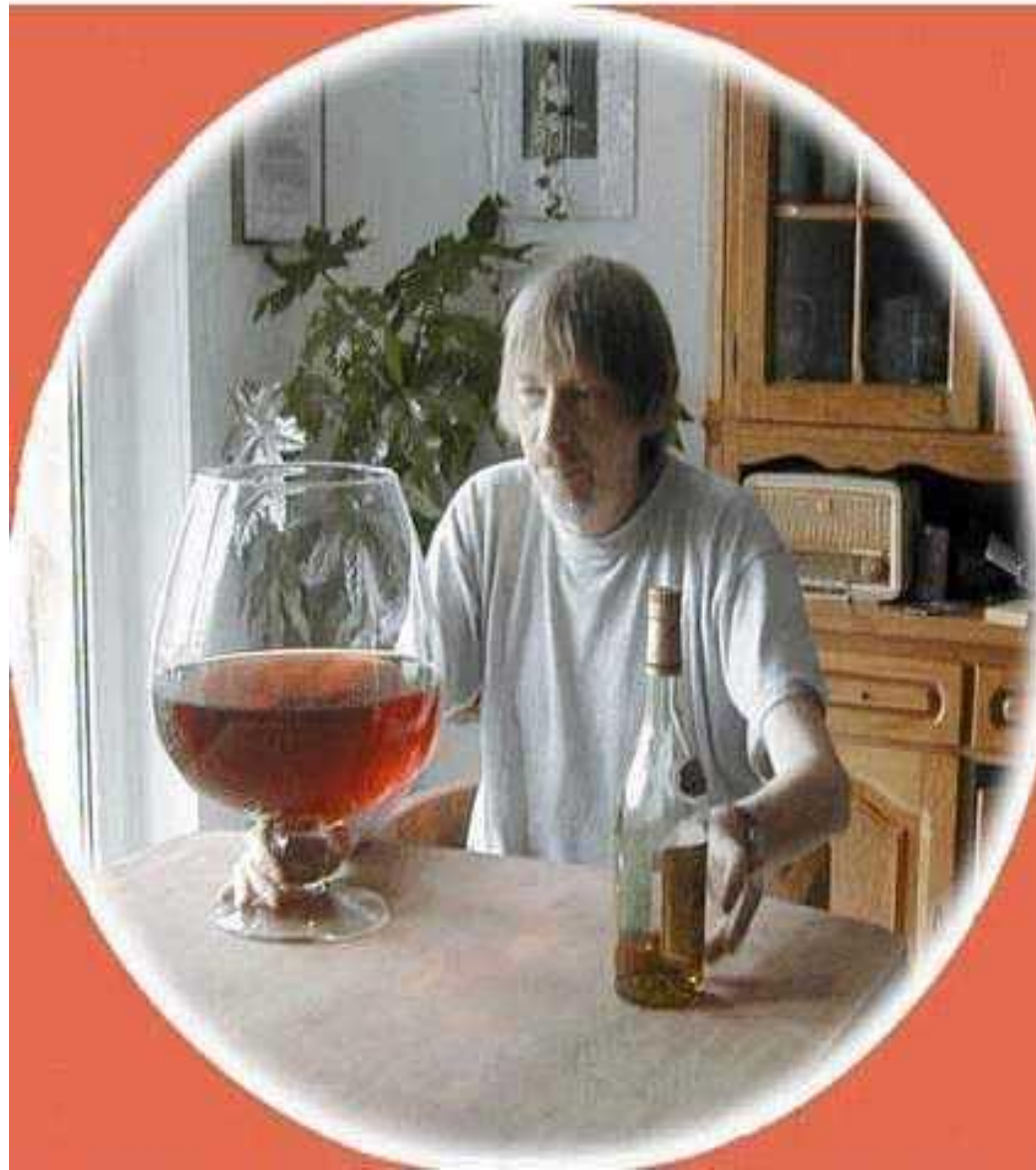
**Dean Schillinger, MD\***

**Catalina Soria\***

**Stanley Tan**



My Doctor said "Only 1 glass of alcohol a day". I can live with that.



# IDEALL Project:

## *Improving Diabetes Efforts Across Language and Literacy*

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EL PROYECTO DE SALUD IDEALL

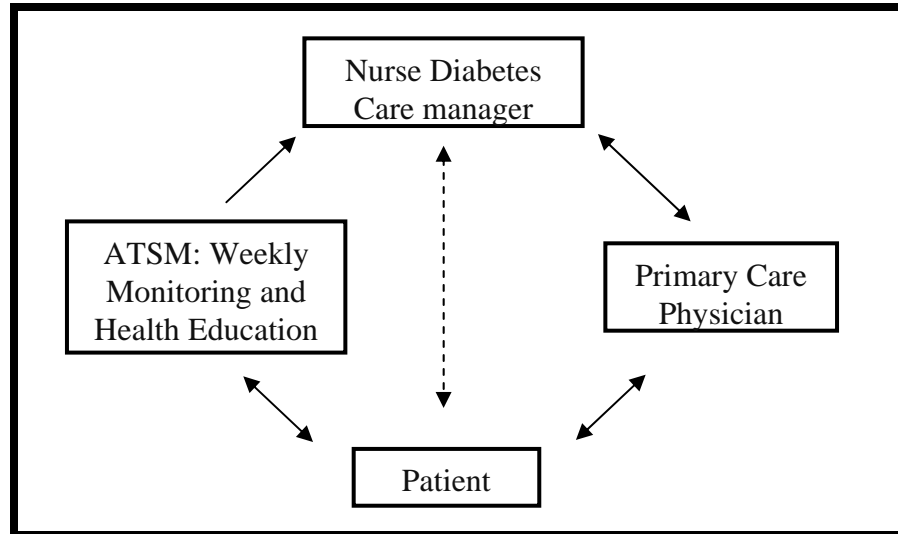
理想健康計劃

IDEALL HEALTH PROJECT

- **Community Health Network of SF/DPH**
- **AHRQ**
- **CMWF, TCE, CHCF**

# Automated Telephone Diabetes Self-Management (ATSM)

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- Interactive health technology, touch tone response
- Weekly surveillance & health education (39 weeks=9 mos)
- In patients' preferred language (English, Spanish or Cantonese)
- Generates weekly reports of out of range responses
- Live phone follow-up through a bilingual nurse ->**behavioral action plans**

# Key Findings of IDEALL Program

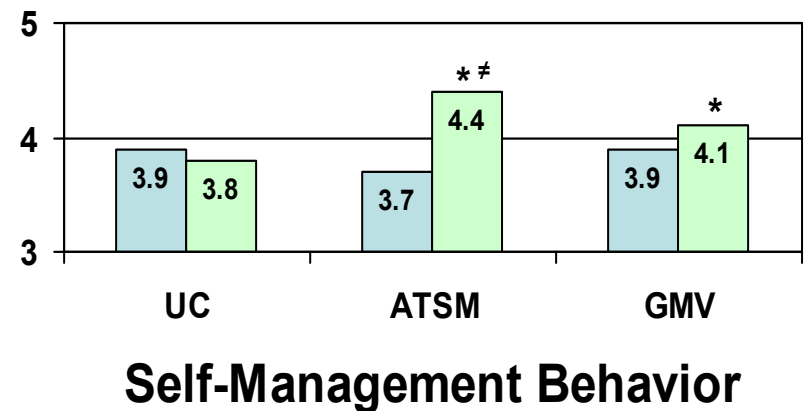
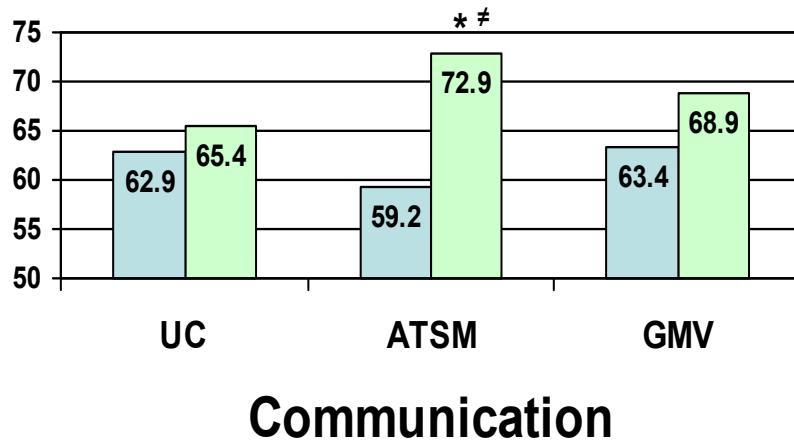
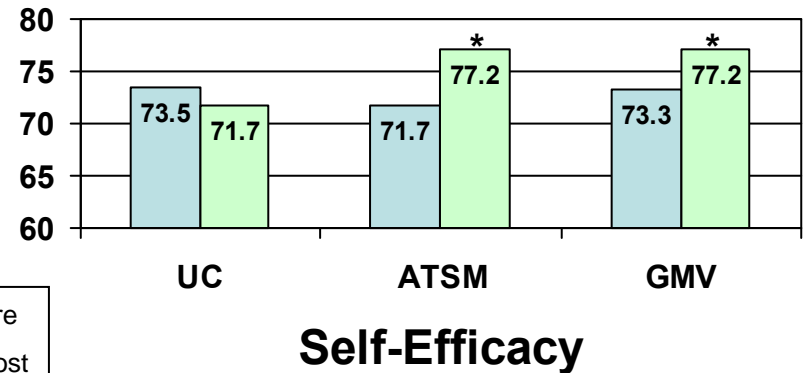
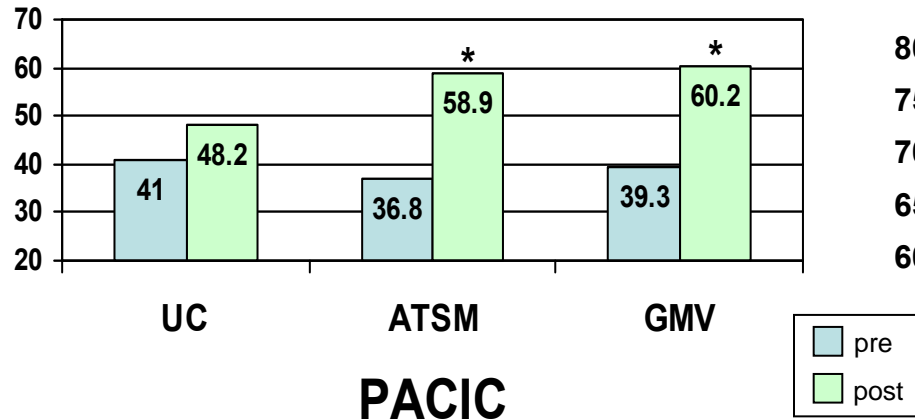
## Estimating Public Health “Reach” of Programs

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### Composite reach product

	<u>ATSM</u>	<u>GMV</u>
■ Overall	22.1	4.8
■ English	20.0	6.4
■ Chinese	22.0	2.7
■ Spanish	24.3	4.0
■ Adequate Literacy	15.6	7.6
■ Limited Literacy	28.0	3.6

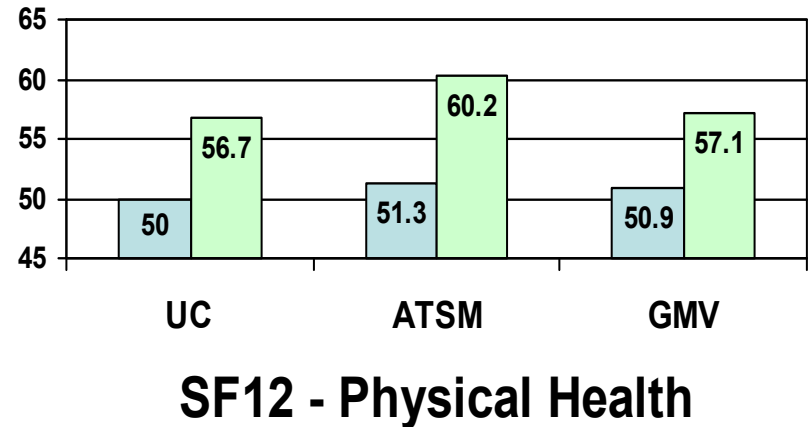
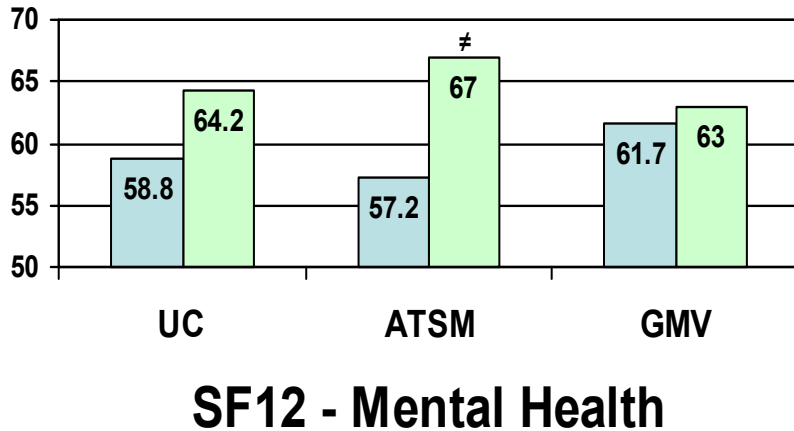
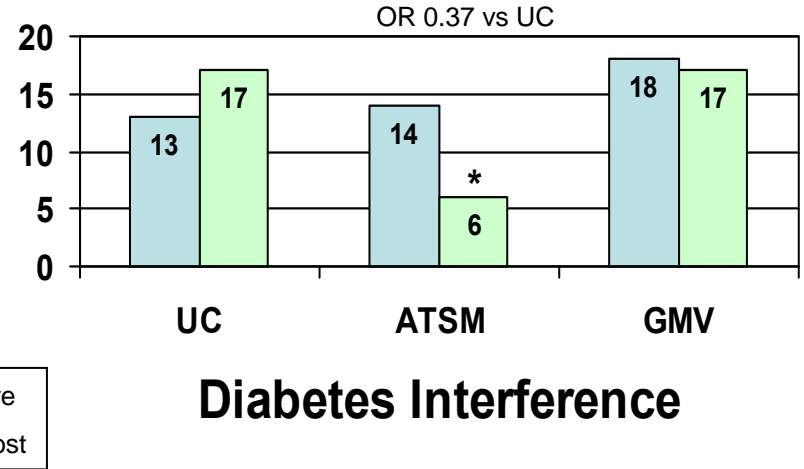
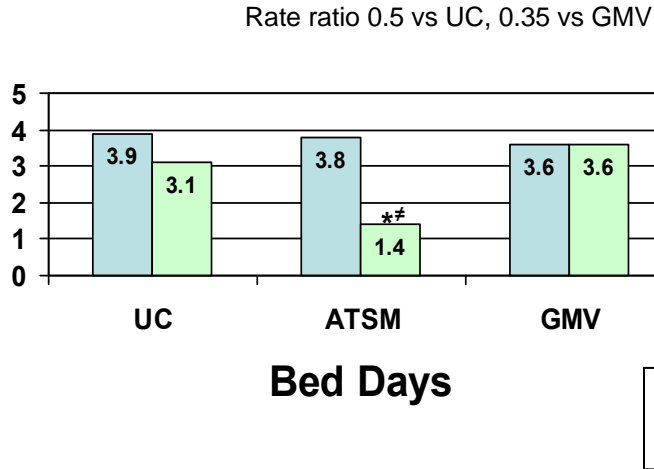
# Results: Structure and Process Measures



\*P<.05.

Schillinger, in press Diabetes Care

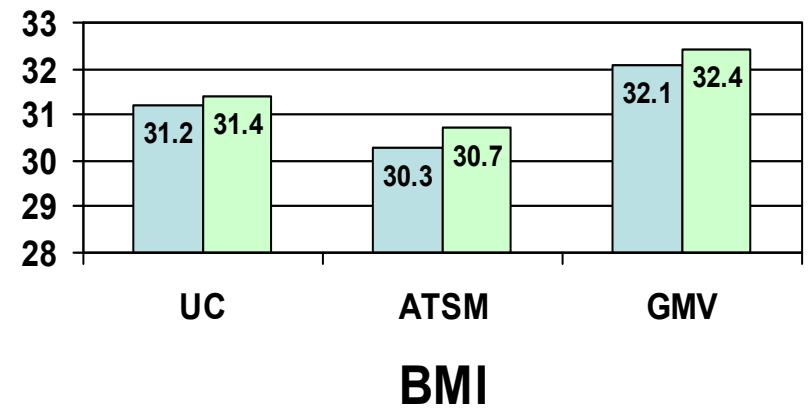
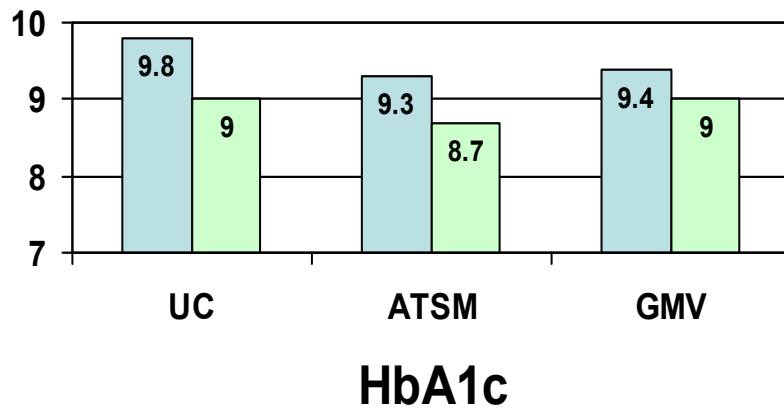
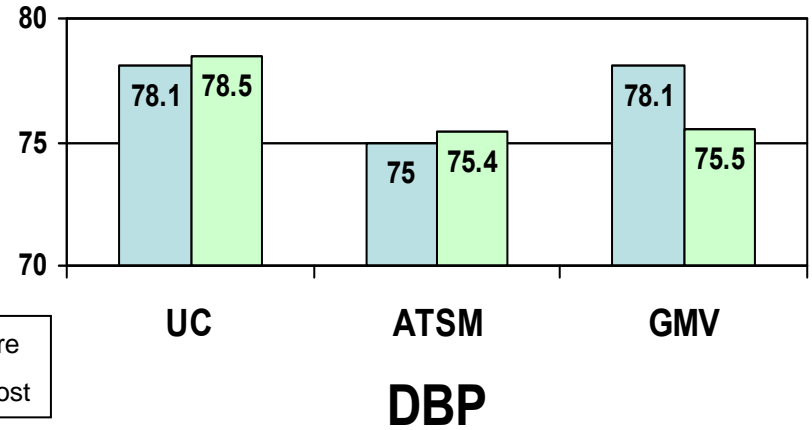
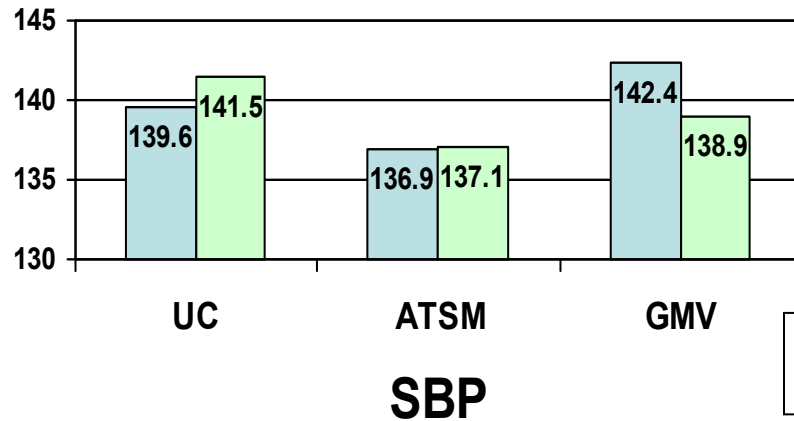
# Results: Functional Outcomes



\*P<.05



# Results: Physiologic Outcomes



# ATSM as Surveillance Tool?

ATSM Data

**Automated Completed Calls**

**Patient-Nurse  
Encounters**

***CONSENSUS***

**AE**

**PotAE**

**No event**

Medical  
Record

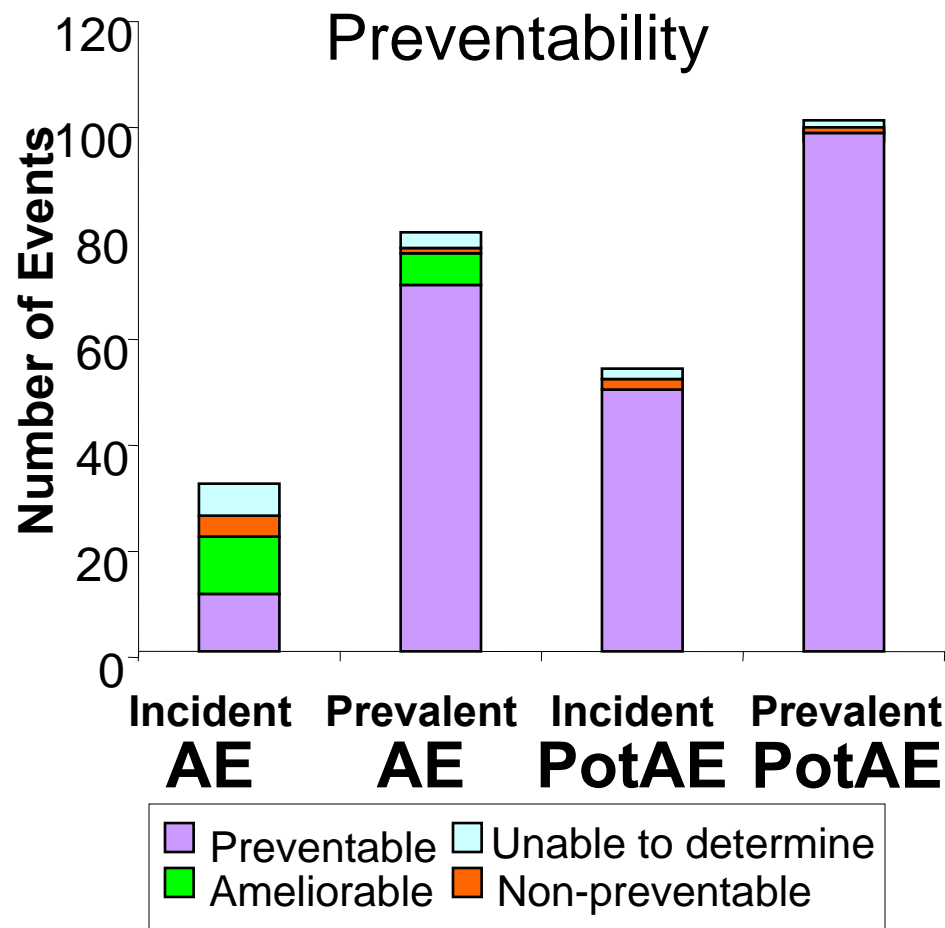
**Classification**

**- Preventability**

**- Primary Provider Awareness**

# Automated telephony provides safety surveillance function

- 111 participants, 54% inadequate health literacy
- 264 events among 93 participants (86%)
- 111 AE's and 153 PotAE's



# Clinician Survey Findings

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- Responses from 87 of 113 (77%) physicians who cared for 245 of the 330 (74%) patients (mean, 2.8 per physician).
- Compared to UC, patients exposed to ATSM were perceived as more likely to be **activated** to create and achieve goals for chronic care (standardized effect size, ATSM vs. UC, +0.41,  $p=0.05$ ).
- Over half of physicians reported that ATSM helped overcome 4 of 5 common barriers to diabetes care
- Physicians rated **quality** of care as higher among patients exposed to ATSM compared to usual care (OR 3.6,  $p=0.003$ ), and compared to GMV (OR 2.2,  $p=0.06$ )
- The majority felt ATSM should be **expanded** to more patients with diabetes (88%)
- a technology-facilitated SMS model was particularly effective for their patients and practice settings, suggesting that such programs should be disseminated and implemented more widely.

# Health System Findings: Cost-Effectiveness; Health Plans

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- Based on functional improvements, we estimated that the cost per QALY for ATSM was:
  - >\$65,000 for both set-up and ongoing costs
  - >\$ 32,000 for ongoing costs only
- Cost effectiveness could be further improved with (a) scaling up or (b) metabolic outcomes improved
- A large majority of CA Medicaid health plans reported an interest in employing ATSM-like technology

# Key Findings of IDEALL Program

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- Reach significant, especially for lower literacy, non-English speaking, Medi-Cal, uninsured.
- Interactive health technology improves patient –centered care, health behaviors, functional status and promotes safety, due to
  - proactive nature
  - heirarchical logic
  - communication tailoring
- For physiologic effects to be achieved, need medication intensification
- Health plans and clinicians favorably inclined
- Probably too difficult for individual clinics to implement



*"My question is: Are we making an impact?"*



# Current Project

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- Partner with a local Medicaid health plan: San Francisco Health Plan
  - SFHP care managers will make ATSM response calls
- Test effectiveness when implemented in ‘real-world’
- Compare ATSM-ONLY with ATSM-PLUS (medication activation)
- ATSM-PLUS involves merging pharmacy claims data with ATSM data to enable care manager counseling

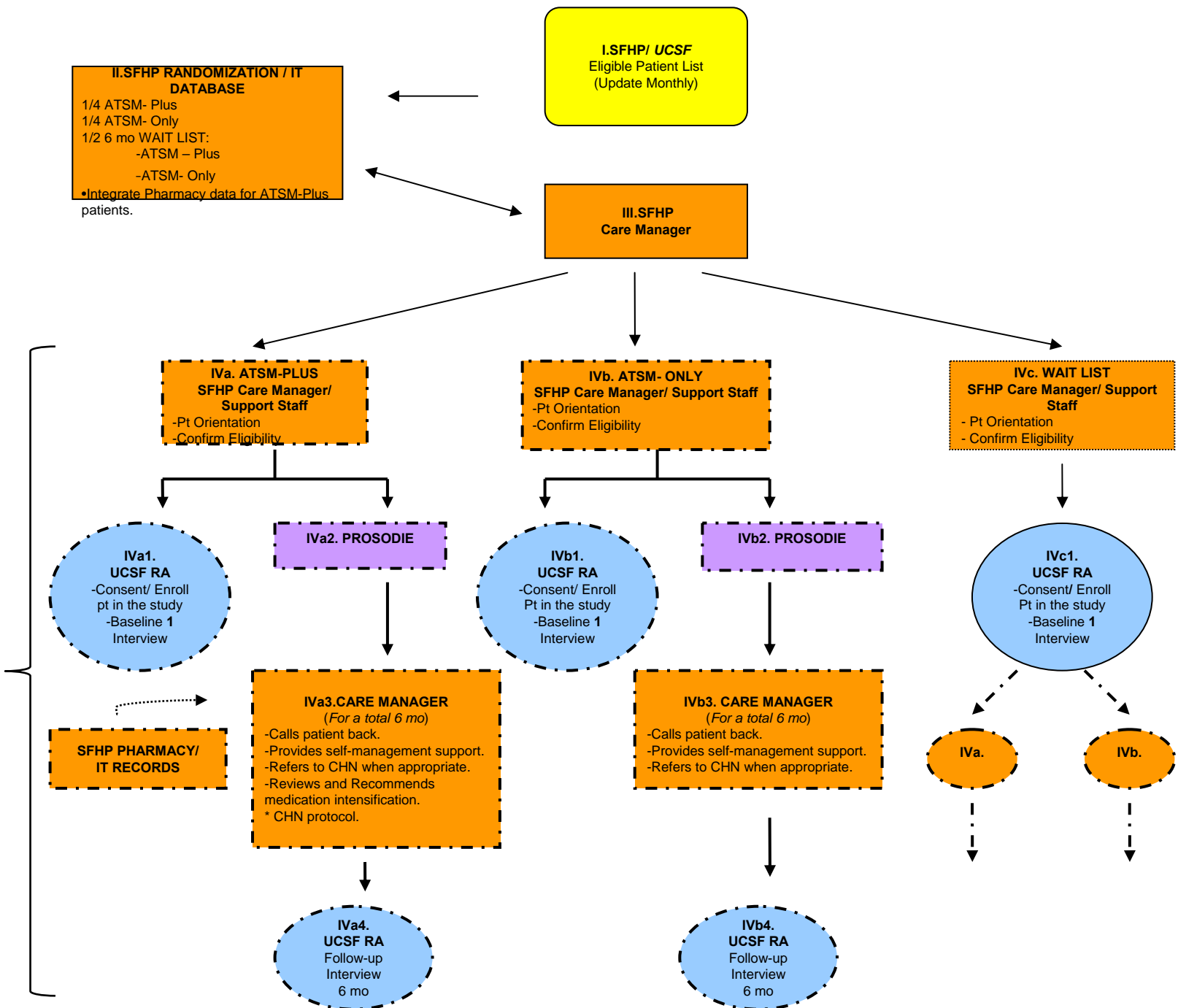




# Design and Outcomes

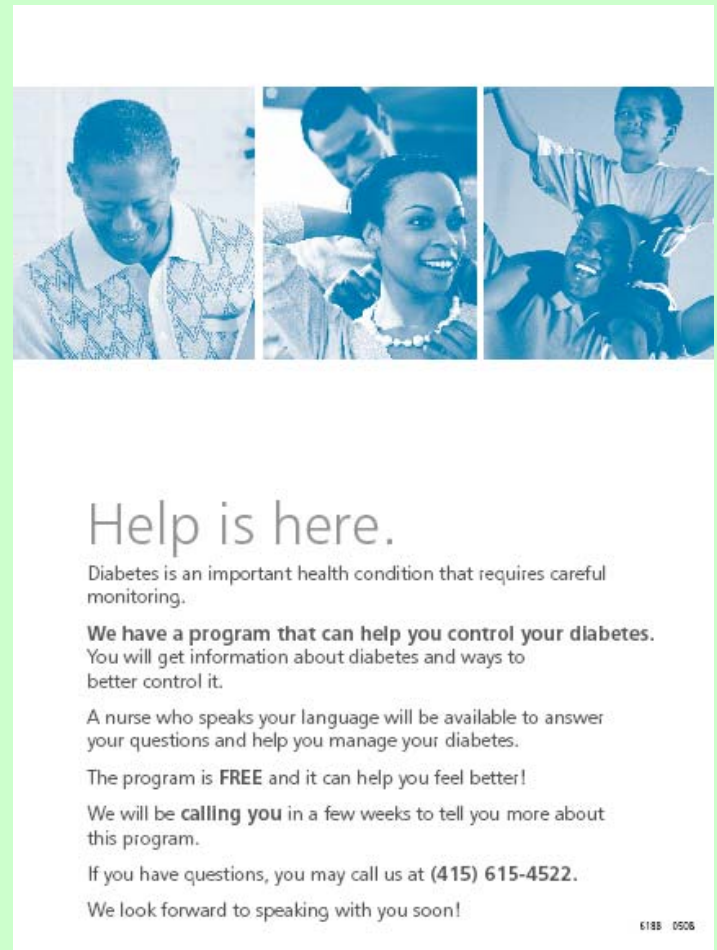
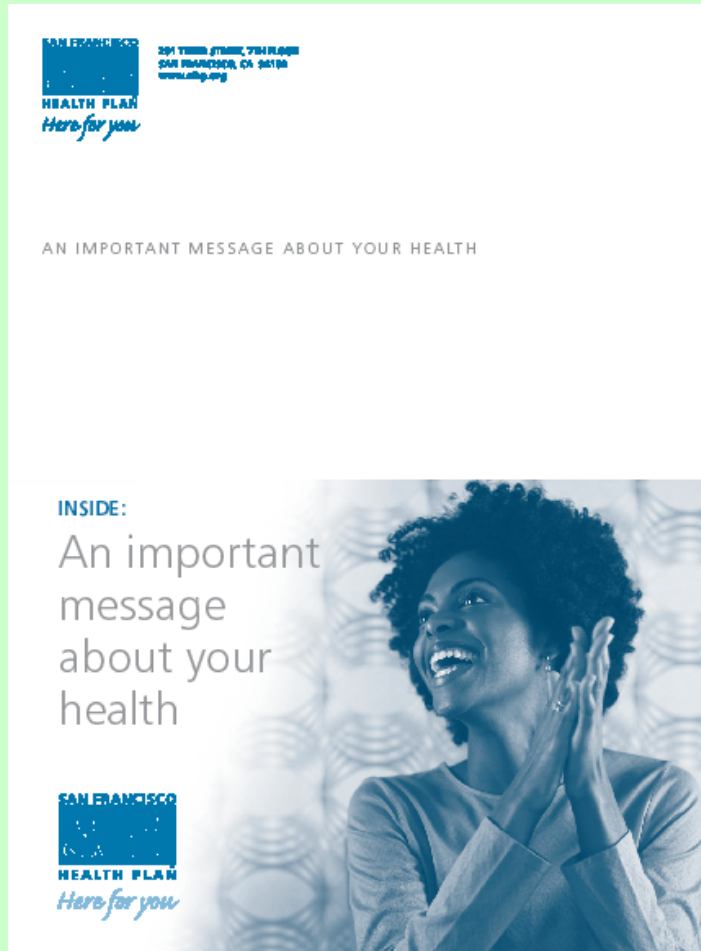
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- Wait List Design, with randomization among exposed participants. Total N=260
- Outcomes (wait-list vs. ATSM vs. ATSM-Plus):
  - communication
  - behavior
  - functional status
  - metabolic indicators
  - patient safety (prevalence and root causes)



# SFHP Pre- Enrollment Post Card

## *English*



# Spanish

**SAN FRANCISCO**  
HEALTH PLAN  
*Here for you*

201 THIRD STREET, SUITE 400  
SAN FRANCISCO, CA 94104  
www.sfhp.org

AN IMPORTANT MESSAGE ABOUT YOUR HEALTH  
Un mensaje importante acerca de su salud

**INSIDE:**  
An important message about your health

**ADENTRO:**  
Un mensaje importante acerca de su salud

**SAN FRANCISCO**  
HEALTH PLAN  
*Here for you*

## Help is here.

Diabetes is an important health condition that requires careful monitoring.

**We have a program that can help you control your diabetes.** You will get information about diabetes and ways to better control it.

A nurse who speaks your language will be available to answer your questions and help you manage your diabetes.

The program is **FREE** and it can help you feel better!

We will be **calling you** in a few weeks to tell you more about this program.

If you have questions, you may call us at **(415) 615-4522**.

We look forward to speaking with you soon!

## La ayuda esta aqui.

La Diabetes es un estado de salud importante que requiere monitoreo cauteloso.

**Tenemos un programa que puede ayudarle a controlar su diabetes.**

Usted recibira información sobre la diabetes y la mejor manera de controlarla.

Una enfermera quien habla su idioma estara disponible para contestar sus preguntas y ayudarle a controlar su diabetes.

¡ El programa es **GRÁTIS** y puede ayudarle a sentirse mejor!

Estaremos **llamandole** en unas semanas para decirle más sobre este programa.

Si usted tiene preguntas, puede llamarnos al **(415) 615-4522**.

¡Esperamos hablar con usted proximente!

# Cantonese



201 TUNN STREET, 7TH FLOOR  
SAN FRANCISCO, CA 94104  
www.sfp.org

AN IMPORTANT MESSAGE ABOUT YOUR HEALTH  
有關您的健康的重要訊息

INSIDE:

An important  
message  
about your  
health

內文：  
有關您的健康  
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If you have questions, you may call us at **(415) 615-4522**.

We look forward to speaking with you soon!

## 我們可為您提供協助。

糖尿病是一種嚴重疾病，需要密切監控病情。

**我們提供一項可協助您控制糖尿病的計劃。**  
您將獲得有關糖尿病及如何更好地控制病情的資料。

本計劃將安排一位能夠講您的語言的護士解答您的疑問，並協助您控制糖尿病。

本計劃完全免費，並有助於您改善健康！

我們將在幾週內致電閣下，告訴您有關本計劃的詳情。

如有疑問，請致電 **(415) 615-4522**。

我們期待儘早與您交談！

# SFHP Wallet-Size Card

## *English, Spanish and Cantonese*

**Diabetes Program**

Help is here!



**Important Contact Information**

(415) 615-4522 San Francisco Health Plan  
Diabetes Project Nurse

(877) 273-6027 Toll free weekly call in

(415) 206-3696 UCSF Research Team

6188 0608

**Programa para la diabetes**

¡La ayuda está aquí!

Información de contacto importante



**(415) 615-4522** Enfermera del Proyecto de  
Diabetes del Plan de Salud de  
San Francisco

**(877) 273-6027** Número gratuito para llamadas  
semanales

**(415) 206-3696** Equipo de investigación  
de UCSF

6188 0608

**糖尿病計劃**

我們可為您提供協助。



**重要聯絡資料**

(415) 615-4522 糖尿病計劃護士

(877) 273-6027 每週免費電話

(415) 206-3696 UCSF 研究團隊

6188 0608

# Care manager field

Microsoft Access - [WACAY Last Update: 7/31/2008 6:29:08 AM]

File Edit View Insert Format Records Tools Window Help

**SAN FRANCISCO HEALTH PLAN**

ALL  Caller: Susi Denom: Diabetes ATSM Project Language: English Name: Adriana Lumbreras

Switch Board

Member Info  
 Member Profile  
 ATSM Trigger/Mgr Act

Call Date: 07/18/2008 Next Appt: 01/18/2009  
Exclusion: (Enora)  
Call Status: Voice Message  
Outcome:  
Flags:  
Note: Record 1 of 6  
7/18/08 1st attempt to reach mbr is not successful. Left generic msg on VM.

Length of Call:

09/02/2008 09/02/2008

**ATSM Trigger: Please Check All That Apply**

Out of Range Value Fill in Value  
 Patient Requests Call Back Reason  
 Care Manager Initiated Call Reason

**Other Triggers (Claims Data): Check All That Apply**

Labs Not Checked in the Past 12 Months HbA1c Yes Lipid Panel No Urine Microalbumin Yes  
Screening not Performed as Indicated Ophthalmology Yes Other  
 Medications not Filled at Pharmacy x 3 Months Write in Meds

**Conseling / Education This Call (Check All That Apply):**

Diabetes Basics  Smoking  Exercise  
 Glucose Monitoring  Medication Review  Pain Control  
 Nutrition  Foot Care  Sick Care  
 Sexual Function  Depression  Coping/Stress Reduction  
 Hyperglycemia Symptoms  Hypoglycemia Symptoms  Other

**Referrals This Call (Check All That Apply):**

Eye Care  Nutritionist  Smoking Cessation  
 Exercise Group  Podiatry  Social Worker  
 Stress Reduction  Mental Health  Urgent Care  
 Primary Care Provider

Length of Call:

Record 1 of 1

Susi 9/2/2008 11:36:03 AM

# Potential Safety Event

Microsoft Access - [WACAY Last Update: 7/31/2008 6:29:08 AM]

Tahoma 10 B I U

File Edit View Insert Format Records Tools Window Help

**SAN FRANCISCO HEALTH PLAN**

ALL  Caller:  Denom:  Language:  Name:

Switch Board

Member Info

Member Profile

ATSM

Call Date:  Next Appt:

Exclusion: ( Enora )

Call Status:

Outcome:

Flags:

Note: Record 1 of 6

7/18/08 1st attempt to reach mbr is not successful. Left generic msg on VM.

Length of Call:

Safety Issue

Sugar < 60 .....  Trigger  Elicited/Reported Glucose

Sugar > 300 .....  Trigger  Elicited/Reported Glucose

Needs CVD/DM Medications Refill .....  Trigger  Elicited/Reported

Could not Get Meds at Pharmacy.....  Trigger  Elicited/Reported

Not Adhered to CVD/DM Meds >4/7days ....  Trigger  Elicited/Reported Medications

Not Know Meds Name/Instructions .....  Trigger  Elicited/Reported

Not Checking Sugars .....  Trigger  Elicited/Reported

Needs Glucometer .....  Trigger  Elicited/Reported

Needs Strips .....  Trigger  Elicited/Reported

Having Pain or Symptom .....  Trigger  Elicited/Reported

Needs Medical Appointment .....  Trigger  Elicited/Reported

Other Safety Issue Reason .....  Trigger  Elicited/Reported Explain

No Safety Issue

Length of Call:

Record 1 of 2      **Safety**

Susi 9/2/2008 11:37:12 AM



# Safety event assessment

Microsoft Access - [WACAY Last Update: 7/31/2008 6:29:08 AM]

File Edit View Insert Format Records Tools Window Help

San Francisco Health Plan

ALL  Caller: [Susi] Denom: [Diabetes ATSM Project] Language: [English] Name: [Adriana Lumbreras]

Switch Board

- Member Info
- Member Profile
- ATSM [Safety Protocol]

Call Date: Next Appt:  
[07/18/2008] [01/18/2009]

Exclusion: ( Enora )

Call Status:  
[Voice Message]

Outcome:

Flags:

Note: Record 1 of 6  
7/18/08 1st attempt to reach mbr is not successful. Left generic msg on VM.

Length of Call:

09/02/2008 09/02/2008

Describe The Safety Problem:

**Care Manager Completed Actions:**

Clinic Nurse Contacted: Name   Live Telephone Call  Email  Voicemail  Faxed Note

PCP Contacted: Name   Live Telephone Call  Email  Voicemail  Faxed Note

Arranged Visit (  Office Visit  Urgent Care Visit  ED Visit  911 )  Contacted Pharmacy

**Care Manager PLANNED Actions:**

Follow Up Call to Patient Within 1 Week  Other

**Please Answer The Following Questions About The Safety Problem:**

What Caused The Safety Problem?

How PREVENTABLE Was This Safety Problem?

- Preventable: Could have been avoided, judged to be a result of an error, or system flaw, or patient action/inaction
- Ameliorable: Severity could have been substantially reduced with different actions or procedures
- Nonpreventable, Nonameliorable
- Unable to determine

What Degree of HARM Occurred?

- None
- Lab Abnormalities Only (Excluding blood sugar)
- Was Hospitalized
- Had Emergency Visits
- 1 Day of Symptoms Describe Symptoms
- Several Days of Symptoms Describe Symptoms

Was PCP aware of safety problem at the time of your call?

Record 1 of 1

9/2/2008 11:37:24 AM



# Current Plans and Challenges

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- Delays in implementation, successes in IT
- Initiate outreach and enrollment 9/08
- Overcome Member inertia/barriers to enrollment
- Develop MOUs with clinics for enrollment and coordination of care
- Finalize protocols re medication intensification/adherence promotion
- Finalize/shorten pre and post-questionnaires