

## Elderly Suicide Prevention

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## Learning objectives of this talk

- Be aware of suicide risk among elders
- Know about effective suicide prevention programs for elders
- Be able to select appropriate initiatives to implement in your own communities and states to prevent elder suicides

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## Suicide epidemiology: US

- Over 30,000 suicide deaths per year in US  
– 11 deaths/100,000 pop. yearly
- About half a million suicide attempts recognized per year
- 11<sup>th</sup> leading cause of death overall (2000)
- 3<sup>rd</sup> leading cause of death of 15-24 y.o.
- 2<sup>nd</sup> leading cause of death of 25-37 y.o.
- Overall, suicide rates declining since 1950s but substantially increasing among subgroups

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# Leading causes of death, US

10 Leading Causes of Death, United States  
2000, All Races, Both Sexes

Rank	Age Group											
	<1	1-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65+	All Ages
1	Cardiovascular 1,714	Cardiovascular 1,714	Cardiovascular 1,714	Cardiovascular 1,714	Cardiovascular 1,714	Cardiovascular 1,714	Cardiovascular 1,714	Cardiovascular 1,714	Cardiovascular 1,714	Cardiovascular 1,714	Cardiovascular 1,714	Cardiovascular 1,714
2	Stroke 1,687	Stroke 1,687	Stroke 1,687	Stroke 1,687	Stroke 1,687	Stroke 1,687	Stroke 1,687	Stroke 1,687	Stroke 1,687	Stroke 1,687	Stroke 1,687	Stroke 1,687
3	Accidents 1,687	Accidents 1,687	Accidents 1,687	Accidents 1,687	Accidents 1,687	Accidents 1,687	Accidents 1,687	Accidents 1,687	Accidents 1,687	Accidents 1,687	Accidents 1,687	Accidents 1,687
4	Chronic 1,687	Chronic 1,687	Chronic 1,687	Chronic 1,687	Chronic 1,687	Chronic 1,687	Chronic 1,687	Chronic 1,687	Chronic 1,687	Chronic 1,687	Chronic 1,687	Chronic 1,687
5	Diabetes 1,687	Diabetes 1,687	Diabetes 1,687	Diabetes 1,687	Diabetes 1,687	Diabetes 1,687	Diabetes 1,687	Diabetes 1,687	Diabetes 1,687	Diabetes 1,687	Diabetes 1,687	Diabetes 1,687
6	Alcohol 1,687	Alcohol 1,687	Alcohol 1,687	Alcohol 1,687	Alcohol 1,687	Alcohol 1,687	Alcohol 1,687	Alcohol 1,687	Alcohol 1,687	Alcohol 1,687	Alcohol 1,687	Alcohol 1,687
7	Respiratory 1,687	Respiratory 1,687	Respiratory 1,687	Respiratory 1,687	Respiratory 1,687	Respiratory 1,687	Respiratory 1,687	Respiratory 1,687	Respiratory 1,687	Respiratory 1,687	Respiratory 1,687	Respiratory 1,687
8	Heart 1,687	Heart 1,687	Heart 1,687	Heart 1,687	Heart 1,687	Heart 1,687	Heart 1,687	Heart 1,687	Heart 1,687	Heart 1,687	Heart 1,687	Heart 1,687
9	Diabetes 1,687	Diabetes 1,687	Diabetes 1,687	Diabetes 1,687	Diabetes 1,687	Diabetes 1,687	Diabetes 1,687	Diabetes 1,687	Diabetes 1,687	Diabetes 1,687	Diabetes 1,687	Diabetes 1,687
10	Diabetes 1,687	Diabetes 1,687	Diabetes 1,687	Diabetes 1,687	Diabetes 1,687	Diabetes 1,687	Diabetes 1,687	Diabetes 1,687	Diabetes 1,687	Diabetes 1,687	Diabetes 1,687	Diabetes 1,687

Source: CDC

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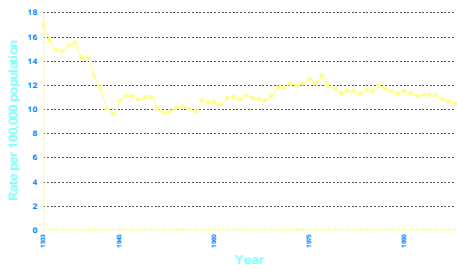
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# Suicide rates United States, 1933-1998



Source: Natl. Center for Health Statistics  
Age-adjusted to 1940 U.S. population

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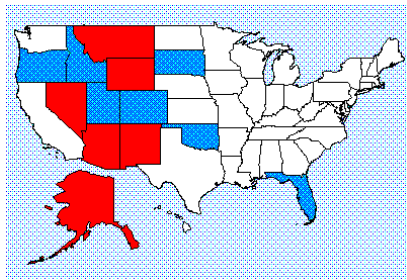
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# Suicide rates: 1989-1998



**RED:**  
above 90<sup>th</sup>  
**BLUE:**  
Between  
75-90<sup>th</sup>  
percentile  
**WHITE:**  
Under 75<sup>th</sup>  
percentile

Source: CDC

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## Elderly suicide epidemiology: US

- Although elderly comprise only about 13% of US population, over 20% of suicides are completed by those >65 years (elderly)
- Suicide is 15th leading cause of death of elderly
- Among elderly, suicide risk greatest for those >80 years
- Suicide rates are steadily increasing among the elderly and are projected to continue upward as the population ages

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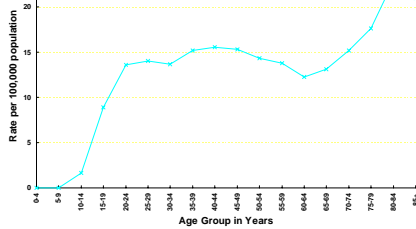
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## Suicide rates among all persons by age--United States, 1998



Source: Natl. Center for Health Statistics

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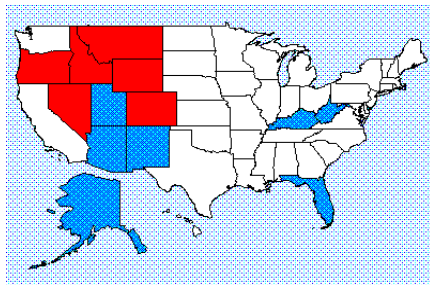
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## Elderly suicide rates: 1989-1998



Source: CDC

**RED:**  
above 90th  
Percentile  
**BLUE:**  
Between  
75-90th  
percentile  
**WHITE:**  
Under 75th  
percentile

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## Suicide epidemiology: US, gender and race

- Higher suicide attempts among women (3:1)
- Higher suicide completion among men (4:1)
- White men complete 72% of all suicides in US (2000); white men and women complete about 90% of all suicides (2000)
- Highest rates among Native Americans (13.6), whites (12.9), Japanese Americans (9.1), Chinese Americans (8.3), and blacks (5.7)

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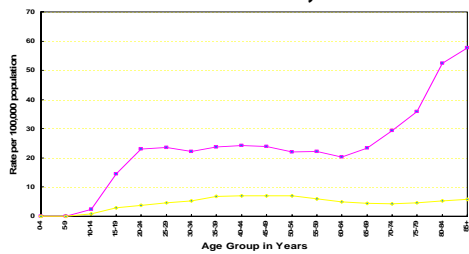
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## Suicide rates by age group and sex-- United States, 1998



Source: Natl. Center for Health Statistics

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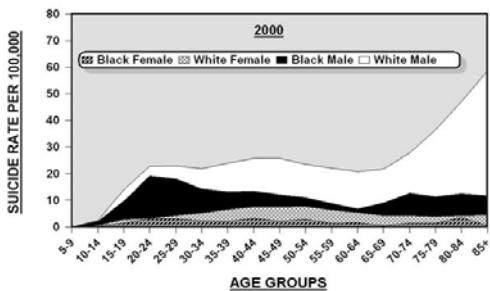
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## Suicide epidemiology: US



Source: National Institute of Mental Health  
Data: Centers for Disease Control And Prevention, National Center For Health Statistics

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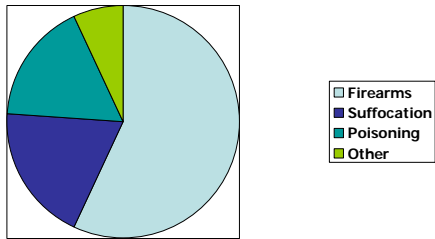
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## Suicide method: US, 1998



Source: CDC

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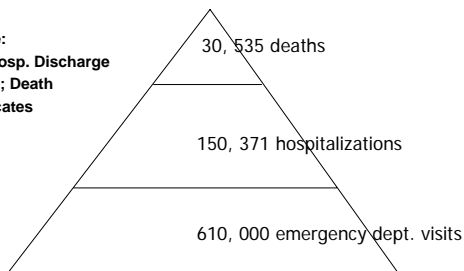
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## Self-directed violence: US, 1997

Source:  
Nat'l Hosp. Discharge  
Survey; Death  
Certificates



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## Individual risk factors

- Male: 4x higher suicide completion
- White race and Native American
- Black race: historically protective but increasing rates among young black men
- Access to firearms (60% of suicides)
- Social isolation
- Comorbid psychiatric illness (esp. depression)

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### Individual risk factors: elderly

- Account for 20% of completed suicides
- Compared with younger counterparts
  - Higher lethality of attempts
  - Greater proportion of late-onset, first-episode unipolar major depression
  - Social isolation
  - Physical illness
- Missed opportunities in clinical settings
  - About 75% have contact with physician within month of suicide

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### Suicide prevention: world

- Rates vary widely among countries
  - Hungary: 40 per 100,000; Greece: 3.8 per 100,000
- In 1989, WHO recommended that member states take action
  - Recognize problem as public health priority
  - Develop national preventive programs
  - Establish national coordinating committees
- Nations leading in comprehensive approach: Finland, Norway, Sweden, Australia

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### 1993 UN/WHO Guidelines for national strategies for suicide prevention

- Government policy
- Model
- General aims and goals
- Measurable objectives
- Monitoring and evaluation

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### National US Suicide Prevention Strategy (NSPS): overview

- First US national strategy to reduce the burden of self-directed violence, injury and death

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### National US Suicide Prevention Strategy (NSPS): overview

- Goals
  - Prevent premature deaths due to suicide across the lifespan
  - Reduce the incidence of other suicidal behaviors
  - Reduce the harmful after-effects of suicidal behaviors and the traumatic impact of suicide on significant others
  - Promote opportunities and settings to enhance resiliency, resourcefulness, respect, and interconnectedness for individuals, families, and communities

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### NSPS: evolution

- 1998: National Suicide Prevention Conference (Reno)
- 1999: Surgeon General Satcher's *Call to Action to Prevent Suicide*
- 2000: Creation of NSPS Federal Steering Group
- 2001: Publication of NSPS Goals and Objectives

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## Advancing a National Strategy for Suicide Prevention

- An innovative public/private partnership
  - U.S. Department of Health and Human Services (CDC, HRSA, SAMHSA, NIMH, IHS, and the Office of the Surgeon General)
  - Suicide Prevention Advocacy Network
  - Private foundations and corporations



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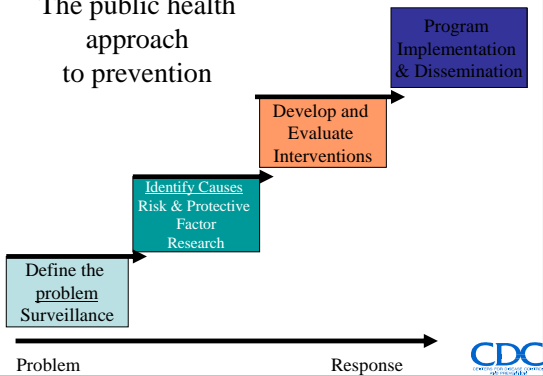
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### The public health approach to prevention



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### Advancing the National Strategy for Suicide Prevention: AIM to prevent suicide

**Awareness:** Broaden public awareness of suicide and its risk factors

**Intervention:** Enhance services and programs, both population-based and clinical care

**Methodology:** Advance the science of suicide prevention



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Populations selected for advancing the  
National Strategy for Suicide  
Prevention

- Youth
- Elderly
- Medically ill
- Mentally ill
- African-American youth
- Latino youth
- Gay, Lesbian, Bisexual, & Transgender
- Native Americans/Alaskan natives



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Intervention: clinical care,  
preventing suicide

"To most of those who have experienced it, the horror of depression is so overwhelming as to be quite beyond expression, hence the frustrated sense of inadequacy found in the work of even the greatest artists...If our lives had no other configuration but this, we should want, and perhaps deserve, to perish; if depression had no termination, then suicide would, indeed be the only remedy. But one need not sound the false or inspirational note to stress the truth that depression is not the soul's annihilation; men and women who have recovered from the disease-and they are countless-bear witness to what is probably its only saving grace: it is conquerable."

William Styron

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Definition of depression

- Diagnostic criteria for major depression
  - 5 of 9 symptoms present for 2-week period:  
**depressed mood, sleep disturbance, anhedonia, psychomotor retardation, hopelessness, fatigue, impaired concentration, anorexia, suicidality**
- Dysthymia
- Depression Not Otherwise Specified (NOS)
  - Atypical depression
  - Minor depression
  - Mixed anxiety/depressive states

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## Epidemiology of depression

- Common illness
  - Prevalence: 2 to 4% of general US population
  - Incidence in US: 19 million/year
  - Lifetime risk for men: 7 to 12%
  - Lifetime risk for women: 20 to 25%

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## Burden of depression

- Loss of productivity
- Increased morbidity
- Increased mortality
- Worsened health status
- Increased costs and health care utilization
- High rate of chronicity and relapse

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## Treatment of depression

- Majority are treated in primary care
  - Second most common condition treated there (1<sup>st</sup> is hypertension)
- Prevalence in medical settings
  - Outpatient primary care: 5 to 10%
  - Medical inpatient: 10 to 15%
- Antidepressant treatment
- Cognitive and behavioral psychotherapy

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### How is depression different in the elderly?

- Prevalence is not different (2-6%, higher in hospitalized)
  - Of 35 million elderly in US, about 2 million have major depression
- Higher comorbid physical illness
- More refractory to treatment
  - In general population, guideline-based treatment results in 60-80% response, in elderly, 30-50% response
- Higher relapse and recurrence

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### Problems in depression care

- Under-diagnosis
  - At least 50% under-recognized in primary care
- Under-treatment
  - About 40% of primary care patients stop using medications within first month
  - Suboptimal dosing of antidepressants
  - Inadequate follow-up

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### Improving quality of depression care

- Clinical best-practice depression guideline dissemination and implementation
  - Agency for Healthcare Research and Quality
  - American Psychiatric Association
  - Veterans Health Administration (VHA)
- Quality improvement research
  - Collaborative care
  - Clinical care monitoring and feedback

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## Improving depression recognition

- New USPTF recommendation for depression screening in primary care settings with established systems for treatment and follow-up
- Not yet a new USPTF recommendation for suicide risk screening
  - 1996 recommendation: insufficient evidence for routine screening in primary care practices
- 2-item depression screeners
  - High sensitivity, low specificity
- Similar performance among all, including Geriatric Depression Scale

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## Improving depression treatment

- Low dose, low duration antidepressant therapy of minimal use
- Brief problem-solving psychotherapy in primary care settings demonstrated efficacy for mild/moderate depression
- Severe, functionally-disabling depression requires aggressive multifaceted, interdisciplinary team approaches (disease management)
- Guideline-based depression care markedly improves outcomes for all major depression

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## Improving quality of depression care for elderly

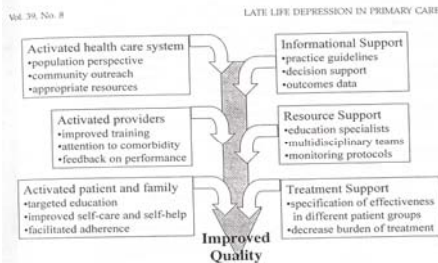


FIG. 1. Quality improvement model for late life depression in primary care. Callahan, *Med Care*, 2001

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## Interdisciplinary approach for elderly depression care: evidence base

- IMPACT trial
- 1801 patients >60 years with major depression (17%), dysthymia (30%), or both (53%)
- 18 primary care clinics of 8 healthcare systems in 5 states
- Intervention (12 months): case manager who facilitated communication between psychiatry and primary care, offered counseling, medication management
- Versus usual care

Untzner et al., JAMA, 288(22), 2002

## IMPACT: results

**Table 3. Depression Care**

	Unadjusted Estimates, No. (%)		Adjusted Analysis for Intervention vs Usual Care*		P Value
	Usual Care	Intervention	OR (95% CI)	I	
Any antidepressant use					
Baseline (past 3 months)	378 (42.21)	391 (43.16)	1.04 (0.86-1.25)	0.306	.70
3-Month follow-up	306 (34.42)	356 (38.82)	2.02 (1.65-2.44)	7.188	<.001
6-Month follow-up	441 (50.28)	618 (66.87)	2.02 (1.60-2.47)	6.967	<.001
12-Month follow-up	697 (77.17)	649 (70.3)	2.03 (1.60-2.57)	5.87	<.001
Any psychotherapy or specialty mental health visit					
Baseline (past 3 months)	69 (7.69)	62 (6.70)	1.23 (0.87-1.73)	1.182	.34
3-Month follow-up	156 (17.78)	402 (43.48)	3.77 (3.02-4.70)	11.77	<.001
6-Month follow-up	110 (12.76)	352 (38.3)	4.47 (3.47-5.77)	11.85	<.001
12-Month follow-up	136 (15.56)	380 (41.2)	4.13 (3.19-5.36)	10.73	<.001
Any use of antidepressant medications or psychotherapy					
Baseline (past 3 months)	404 (45.16)	422 (45.5)	1.00 (0.86-1.16)	0.02	.85
3-Month follow-up	451 (50.67)	695 (77.2)	3.33 (2.68-4.13)	10.00	<.001
6-Month follow-up	478 (54.21)	696 (77.5)	2.93 (2.34-3.67)	9.406	<.001
12-Month follow-up	530 (60.07)	731 (79.25)	2.98 (2.34-3.79)	9.108	<.001
Satisfaction with depression care (satisfactory/very good)					
Baseline	140 (48.96)	164 (52.63)	1.23 (0.88-1.72)	1.102	.34
3-Month follow-up	312 (60.29)	642 (78.58)	3.26 (2.52-4.22)	9.007	<.001
6-Month follow-up	272 (47.42)	597 (75.59)	3.38 (2.66-4.25)	9.983	<.001

\*Mixed effects logistic regression adjusted for recruitment method and study site. OR indicated odds ratio; CI, confidence interval. †Increase in the depression group are mostly accounted for by Primary Care. ‡Treatment in Primary Care. §Satisfaction with depression care was not assessed at 6 months and was only assessed at baseline in participants who reported depression care in the past 3 months (n = 698).

Untzner et al., JAMA, 288(22), 2002

## IMPACT: results

**Table 4. Clinical Outcomes\***

	Unadjusted Estimates, Mean (SD) or No. (%)		Adjusted Analysis for Intervention vs Usual Care†		P Value
	Usual Care	Intervention	Between-Group Difference or OR (95% CI)	I	
BDI-20 depression score (range, 0-6)					
Baseline	4.67 (0.81)	4.68 (0.81)	0.02 (-0.04 to 0.07)	0.993	.95
3-Month follow-up	4.46 (0.86)	3.18 (0.87)	-1.28 (-1.34 to -1.22)	-8.20	<.001
6-Month follow-up	3.21 (0.73)	2.00 (0.67)	-1.21 (-1.26 to -1.16)	-7.49	<.001
12-Month follow-up	1.88 (0.67)	0.88 (0.67)	-1.00 (-1.05 to -0.95)	-11.8	<.001
Overt functional impairment (range, 0-10)					
Baseline	4.98 (2.36)	4.88 (2.46)	0.10 (-0.12 to 0.31)	0.875	.39
3-Month follow-up	4.90 (2.64)	3.90 (2.78)	-0.99 (-1.03 to -0.95)	-6.67	<.001
6-Month follow-up	4.23 (2.67)	3.88 (2.76)	-0.35 (-0.38 to -0.32)	-2.3	.02
12-Month follow-up	3.50 (2.75)	3.38 (2.93)	-0.12 (-0.17 to -0.06)	-6.85	<.001
Overt health of life in last month (range, 0-10)					
Baseline	6.26 (1.86)	6.38 (2.01)	0.12 (-0.17 to 0.40)	0.869	.46
3-Month follow-up	6.74 (2.28)	6.23 (2.17)	-0.51 (-0.57 to -0.45)	-4.617	<.001
6-Month follow-up	6.92 (2.17)	6.23 (2.09)	-0.69 (-0.77 to -0.61)	-3.526	<.001
12-Month follow-up	6.05 (2.13)	6.04 (2.13)	-0.01 (-0.17 to 0.16)	-0.11	.91
Response (at least 50% decrease in BDI-20 depression score and functional impairment)					
Baseline	124 (14.76)	104 (11.4)	2.29 (2.10 to 2.48)	7.63	<.001
3-Month follow-up	272 (30.53)	443 (48.24)	2.21 (1.78 to 2.70)	6.863	<.001
6-Month follow-up	167 (19.02)	388 (44.67)	3.21 (2.43 to 4.15)	10.14	<.001
Complete remission of depression symptoms (BDI-20 score < 10)					
Baseline	80 (2.23)	10 (1.81)	0.67 (0.33 to 1.42)	1.04	.30
3-Month follow-up	44 (4.87)	142 (15.38)	3.62 (3.40 to 3.85)	6.462	<.001
6-Month follow-up	147 (16.89)	270 (30.06)	3.18 (3.00 to 3.37)	6.203	<.001
12-Month follow-up	228 (26.3)	222 (25.07)	3.72 (3.60 to 3.84)	7.81	<.001
Major improvement (BDI-20 < 10)					
Baseline	619 (69.89)	647 (71.4)	1.22 (1.09 to 1.36)	1.81	.38
3-Month follow-up	372 (59.38)	100 (22.14)	0.90 (0.80 to 1.01)	-6.1	<.001

\*BDI-20, Beck Depression Inventory-20; SD, standard deviation. †Mixed effects logistic regression adjusted for recruitment method and study site. ‡Response (at least 50% decrease in the mean BDI-20 depression score, major functional impairment, and health of life). §Complete remission of depression symptoms (BDI-20 score < 10). ¶Major improvement (BDI-20 < 10). ††BDI-20 score of less than 10 at the baseline visit.

Untzner et al., JAMA, 288(22), 2002

### What we have learned from IMPACT

- Collaborative depression care models that have demonstrated efficacy in younger patients are also effective for the elderly
- Costs to be reported in a separate paper but preliminary results demonstrate an intervention cost of \$533/yr/patient
- Potential savings in other arenas? i.e., utilization, mortality, comorbidity, indirect suffering of loved ones, etc.
- Potential impact on suicide?

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### Summary

- Elderly suicide is not part of the natural course of aging
- Elderly suicide is very often the result of untreated depression
- Elderly depression needs to be recognized and treated
- Elderly suicide is different from euthanasia
- All patients expressing a wish to die should be carefully screened for depression and cognitive impairment
- Elderly suicide is preventable

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### Acknowledgments

- Massachusetts Violence Prevention Task Force/Suicide Prevention Working Group
- Samaritans of New York
- Suicide Prevention Resource Center, Education Development Center

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Thank you, any thoughts?



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