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PREVENTING SUICIDE, ATTEMPTED SUICIDE, AND THEIR ANTECEDENTS AMONG MEN IN THE MIDDLE YEARS OF LIFE (AGES 25-54 YEARS)

Executive Summary of a Scientific Consensus Conference developed by the UR Center for the Study and Prevention of Suicide, 11-12 June 2003, Washington, D.C.

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Contexts for Prevention: The greatest burdens of suicide, in terms of potential years of life lost or potential earnings lost, occur among men between 25 to 54 years old, reflecting fundamental demographic characteristics of the population and sustained elevated rates across these years. Yet, the individuals who comprise this broader population generally have received the least attention from many of those who are committed to developing methods of prevention and clinical intervention. Any prevention effort that seeks to develop a high level of effectiveness must give careful attention to those approaches that "capture" large elements of the general population, as well as those who carry especially high risk. Men in the middle years, in particular, will need to be a principal target.

Thus far, the processes for establishing priorities for suicide prevention have been limited by stigma and inaccurate preconceptions compounded by an incomplete examination of available data. While revealing some aspects of the problems, comments about death rates alone (e.g., "the third highest cause of death among 15-24 year-olds" or "elder white men have the highest rate of suicide") only present selective pictures. The number of youth who kill themselves is small in terms of absolute numbers, although death by suicide is especially tragic when it occurs among its youngest victims. Suicide rates are highest among elder white men; while their losses contribute less to years of potential life lost or earnings lost, such suicides ramify through the generations of affected families. Groups of patients with severe and persisting mental disorders, such as schizophrenia and bipolar disorder, often reside outside the view of those who establish spending priorities. Nonetheless, they suffer remarkably elevated rates of suicide, even though the overall numbers contributed to the death toll are relatively less, given their small proportion in the general population. As illustrated in **Figures 1 and 2** (Knox KL, Caine ED. Establishing priorities for reducing suicide and its antecedents in the United States. *Submitted for publication*), men in the middle years contribute most to years of life lost and lost potential earnings. To date, such information has not been used to establish priorities for public health oriented suicide prevention efforts.

To a great extent, the public health model for suicide prevention is being built upon ideas that grow out of other literatures, such as that related to cardiovascular disease (CVD) prevention (Knox KL, Conwell Y, Caine ED. If suicide is a public health problem, what are we doing to prevent it? *American Journal of Public Health* 2004; *94*:37-45). A fundamental lesson for suicide prevention appears to be that changing broadly defined behaviors (e.g., reducing smoking in the workplace as an approach to preventing CVD) depends upon societal and cultural imperatives, while educating and training clinicians in order to deliver care to identified "high-risk" (i.e., highly symptomatic) individuals remains the most promising method of treating those with blatantly manifest biomedical risk factors. Integration of these two approaches is likely to result in the most robust response, since community interventions are usually embraced by "early adopters" (e.g., those who change their lifestyles when new information becomes available), while targeted clinical approaches are necessary to engage "late adopters" who require their physician's strong encouragement to treat their symptoms (Pearson TA, Lewis C. Rural Epidemiology: Insights from a Rural Population Laboratory. *American Journal of Epidemiology* 1998; *148*:949-957). Another critical lesson for suicide prevention derives from *Rose's theorem,* "that a large number of people at small risk may give rise to more cases of disease than a small number who are at high risk," which argues for broadly based approaches to prevention. The theory is straightforward: A population-oriented approach is potentially beneficial because it has an impact on so-called "distal risk factors;" that is, it prevents or minimizes the likelihood that more people will develop a greater number of severe risk factors (e.g., effectively treating alcoholism before someone develops a progressively downhill course unto death). This is an example of a strategy based upon "*developmental epidemiology"* theories (Costello E, Arnold A. Developmental epidemiology:

A framework for developmental psychopathology. In Sameroff A, Lewis M, Miller S, eds. *Handbook of Developmental Psychopathology*, pp 57-73. New York: Kluwer Academic/Plenum Publishers, 2000). Those who go on to kill themselves would still be 'risk-filled' by the time of their deaths, akin to those who die from CVD most often have many antecedent risk factors, but fewer individuals will attain that status. This position is reinforced, in part, by the conclusions of Lewis et al. that exclusive attention to defined high-risk patient groups would have a relatively small impact on overall rates of suicide in the general population (Lewis G, Hawton K, Jones P. Strategies for preventing suicide. *British Journal of Psychiatry* 1997; *171*:351-354). However, it remains to be tested prospectively whether broadly based population-oriented approaches have relevance for suicide prevention. There is a lingering controversy that we expect too much from Rose's theorem, sparked in part by population-based CVD prevention programs that resulted in little or no effect (Carleton RA, Lasater TM, Assaf AR et al. The Pawtucket Heart Health Program: Community changes in cardiovascular risk factors and projected disease risk. *American Journal of Public Health* 1995; *85*:777-785; Farquhar J, Fortmann S, Flora J et al. Effects of communitywide education on cardiovascular disease risk factors. *JAMA* 1990; *264*:359-365; Glasgow RE, Terborg JR, Hollis JF et al. Take heart: results from the initial phase of a work-site wellness program. *American Journal of Public Health* 1995; *85*:209-216; Luepker RV, Murray DM, Jacobs DR et al. Community education for cardiovascular disease prevention: risk factor changes in the Minnesota Heart Health Program. *American Journal of Public Health* 1994; *84*:1383-1393). However, many believe that these differences in efficacy or effectiveness are due to inappropriate identification of populations for interventions, lack of a theoretical framework when developing an intervention, or inadequate evaluation methodology to detect appropriate outcomes (Hohmann A,.Shear KM. Community-based intervention research: coping with the "noise" of real life in study design. *American Journal of Psychiatry* 2002; *159*:201-207). These CVD-related controversies should be considered carefully, as suicide prevention programs too could fail to show efficacy or effectiveness due to the same disregard for any guiding principles.

A complementary view to Rose's theorem presented in the meeting (Caine ED, Knox KL. Unpublished communication, 11 June 2003), dealing specifically with those persons identified as having demonstrably heightened risk, suggests: *When individuals bear multiple risk factors, symptom-treatment alone will be insufficient to definitively reduce their longer term risk*. This argues, for example, that treatment of someone's mood disorder or psychotic symptoms without attention to co-morbid clinical conditions, such as substance abuse or family turmoil, social isolation, repeated treatment non-adherence, or other apparent risk factors that are hypothesized to lay on a causal path toward suicide, ultimately will leave individuals with continuing vulnerability and a heightened probability of future exacerbations and further decline. Among the most important co-morbid conditions, one would include alcohol and substance misuse. Without addressing these effectively, treating psychopathological symptoms deemed in the past to be "primary" (e.g., "he drinks to self-medicate his depression") will likely prove fruitless in the longer term. Antipsychotic or antidepressant pharmacotherapy alone would prove insufficient to reduce suicide or suicidal behaviors. This assertion must be tested prospectively, and the types of design problems it poses may be most amendable to RCT methodologies (Kraemer HC. Current concepts of risk in psychiatric disorders. *Current Opinion in Psychiatry* 2003; *16*:421-430).

With this background in mind, developing the next generation of suicide prevention efforts and evaluating their impact does not depend upon waiting for more fundamental research findings. Rather, it now is plausible to begin these efforts based upon a basic tenet of public health and prevention science, that is, one should work with people before they become fully symptomatic, in this instance, when they are not imminently suicidal. It depends upon identifying potential critical sites for suicide prevention efforts and assessing which populations might best be 'captured' through these venues, including among others, work-sites, mental health and chemical dependency treatment settings, primary medical settings, religious and community programs, the courts and criminal justice sites, as well as state- and Federal-supported program sites (**see Table 1**). It also requires a frank appraisal of who is missed!

Even as one attends to the potential gains made by 'site-oriented approaches,' it remains crucial to continue to focus interventions on those with greatest needs (i.e., high-risk groups). By default, past suicide prevention efforts

largely adopted a high-risk approach focused in clinical settings, specifically targeting those individuals threatening suicide or having a history of deliberate self-harm. Medically based efforts have been directed toward emergency rooms (ERs), intensive care units (ICUs), psychiatry clinics, inpatient services, or the offices of mental health clinicians. They run counter, however, to the sobering conclusion of Lewis et al. that, taken alone, clinically oriented high-risk approaches have a marginal impact on overall suicide rates. Nonetheless, they must be examined and enhanced to achieve a greater degree of effectiveness: Central to this task will be the installation of interventions *earlier* in the course of individual episodes of illness, such that the emergence of a suicidal state is precluded. **Table 2** notes high-risk groups and the sites most likely to serve as points of indicated preventive interventions.

Discussion/Commentary: The meeting participants considered the challenges of developing prevention efforts at 'multiple levels' of action, including the workplace; mental health and substance abuse services; court and criminal justice settings; and community, state, and federal levels.

Workplace/EAP. The challenge for aligning the priorities of preventing suicide, attempted suicide, and their antecedent risk factors with corporate priorities requires a fundamental change in corporate culture and values. Such a change, however, will not be explicitly dependent on generating goodwill or corporate beneficence. Rather it will depend upon establishing a powerful business case regarding the co-incident benefits to companies and to their employees. This will be based upon defining return on investment to the business overall, and generating data regarding the potential savings in health costs and increased productivity associated with lessening the impact of depression and other psychiatric conditions, substance misuse disorders, and problems such as intimate partner violence. In turn there will be both tangible financial gains and positive 'social image.' Taking socially responsible actions can be corporately beneficial, as measured in direct financial outcomes, but it is unlikely that social responsibility alone can be a driving reason for change. Moreover, preventing suicide itself is not likely to be meaningful, given that most companies experience few (if any) suicides among their workers in light of their size. However, understanding that suicide is the most adverse outcome – among many potentially preventable adverse outcomes – can serve to generate a broader understanding of 'prevention targets.'

Such work will require a fundamental change in the current focus of many employee assistance programs (EAPs), which are 'episode driven' like their clinical models. But for suicide prevention – and the prevention of other adverse events or outcomes – the clinical model is most akin to trying to catch someone at the edge of a cliff, or perhaps, after s/he has jumped but survived. (In the 1960s, the first broadly developed programs to reduce cardiac deaths involved the expensive building of hospital-based intensive care units to treat individuals *after* they had suffered myocardial infarctions.) Such a shift in philosophy will necessarily require a drive at the corporate level as well as changes in the overall approach of EAP design nationally. As well, it will work best when tied to early detection/recognition programs integrating the efforts of line-managers and co-workers as well as self-reporting by persons themselves. This type of initiative will require heavy investment in sustainable education and 'wellness' programs, where the corporation and its EAP have a well-thought strategic plan for initial dissemination, continuing exposure, and rigorous monitoring of utility. At another level, EAP and other corporate prevention programs that seek to identify 'near-symptomatic' and other at-risk individuals early in the evolution of problems will face a number of challenges dealing with confidentiality and with other potential ethical concerns. Inevitably, issues associated with stigma will arise, and they will become even more apparent when dealing with individuals suffering full-blown disorders or apparent suicidality.

Mental Health Settings. The population of 'middle years' men in these settings that carries the greatest potential for suicide typically includes individuals suffering severe mental illness (SMI), most often schizophrenia, bipolar disorder, major depression, or in more specialized instances, war veterans with PTSD and its multiple co-morbid conditions. Substance use disorders (SUDs) are very frequent co-morbid conditions; indeed, several studies find that the substance disorders may occur at a higher level than other any specific psychopathological diagnosis such as schizophrenia or depression (e.g., Conwell Y, Duberstein PR, Cox C, Herrmann JH, Forbes NT, Caine ED. Relationships of age and axis I diagnoses in victims of completed suicide: A psychological autopsy study.

American Journal of Psychiatry 1996; *153*:1001-1008). While the general tradition has been to name SUDs as "co-morbid," insufficient data exist to confidently determine 'chicken-and-egg' in many studies, or for many individuals.

Fundamentally many of the issues that confront clinicians and policy makers when dealing with members of the SMI population relate to *how to keep them in treatment* rather than how to treat them when they are fully collaborating in their own care. (The word "non-compliant" frequently is used to describe the behavior of many patients who stop their medications, abuse street drugs, elope from group homes, and fail to maintain contact with their outpatient providers; it is avoided here given its heavy emphasis of control and power, and ample evidence that individual 'buy in' is a key to successful retention.) Thus a substantial amount of therapeutic attention is required to address many of the risk-factors for suicide that reach beyond symptoms *per se*, specifically as captured by the complementary view to Rose's theorem. Moreover, the very tasks that are necessary to enhance suicide-prevention efforts are the same that are required to optimally influence long-term therapeutic outcomes. It is unclear whether treating suicidal behavior should be the primary target for intervention as it has been in studies by Linehan and colleagues when working with women having borderline personality disorder. Nor has anyone used other psychotherapeutic or social learning paradigms to reduce suicidality among SMI populations.

Suicide research related specifically to men in the middle years is virtually non-existent. There are remarkably few controlled studies examining approaches to prevent suicide among SMI patients. Often they are excluded from industry-based randomized controlled trials for schizophrenia, bipolar disorder, or severe major depression. Meltzer and colleagues (Meltzer HY, Alphs L, Green AI et al. Clozapine treatment of suicidality in schizophrenia. *Archives of General Psychiatry* 2003; *60*:82-91) have published one of the few exceptions; outcomes related to attempts were the only data, however, that were collected and it is unclear the applicability of their work to 'real world' settings. Goodwill et al. (Goodwin FK, Fireman B, Simon GE et al. Suicide risk in bipolar disorder during treatment with lithium and divalproex. *JAMA* 2003; *290*;1467-1473) recently published retrospective analyses to argue that lithium reduces the frequency of deaths and attempts compared with divalproex among individuals with bipolar disorder, but this question has not been subject to any prospectively controlled research (and likely will not have industry support, given the generic nature of lithium salts). Additionally, it is unstudied what routine screening of continuing psychiatric outpatients might yield when seeking to detect the early emergence of suicidal ideas, plans, and behaviors. Nor has staff training about "risk factors for suicide" to raise the 'index of suspicion' been tested for any lasting impact, although such programs are common 'in-service' content for promoting suicide prevention in many clinical settings.

Potential approaches to improving the quality of care for SMI patients with respect to their symptoms and their suicidality now are recognized; they can be expensive at first, although they have been shown to later reduce costs for repeated arrests, jail time, emergency department visits and hospitalizations. They will require reorganization and blending of potential funding streams, and their widespread implementation will be based on vision and political will. Moreover, they will need to be designed and evaluated rigorously. At present, the funds and the political leadership seem to be missing, despite the compelling vision expressed most recently in the recommendations of the President's New Freedom Commission on Mental Health.

Chemical Dependency (CD) Treatment Settings. CD treatment settings offer extraordinary opportunities for selective and indicated interventions. Not all CD patients are suicidal, but as a group, they bear very high levels of risk; thus, their 'flow' through CD therapeutic settings offers a 'natural opportunity' for intensive screening and both intervention and referral. Many CD settings, however, screen for neither mood disturbances nor suicidality. Some argue that *everyone* undergoing detoxification or related CD treatment will be 'positive' for depression; moreover, such settings lack the resources to treat all of the clinically depressed people that they would encounter. There is a paucity of research and little practical experience upon which to build at this time.

Nonetheless, it should be the *standard of care* that staff have training on suicide risk assessment, along with a clear understanding regarding how to appraise the level of depression that their clients present, and how to

evaluate severity and personal risk. (Conversely, mental health treatment settings must be able to more effectively detect and treat substance use disorders that occur among the people who use their services.) It will be essential to test the utility of any training programs, thoughtfully evaluating 'process,' 'impact,' and 'outcome' indicators of their utility. Given the focused treatment nature of CD settings, it also may be especially useful to develop for application and evaluation standard 'suicide prevention treatment modules,' all the while recognizing their potential limitations. Ultimately, *there must be communication, mutual rapid access, and integration when necessary, involving chemical dependency and mental health service providers.*

Courts, Criminal Justice, Jails, and Prisons. The criminal and civil court systems present unique opportunities to promote public health oriented efforts to prevent and reduce the psychiatric morbidity and the injurious or fatal outcomes associated with suicidality. Many critical life situations tend to present specifically for adjudication or resolution in the courts, and civil and criminal court appearances often are overwhelming and life-altering experiences for victims and perpetrators, petitioners and respondents. The courts thus provide the opportunity to intervene by providing a mandate (for some cases) or a well-developed referral structure to facilitate access for litigants to an *integrated array of selective and indicated preventive interventions to reduce suicidal behaviors and suicide, and their attendant psychiatric outcomes*. It will be imperative to foster an evolution in the understanding of the roles of courts and to systematically provide new options for preventive and therapeutic interventions. *All recommended programmatic initiatives or new screening tools for use in the criminal justice system should be evaluated in a rigorous fashion prior to widespread or global dissemination.*

Recommendations include: 1) Raise awareness among civil and criminal court personnel regarding suicide, attempted suicide, and their antecedent risk factors. 2) Integrate the disciplines of psychology and psychiatry with law regarding suicide and its risk factors. These efforts will include education of all civil and criminal court personnel including: discretionary decision makers (police, prosecutors, judges); gate keepers (clerks, case managers); offender services (defense attorneys [private and public bar] and pre-trial services); and police and peace keeping officers. Target audiences: Chief Judges Conference, American Bar Association, Defender's Associations, Prosecutor's Associations, Policing Conferences at all levels of command. A variety of universal, selective, and indicated interventions currently are readily feasible, relatively low cost, and amenable to evaluation, using court-based data to assess utility. Ultimately it will be essential to create screening programs and referral networks that foster rapid access to care.

While developing 'in-service' educational programs for court personnel, it also will be essential to prepare texts and casebooks for future educational programs; such work will require integrated efforts involving lawyers and mental health professionals (e.g., psychologists and psychiatrists), written specifically to address the needs of legal personnel. Language must be culturally as well as discipline inclusive. Such work should be distinguished from more traditional forensic mental health programs, as they are not intended to deal with issues such as intent or capacity. Rather they fall under the broad rubric of "therapeutic jurisprudence," where the court in its processes and application of the law serves to enhance the overall well-being of litigants, defendants, and victims.

Ultimately it will be worthwhile to test *court-integrated mental health services* (CIMHS) that assure ready access to care for individuals with urgent care needs. Distinctive from settings such as "drug court" or "mental health court," a CIMHS would provide two to four visits involving a formal clinical 'intake,' careful clinical evaluation, and the initiation of necessary short-term therapeutic interventions. At the same time, the CIMHS should serve as a bridge to traditional mental health or substance abuse treatment settings; its purpose is *not* to provide on-going treatments. Beyond CIMHS, it is crucial to address the needs of the 'alternate mental health system' by increasing the availability for mental health referrals and treatment for those individuals identified as symptomatic of suicidal ideation in criminal justice venues, including jails, prisons, pre-trial services, and probation departments and parole programs. Jails should not be utilized to house or monitor those individuals at-risk for suicide, unless custody was determined based on risk of flight, seriousness of the offense, or other such factors deemed appropriate under state or federal laws mandating custody status.

Community and Faith-based Organizations. Much has been written about building community coalitions for the purposes of fostering effective local change or the development of broad-based prevention programs, particularly as they relate to drug use among youth, reducing pregnancies in unwed mothers, combating cigarette smoking, mitigating risk factors for cardiovascular diseases, and dealing with sexually transmitted diseases, including HIV. However there has been little success to date to address self-harming behaviors or suicide; few recognize that the risk factors for suicide – e.g., psychiatric morbidity, substance misuse, domestic turmoil and violence, problems in work performance – also serve as risk factors for a variety of other problematic outcomes, including homicide, lost work productivity, broken families, and the intergenerational transmission of a variety of problematic behaviors. While one might recognize a "common enemy" strategy, there have been few (if any) efforts to develop such an approach; suicide prevention initiatives are 'free standing.' Moreover, these have been focused on youth and occasionally on elders, however, rarely dealing with men in the middle years, particularly those who might be employed or who are in-and-out of court or jail, or CD treatment settings. While these individuals experience great personal burdens, they also serve as powerful agents whose impact reaches their spouses and partners, children, employers, and local communities. They draw upon very substantial but 'indirect,' difficult-to-measure resources, by way of absenteeism, poor work performance when present, direct and indirect (through their children, for example) involvement with police, courts, and social service agencies, repeated visits to CD treatment settings, and inconsistent utilization of medical services. While their lives touch multiple local agencies and organizations in communities (employers, police, churches, social service departments), no organization has proclaimed them a primary focus for action. Thus, the group with largest suicide related burden falls easily into inter-agency chasms. There are few models available that draw together a broad array of community organizations, both private and public, to address the needs of men in the middle years. Achieving this will require uncommon leadership and vision.

Federal, State, and Local Governments. The effective development of strategies to prevent suicide, attempted suicide, and their antecedents will require both a clear understanding of the scope and limitations of each level of governmental authority that characterizes the United State's federal system, and a willingness to assertively take responsibility rather than 'pass the ball' as a method of avoiding political burden and potential costs. The approaches noted below cut across the life course; that is, many broadly based governmental efforts are equally applicable to all ages, and both men and women.

What are the roles of Federal Government agencies to develop and implement suicide prevention programs across the nation? The following list includes centrally important issues:

- Provide leadership (National Strategy for Suicide Prevention [NSSP], model programs)
- Leverage the possibilities of integrating prevention efforts across historically disparate areas (e.g., drug abuse, domestic violence, suicide)
- Ensure effective surveillance (National Violent Death Reporting System)
- Position suicide problem properly in national context (i.e., in relation to mental illness and substance abuse) – ensure clarity of link to antecedent illnesses and risk factors, e.g., depressive disorders, schizophrenia, alcohol and substance misuse
- Develop meaningful and robust indicators that capture cost of suicide and attempted suicide to the nation (e.g., lost work productivity)
- Require collaboration
- Promote research into risk factors, broad-based prevention efforts, and focused or indicated interventions
- Require evaluation
- Provide resources and funding in a catalytic fashion
- Develop a life span approach with targeted activities and interventions
- Promote a balanced approach to national awareness based upon well considered public health measures
- Decriminalize the act of suicide (testimony, background checks, insurance and reporting)
- Sustain the effort and response

- De-politicize data (e.g., avoid pitting advocates of one age or ethnic group against the other; frankly consider the role of handguns in suicide prevention initiatives)

How should the efforts of disparate Federal Government agencies be effectively coordinated or integrated?

- Interagency council
- Appoint lead agency (with resources and accountability)
- Involve non-governmental stakeholders (i.e., community and NGO partners)
- Establish coordinating body or pseudo-governmental agency
- Prohibit turf wars; minimize the transfer of responsibilities as a way of avoiding costs to one level of government versus another

Which agencies should promote future research efforts, and how should these be coordinated?

- Departments of Health & Human Services, Justice, Defense, Veterans Affairs, Labor, Housing, Education, and Agriculture

What are the appropriate responsibilities of the Federal Government in contrast to State governments and local agencies?

- Treaty development and adherence (e.g., treaties on firearms imports and drug trade)
- Disseminate a standard nomenclature/language
- Provide resources
- Establish and monitor programmatic standards
- Let data, not rhetoric, define the problems
- Do what is right for the national interests overall, not responsive to special interests

What are the specific duties the Federal Government in developing and implementing suicide prevention programs across the nation?

- Appoint lead agency
  - Assume responsibility and accountability for suicide prevention
  - Develop an effective leadership structure
  - Develop, execute and evaluate a suicide prevention budget
  - Establish priorities for NSSP
  - Ensure process improvement with regard to the NSSP
  - Promote and require evaluation, and monitor performance
- Standardize and improve suicide surveillance
  - Create an open, complete and un-purged database
  - Insulate data from manipulation
  - Fully fund the National Violent Death Reporting System so that it can be implemented in all states
  - Standardize death registration system nationally
  - Standardize medical examiner system in all states
  - Mandate surveillance system for non-fatal suicide behavior
- Remove barriers to help-seeking behavior
  - Legal
  - Employment screening
  - Insurance coverage and payment (life and health)
  - Ensure parity for mental health and substance abuse treatment services, both privately and publicly funded
- Fund research in the U.S. relative to social cost
- Address training shortfalls in both the research and service arenas
- Model licensing and certification standards for adoption by states

- Engage national practitioner associations to support training (e.g. NASW, APA)
- Fund model and demonstration services at state and community levels for program
  - Development
  - Implementation
  - Evaluation

What is the role of State Government, even as one should not presume a monolithic approach across all states?

- It is essential to recognize historic differences among states, with their differing governmental organization, resources, and leadership.
- Support existing efforts, at both state and local levels. Create a resource inventory of what is already underway and connect those folks together
- Re-appraise and re-examine existing efforts to assess what is effective and who has been missed
- Articulate a vision, goals, objectives – issue or revise state suicide prevention plans to assure that each integrates suicide prevention with awareness of antecedent risk factors – e.g., mental health, substance abuse, intimate partner violence, employment difficulties
- Provide leadership – appropriate state agencies need to champion this cause
- Ensure that the right coalition of state and local agencies is in place; close gaps to help strengthen emerging and well-established partnerships
  - Talk to each other, including local meetings, as well as planning/advisory structures
  - Engage community leaders/form coordinating groups across the range of risk factors
  - Collaborate on strategies to integrate resources across categorical silos and take population-based funding approaches
- Be aware that multiple state/local agencies are involved – assure effective information flow and integration
- Become aware of research resources available at the federal level that may promote state level activities – promote *academic-state-local partnerships* to facilitate research efforts
- Facilitate access to state data systems, cutting across typical boundaries (e.g., health related and criminal justice databases necessary for comprehensive follow-up)
- Facilitate development and use of data sets and analytical capacities to support research, evaluation and monitoring, including the provision of infrastructure support; foster cross-county and interstate dataset collaborations to support standardization and more robust databases
- Participate in national efforts to standardize data collection systems
- Create new mechanisms for pooling funds and overcome historic agency barriers
- Provide resources and expertise to support research and service efforts directly
- Foster awareness: Promote training at local level on suicide prevention, emphasizing current evidence-based approaches – include clinical settings, educational settings, and insurers
- Use regulatory authority to affect licensing and re-certification of mental health and other professionals – facilitate educational programs for professionals involving means controls (e.g., indicated gun removal from homes)
- Integrate oversight of mental health and chemical dependency treatment agencies sufficiently to assure integration of services for screening and treatment of co-morbid clinical conditions and suicidality
- Explore opportunities to use tax/other incentives to intervene with risk factors, e.g., alcohol tax
- Create novel cross-disciplinary experiments, such as, court integrated mental health services; or mental health and drug treatment courts, and other therapeutic justice efforts

While local governments cannot easily 'outrun' their federal and state counterparts, given limitations in resources and expertise, many counties and cities have creatively developed prevention-oriented efforts to reduce the burdens associated with suicide. Unfortunately, these rarely have been designed to yield data suitable for scientific scrutiny. To date, they have dealt largely with youth in schools and elders occasionally. They have

tended to miss youth no longer in schools or men and women in early adulthood. Most have neglected adults in the middle years of life despite the fact that in the U.S. the greatest overall burden from suicide for both men and women accrues from ages 25-54 years. Nonetheless, local governments have the potential to integrate and implement actions that the Federal and State level of government can support but rarely can implement directly. In sum, creating both 'vertical' and 'horizontal' partnerships at and between each level of government is essential for longer term development and maintenance of effective suicide prevention efforts; this requires challenging and overcoming traditional agency boundaries in order to focus on both broader populations and symptomatic individuals immediately in need of care.

Final Comments. The National Strategy for Suicide Prevention as well as past reports by the Surgeon General amply explain that the majority of people who will kill themselves either had never seen a mental health professional or did not see one at the time when their symptoms had spiraled out of control. The recently released UK national plan underscored the point further. Thus, one must define and carefully assess *where* potentially vulnerable individuals may be found and expand the spectrum of care to include sites well beyond the traditional healthcare delivery system. It will be essential in the future to creatively combine and utilize the diverse funding streams that presently flow to 'critical sites' in a piecemeal, uncoordinated fashion to optimally develop a true "continuum of care" for reducing the burdens of suicide and suicidal behaviors by addressing the array contributing risk factors. There are ample published data regarding the influences of age, gender, ethnicity, psychopathology, and social circumstances that contribute to elevated risk and adverse outcomes. However, there is scant information guiding efforts to tailor programs to address the needs of diverse groups. For example, we know virtually nothing about 'what it will take' to foster effective interventions for African-American men in their 20s and 30s relative to white men of the same ages. Nor do we have a clear understanding of how we will need to vary programs in urban and rural parts of our nation to enhance their effectiveness.

A central element of any future national prevention effort must be built upon local action. No matter how much commitment there may be at the Federal level, actions that change the lives of people occur in smaller groups and one-to-one. These actions must be embedded in collaborating communities, which are defined not just by locale but also by common need and aspiration. It is essential to develop clear, understandable, readily acceptable mechanisms for drawing together communities and building coalitions to prevent suicide and its related spectrum of antecedent problems. As the latter share much in common with other pressing social needs, such as reducing domestic violence, treating and preventing chemical dependency, or reducing the impact of depression on work performance and productivity, it should be a central goal to draw together these efforts to enhance the overall health and well being of our communities. This 'common risk' approach (akin to identifying a common enemy among those with potentially disparate interests) should be used to build alliances that have the possibility of fundamentally driving an array of critically important programs. Lasting success preventing suicide and related conditions will depend upon maintaining a well-coordinated array of national, state, and local activities that become 'institutionalized' as part of the mandated roles of each, with expected accountability from both elected and appointed leaders. At the same time, it is critical to remember that rapid access to care remains a major barrier to those in need of preventive interventions; no prevention program in the United States will reach an optimal level of effectiveness as long as there substantial barriers remain, such as inadequate health insurance or a paucity of providers willing to provide care to currently underserved populations.

Figure 1: Years of Potential Life Lost (YPLL) Across the Life Cycle (2000)
(Knox KL, Caine ED – not for reproduction without permission)

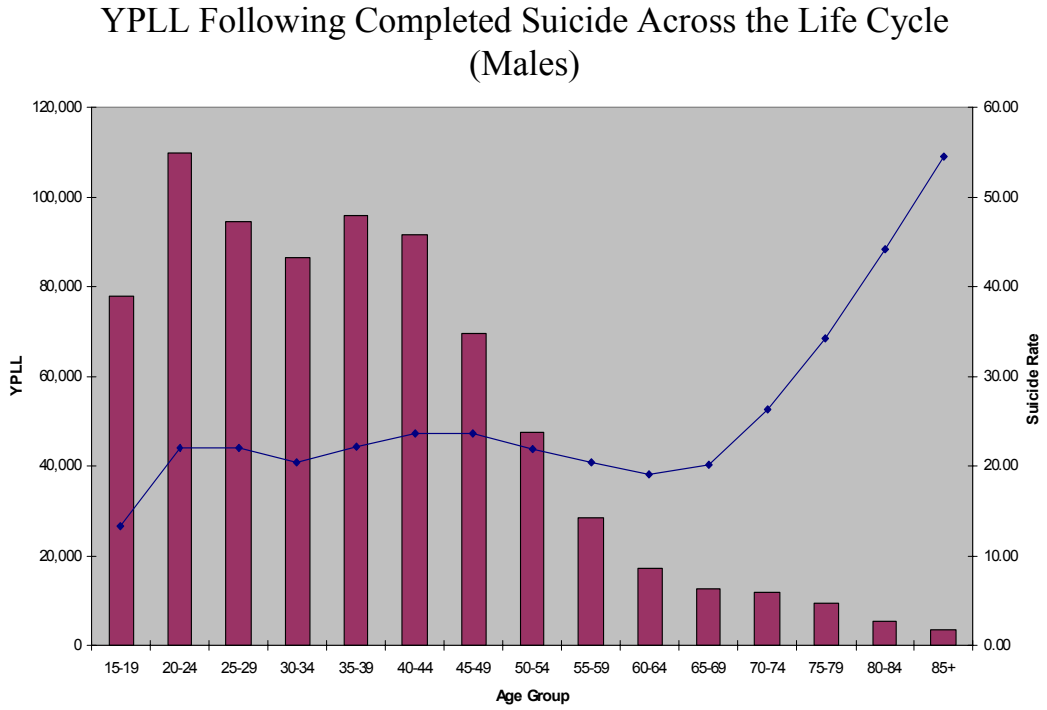

Figure 2: Present Value of Lifetime Earning Lost (PVLE) Across the Life Cycle (2000)
(Knox KL, Caine ED – not for reproduction without permission)

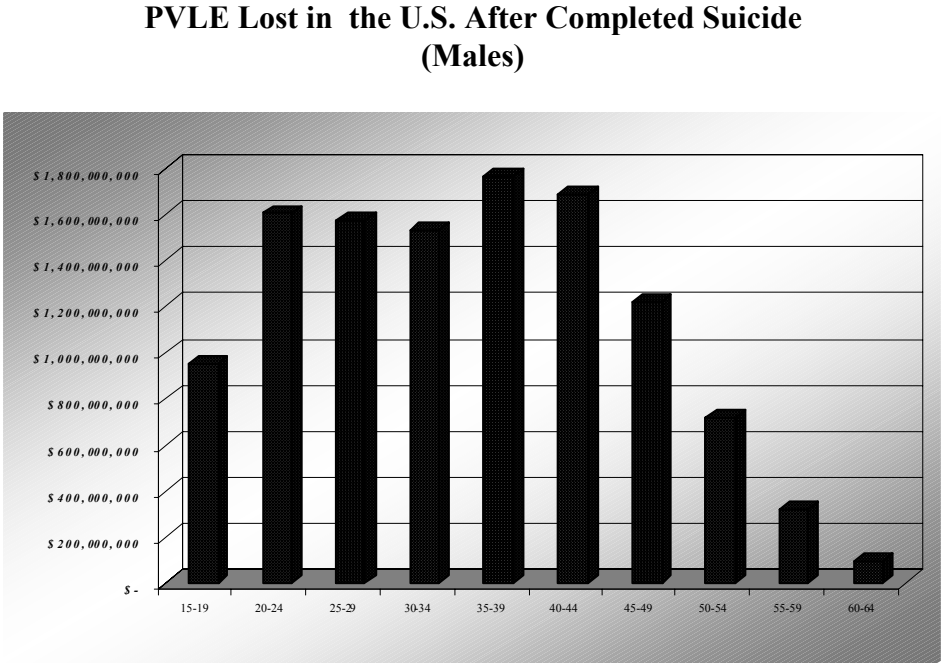

Table 1. Site-population approaches

Sites	Populations potentially captured	Populations likely to be missed
Organized Work Sites	Those employed in organized work sites, especially individuals in the middle years of life	Workers in small businesses, union/hiring halls, day labor, unemployed workers, immigrant and migrant labor, day labor, underground workers
Medical Settings	Those with health insurance; those that are willing to access traditional medical settings	Un- or under-insured face barriers to care; low "utilizers" of health care (men); utilizers of nontraditional health care
Community Service NGOs or United Way, including faith-based services	Those targeted for service by the NGO funding source; those in private homeless shelters	Anyone outside perceived scope of agency
Religious/Faith Organizations	Those who attend on a regular basis	Non-participants and those that drop out
Courts/Criminal Justice/Jails	Perpetrators/Victims of Domestic Violence, Probationers, Prisoners; SMI and CD cases	Failure to gain access for mental health and chemical dependency services for those identified through CJ settings
Local Government	Recipients from county-level social service and health departments; those in homeless shelters, county supervised housing; gov't food banks	Those who do not access services from local Health Dept clinics or Department of Social Services
State Agencies; Medicaid, Medicare; Fed. Agencies, often working in collaboration with state offices	Medicaid recipients, high risk families. Unemployed workers seeking services, mentally ill in state housing; state operated mental health centers and clinics, including high risk populations such as SMI and CD patients in clinics	Some chronically unemployed; migrants not eligible for services, and broad swaths of the general population

Table 2. High-risk groups and sites to contact them

High-risk groups	Sites
Previously identified patients with severe, persisting mental disorders	Mental health treatment settings; courts, jails/prisons; "the street," including SROs
Suicide attempters – may be counted as well among other groups, but also include persons with personality d/o, varying mood disturbances, and CD problems	ERs, ICUs, inpatient psychiatry and medical services
Men with alcohol and substance disorders – co-morbid depression and other psychiatric d/o often present	CD and mental health treatment settings; courts, jails
Perpetrators of domestic violence	Courts, jails
Depressed Men	Primary care and mental health treatment settings