

# Screening for Suicide Risk in the Pediatric Primary Care Setting

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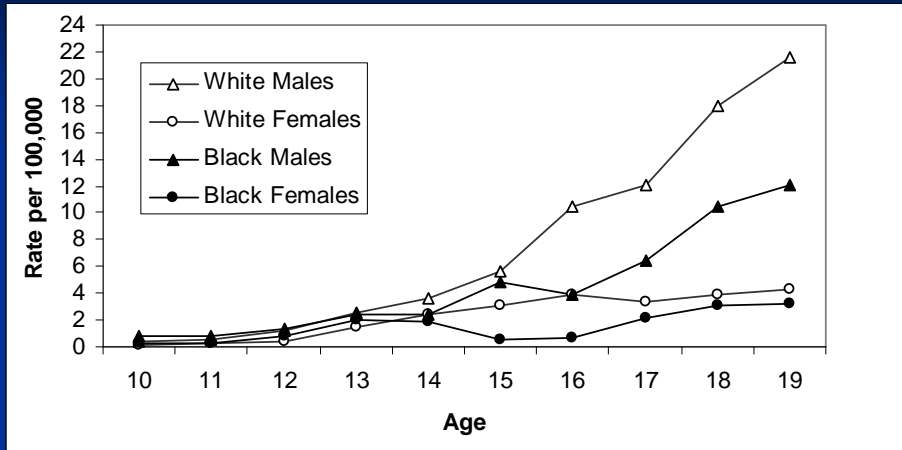


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## 10 Leading Causes of Death by Age Group, United States - 2004

Rank	Age Groups										
	<1	1-4	5-9	10-14	15-24	25-34	35-44	45-54	55-64	65+	Total
1	Congenital Anomalies 5,627	Unintentional Injury 1,641	Unintentional Injury 1,126	Unintentional Injury 1,566	Unintentional Injury 15,646	Unintentional Injury 13,832	Unintentional Injury 16,411	Malignant Neoplasms 49,520	Malignant Neoplasms 98,956	Heart Disease 533,302	Heart Disease 652,496
2	Short Gestation 4,942	Congenital Anomalies 969	Malignant Neoplasms 526	Malignant Neoplasms 493	Homicide 5,885	Suicide 5,674	Malignant Neoplasms 14,723	Heart Disease 37,556	Heart Disease 63,613	Malignant Neoplasms 385,947	Malignant Neoplasms 553,898
3	SIDS 2,246	Malignant Neoplasms 399	Congenital Anomalies 205	Suicide 283	Suicide 4,316	Homicide 4,495	Heart Disease 12,925	Unintentional Injury 16,942	Chronic Low Respiratory Disease 11,764	Cerebrovascular 130,538	Cerebrovascular 150,074
4	Maternal Pregnancy Comp. 1,715	Homicide 377	Homicide 122	Homicide 287	Malignant Neoplasms 1,709	Malignant Neoplasms 3,633	Suicide 8,538	Liver Disease 7,496	Diabetes Mellitus 10,780	Chronic Low Respiratory Disease 105,197	Chronic Low Respiratory Disease 121,067
5	Unintentional Injury 1,022	Heart Disease 187	Heart Disease 83	Congenital Anomalies 184	Heart Disease 1,038	Heart Disease 3,163	HIV 4,826	Suicide 5,966	Cerebrovascular 9,966	Alzheimer's Disease 65,313	Unintentional Injury 112,612
6	Placenta Cord Membranes 1,042	Influenza & Pneumonia 119	Chronic Low Respiratory Disease 46	Heart Disease 162	Congenital Anomalies 483	HIV 1,468	Homicide 2,884	Cerebrovascular 6,181	Unintentional Injury 9,551	Diabetes Mellitus 53,996	Diabetes Mellitus 73,138
7	Respiratory Disease 875	Septicemia 84	Benign Neoplasms 41	Chronic Low Respiratory Disease 74	Cerebrovascular 211	Diabetes Mellitus 599	Liver Disease 2,799	Diabetes Mellitus 5,567	Liver Disease 6,569	Influenza & Pneumonia 52,760	Alzheimer's Disease 65,965
8	Bacterial Sepsis 827	Perinatal Period 61	Septicemia 38	Influenza & Pneumonia 49	HIV 191	Cerebrovascular 567	Cerebrovascular 2,361	HIV 4,422	Suicide 4,011	Nephritis 35,105	Influenza & Pneumonia 59,664
9	Neonatal Hemorrhage 616	Benign Neoplasms 53	Cerebrovascular 34	Benign Neoplasms 43	Influenza & Pneumonia 100	Congenital Anomalies 400	Diabetes Mellitus 2,008	Chronic Low Respiratory Disease 3,511	Nephritis 3,963	Unintentional Injury 14,000	Nephritis 42,480
10	Circulatory System Disease 593	Chronic Low Respiratory Disease 48	Influenza & Pneumonia 33	Cerebrovascular 43	Chronic Low Respiratory Disease 179	Septicemia 328	Influenza & Pneumonia 891	Septicemia 2,251	Septicemia 3,745	Septicemia 25,844	Septicemia 33,373

Source: National Vital Statistics System, National Center for Health Statistics, CDC.  
Produced by: Office of Statistics and Programming, National Center for Injury Prevention and Control, CDC.



## Adolescent Suicide

- Every year 1 in 5 adolescents contemplate suicide, 5-8% attempt suicide, and approximately 1,600 to 2,000 adolescents between the ages of 12 and 18 die by suicide.
- When you take into account non-lethal attempts, approximately one million teenagers attempt suicide each year.
- Completed suicide most commonly occurs in older adolescents, but have occurred in children as young as 6 years.
- 90% of those occur in those with psychiatric disorders
- In approximately half of those cases, the disease had been present for more than 2 years

## 2005 CDC Youth Suicide Data

- 14.5% increase in deaths by suicide in ages 10-19 year olds, following a 28% decline between 1990-2004.
  - First increase in 15 years
- 76% increase in 10-14 year old girls
- 32% increase in 15-19 year old girls
- 9% increase in 15-19 year old boys
- Hanging and suffocation account for over 50% of female suicide deaths
- Firearms still most common method of suicide in boys and young men

## Pennsylvania and Youth Suicide

- Between 2003-2005, 514 youths died by suicide.
- Youth suicides have occurred in every PA county over last five years.
- In counties with population densities great enough to calculate suicide rates, 53% have suicide rates exceeding the national average.
- 15% of PA counties have suicide rates at least twice that of the national average.

## Why Primary Care?

- Primary care is a potential source for identification, triage, and brief intervention (IOM, 2002)
- 70% of adolescents see their primary care provider (PCP) at least once pre year (U.S. DHHS, 2001)
- Many at-risk subpopulations served (e.g., HIV, chronic illness, family planning)
- 77% of adolescents with mental health problems go see their PCP (Schurman et al., 1985)
- PCPs prescribe over 75% of all anti-depressants (Hylan et al., 1998), although this has declined since FDA warning

## Why Primary Care?

- According to a sample of pediatricians, 16% of adolescents in the last year were depressed and 5% were at risk for a serious suicide attempt (Annenberg Adolescent Mental Health Project, 2003 )
- Over 70% of adolescents report a willingness to talk with a primary care physician about emotional distress (Good et al., 1987)
- 7-15% of adolescent suicide attempters contacted a health provider in the month previous to an attempt and 20-25% in the previous year (Groholt et al., 1997 )
- Less than 50% of PCPs feel competent in managing suicide (Annenberg Adolescent Mental Health Project, 2003 )
- Mental health was 1 of 6 research areas primary care providers felt were important (AAP, 2002)

## Why Primary Care?

- Summary:
  - Primary care is an entry point for many youth in need of psychiatric care
  - PCPs lack skills and resources to manage suicidal youth
- In short, there is a missed opportunity to increase identification, referral, and treatment of suicidal youth in primary care settings.
- There is a critical need for training medical staff, providing them triage and assessment resources, and helping them partner them with local mental health services (IOM, 2002; Johnson & Millstein, 2003).

## Interface of Medical and Behavioral Health Services: A Paradigm Shift

- Despite the need for collaboration, there remains little continuity of care.
- Barriers to integration are numerous and include:
  - paradigm clash between how one views medical and behavioral health problems
  - lack of training in behavioral health
  - lack of assessment tools
  - lack of time to evaluate these more amorphous problems
  - stigma
  - lack of reimbursement
  - lack of resources to offer these patients (Gardner, et al., 2002; Romer & McIntosh, 2005; Epstein et al., 1998; Milne & Chesson, 2000).

## Optimal Integration Requires...

- Medical staff education
  - Physician education as one of only two effective suicide prevention programs (Mann et al., 2005)
- Collocated and/or readily available services
  - Collocated care has been shown to increase patient satisfaction and adherence to treatment, as well as enhancing mental health outcomes (Katon et al., 1996; Valleley et al., 2007; Weinreb et al., 2007).
- Standardized screening for suicide risk
  - Standardized screening has resulted in a 219% increase in physicians inquiring about suicidal ideation and behavior with their patients.
  - Furthermore, there was a 392% increase in identification of youth who may be at-risk for suicide (Wintersteen, under review).

## Problems Integrating Suicide Screening into Primary Care

- 46% of physicians feel competent identifying depression in adolescents (Annenberg Adolescent Mental Health Project, 2003)
- Less than 20% of adolescent suicide attempters are asked about suicidal behavior by a physician at a medical visit (Slap et al., 1992)
- Only about 23% of pediatricians and family medicine providers routinely ask about suicide and related risk factors (Frankenfield et al., 2000)
- Not enough time to sufficiently screen
- Lack of available services for referral

## Barriers to Integration Lead to...

1. PCPs avoiding screening
2. Referral of non-imminent risk adolescents to EDs and CRCs

These lead to:

- Decreased patient safety (no screening)
- Unnecessary burden on families, ED, and Psychiatry staff
- Threats to doctor-patient relationship

## Engaging Primary Care Providers in Suicide Prevention

Screening and Research

## Getting Started

- Find collaborators in primary care who are also involved in clinical practice (e.g., clinic directors, attending physicians, social workers)
- Conduct focus groups
  1. Needs assessment – assess current practice (what support for behavioral health already exists?)
  2. Stakeholders' input on feasibility of intervention, screening, etc.

## Training of Medical Staff Providers

- Managing Suicidal Adolescents in Primary Care
  1. Epidemiology
  2. Assessment
  3. Triage (risk and protective factors)
  4. Immediate management of risk
  5. Suicide vs. Self-Injury
- QPR Training
- American Association of Suicidology  
Primary Care Suicide Prevention Training  
Task Force

## Staying Involved in Primary Care

- Integrate into primary care setting
  1. Regularly attend meetings
  2. Accept some initial behavioral health cases outside of the study
- Continually assess and make modifications as needed to increase buy-in
- Throughout work, offer progress reports (e.g., number of adolescents in treatment, basic therapeutic outcomes)
- Provide ongoing feedback to providers about their patients (sign those HIPAA forms!!!)

## Expanding to Other Primary Care Sites

- Use original collaborators to develop collaborators at new sites (buy-in!!!)
- Demonstrate established program (preferably with a treatment component)
- Show effectiveness of intervention in first site

## Provider Concerns

- What do I do if I identify someone?
- Who will treat my patients?
- How do I manage these adolescents in the office?
- What will you do to help us?
  - Clinical support on triage and study inclusion
- How do I know this will help when the broader community mental health system has failed our patients?

## What Was Learned?

- Generally, providers are invested in the behavioral health needs of their patients
- Many providers have lost faith in the behavioral health system
- Providers are frustrated by never hearing from behavioral health providers about their patients
- Providers do not feel comfortable tackling behavioral health treatment on their own
- Must be willing to go the extra mile to help out the primary care sites – they are often the ones who must “sell” your model to their patients

# Screening for Suicide and Related Risk Factors

## Suicide and Psychosocial Screening

- Screening must be broader than suicide alone.
- Several psychosocial screening models exist, but penetration into practice is low (e.g., Clark & Ginsburg, 1995; Lieberman, 1997; Pfaff et al., 2001; Pincus et al., 1995).
- Screening tools:
  - Alleviate discomfort addressing sensitive issues (Rhodes et al., 2001).
  - Help physicians feel more comfortable screening for sexual risk behavior (Epstein et al., 1998).
  - Increase detection of risk behaviors (Kurth et al., 2004).
  - Maximize efficient use of time spent at the healthcare provider's office (Tolan & Dodge, 2005).
- Patients are likely to receive better preventive care after being screened for risk-taking or psychiatric problems (Klein, et al., 2001; Rhodes et al., 2001).

## Limitations of Current Screening Tools

- Too specific – only address one domain (e.g., domestic violence, depression)
- Too long to be practical in primary care
- No single instrument is clearly superior in detecting suicidal youth (Goldston, 2004).

## Behavioral Health Screening – Primary Care (BHS-PC)

- Web-based screening tool (can be stand alone computer, as well)
- Real time scoring
- Designed to be completed prior to appointment
- Takes 12-15 minutes to complete
- Follows “best practice” guidelines

## Behavioral Health Screening – Primary Care (BHS-PC)

- Behavioral health items were designed around DSM-IV criteria for the following disorders:
  - Major Depression, Generalized Anxiety Disorder, Social Phobia, Posttraumatic Stress Disorder, Eating Disorders, Schizophrenia, Substance Use Disorders, and Smoking.
- Risk-taking modules were developed assessing:
  - school, family, safety, sexuality, and suicide
- 75 core questions with 44 embedded questions following positive endorsement of

## BHS-PC Development

- Extensive item development with a core advisory board consisting of:
  - psychologists
  - adolescent medicine physicians (Children’s Hospital of Philadelphia, Children’s Hospital of Pittsburgh, Lehigh Valley Hospital)
  - nurse practitioners and others
  - national advisory board of experts

## Previous Work with BHS-PC

- Explored feasibility with 24 patients and physicians:
  - Adolescents liked the computer program, completed it in 10 minutes, understood the questions, said they reported honestly, and found it helpful.
  - Healthcare providers responded positively to using the screening tool printout during appointments and gave feedback and suggestions.
- Preliminary results of validation study indicate:
  - Subscales (substance impairment, anxiety, depression, trauma impact) demonstrate good internal consistency ( $\alpha$ 's range from .67 to .82)
  - Significant correlation between BHS subscale scores (depression, anxiety, and trauma impact) and standardized measures ( $r = .41$  to  $.65, p < .05$ ).
  - Six-week test-retest reliability of suicide items was high (Winer's  $r = .96, p < .001$ ). These items were also correlated with suicidal ideation as measured by the Scale for Suicidal Ideation (Beck & Steer, 1991;  $r = .60, p = .01$ ). Finally, the suicide items differentiated those with from those without a previous suicide attempt (Wilks'  $\lambda = .63, p < .05$ ).

## BHS-PC Preliminary Psychometrics

Behavioral Health Screen Subscale	# of items	Cronbach Alpha	Validation Tool	Pearson
Anxiety (past 2 weeks)	8	.77	MASC	.58***
Anxiety (past year)	9	.82	MASC	.65***
Depression (past 2 weeks)	16	.73	BDI	.63***
Depression (past year)	2	.77	BDI	.51**
Trauma (Impact)	4	.67	TSCC	.41*
Substance Impairment	4	.79	N/A	

## Increased Identification from BHS-PC

- Initial 73 adolescents who volunteered to complete the BHS-PC and additional validation measures:
  - 34% were offered a referral
  - 7% who met criteria for a referral were already receiving services
  - 5% who met criteria for a referral refused the referral
- In a similar study in the CHOP ED, 3,775 adolescents (ages 14-18) were screened:
  - 9.6% identified and referred to social work (2.2% prior to screening tool)
  - 4.1% were offered a behavioral health referral (1.0% prior to screening tool)

## Additional Goals for BHS-PC

- Web-based version developed for use in CHOP ED for HRSA grant (Joel Fein, MD, Principal Investigator)
  - BHS-ED is now standard clinical practice for adolescents age 14 and older
- Dissemination:
  - Planned Parenthood of the Greater Delaware Valley
  - National Nursing Centers Consortium, Philadelphia
  - The Pennsylvania Department of Health
  - Garrett Lee Smith Project

## **Results of Related Research:** Impact of Standardized Screening on Rates of Identification

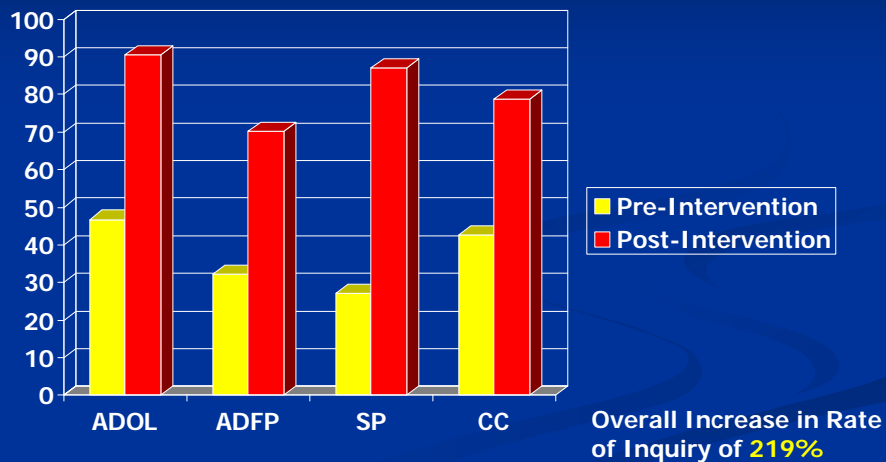
### **Introduction of New Suicide Items into SHADSSS Interview in Epic**

- Old Model:
  - “Suicidality\_\_\_\_\_”
- New Model:
  - Introduction of 2 standardized questions
  - Default is “not asked”
- 3 month trial introduced in Adolescent Medicine (ADOL and ADFP), South Philadelphia, and Cobbs Creek

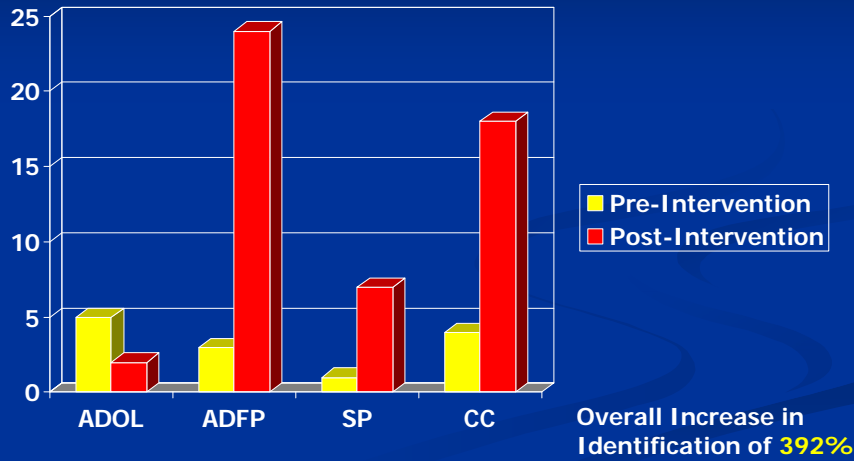
## New Suicide Questions

- Have you ever felt that life is not worth living? (if yes then, has this feeling occurred in the past week?)
- Have you ever had any desire to kill yourself?
  - Did you ever make a plan to kill yourself?
  - Have you ever attempted suicide?
  - In the past week, including today, have you had any desire to kill yourself?
  - In the past week, including today, did you have a plan to kill yourself?
  - In the past week, including today, have you tried to kill yourself?

## Change in Rate of Inquiry



## Change in Identification



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