



SUICIDE

Trends in suicide ideation, plans, gestures, and attempts in the United States, 1990-1992 to 2001-2003.

Kessler RC, Berglund P, Borges G, Nock M, Wang PS.

JAMA. 2005 May 25;293:2487-95.

Although there was an increase in treatment among people who made a suicidal gesture (40% to 93%) or attempt (50% to 79%) from the 1991 National Comorbidity Survey to the 2002 NCS Replication, which assessed the previous year's suicidal behavior in 9708 respondents, there was no change in suicidal ideation (3%), plans (1%), gestures (0.3%), or attempts (0.5%). See Table 1.

There were calls in the 1990s for increased treatment of depression (*JAMA.* 1997 Jan 22-29; 277:333-40). Despite its reputation, there is no conclusive evidence that lithium reduces suicide (*Cochrane Database Syst Rev.* 2001; (3):CD003013).

EBM

Academic medical centers' standards for clinical-trial agreements with industry.

Mello MM, Clarridge BR, Studdert DM.

N Engl J Med. 2005 May 26;352:2202-10.

There was disagreement among 107 surveyed research administrators at medical schools concerning industry sponsors providing statistical analyses in manuscripts, writing manuscripts, or disallowing researchers from sharing clinical trial data; and there were frequent disputes with industry sponsors regarding payment and intellectual property. See Table 2.

A prior survey had shown considerable discrepancies between academic institutions' trial contracts with industry and recent guidelines from the International Committee of Medical Journal Editors (*N Engl J Med.* 2002 Oct 24; 347:1335-41). In attempting to appease the FDA, industry sponsors typically provide excessive data on a clinical trial (*Cancer Medicine*, 6ed.).

CHILD

Effectiveness of home visitation by public-health nurses in prevention of the recurrence of child physical abuse and neglect: a randomised controlled trial.

MacMillan HL, Thomas BH, Jamieson E, Walsh CA, Boyle MH, Shannon HS, Gafni A.

Lancet. 2005 May;365:1786-93.

No difference was seen after home visits by nurses versus no home visits in the rates of child physical abuse (33% vs. 43%) or neglect (47% vs. 51%) according to intention-to-treat analysis of child protection agency records of 163 randomized families with a history of child abuse or neglect after 3 years of follow-up; hospital records, though, showed more recurrence of abuse or neglect in visited families (24%) than nonvisited families (11%). See Figure 2.

Prenatal and infancy home visits by nurses to disadvantaged first-time mothers have been associated with decreased child abuse and neglect after 2 years' follow-up (*Pediatrics.* 1986 Jul;78:65-78). Parent training may improve maternal mental health, and thereby child well-being, in the short term (*Cochrane Database Syst Rev.* 2004;(1):CD002020).

Behavior problems and mental health referrals of international adoptees: a meta-analysis.

Juffer F, van Ijzendoorn MH.

JAMA. 2005 May 25;293:2501-15.

More behavior problems (small effect size, $d=0.2$) and mental health referrals (large effect, $d=0.7$) were seen in adopted children than nonadopted controls, in this meta-analysis of 98 articles, but domestic adoptees had more behavioral problems and referrals than international adoptees. See Figures 1 and 2.

Adoption before 6 months of age was a predictor of improved developmental catch-up following early deprivation in Romanian children sent to the UK (*J Child Psychol Psychiatry.* 1998 May;39:465-76). In the US, a disproportionate number of children in foster care or awaiting adoption are black (*Reports of the Surgeon General*).

GERIATRICS

Environmental enrichment mitigates cognitive deficits in a mouse model of Alzheimer's disease.

Jankowsky JL, Melnikova T, Fadale DJ, Xu GM, Slunt HH, Gonzales V, Younkin LH, Younkin SG, Borchelt DR, Savonenko AV.

J Neurosci. 2005 May 25;25:5217-24.

The same cognitive performance in water maze testing was seen in transgenic mice overexpressing amyloid precursor protein or presenilin-1 that were housed in an enriched environment from age 2 months to 6 months as in nontransgenic mice that were housed in a standard environment, despite differences between genotypes in standard housing; and all genotypes showed improved cognitive performance after enrichment, despite increased hippocampal amyloid plaques in enriched transgenic mice versus standard-housed transgenic mice. See Figures 1 and 3.

Environmental enrichment has been shown to reduce spontaneous and excitotoxic apoptosis in rat hippocampus (*Nat Med.* 1999 Apr;5:448-53). Presumed environmental etiologies for Alzheimer's have been less informative than genetic explanations (*Basic Neurochemistry*, 6 ed.).

SUBSTANCE ABUSE

Extinction of Cocaine Self-Administration Reveals Functionally and Temporally Distinct Dopaminergic Signals in the Nucleus Accumbens

Stuber GD, Wightman RM, Carelli RM
Neuron. 2005 May 19;46:661-9.

Three types of dopaminergic signals in the nucleus accumbens are seen when rats press a lever to obtain cocaine: a relatively stable signal immediately preceding the press (perhaps representing motivation), a signal immediately following the press that decreases with extinction of the response (learned associations), and a random signal that decreases in frequency as cocaine concentrations decrease (pharmacologic response). See Figures 3 and 5.

There has been progress in understanding the molecular mechanisms that underlie the long-term behavioral changes of addiction (*Nat Rev Neurosci.* 2001 Feb;2:119-28). Only a small subset of midbrain dopaminergic neurons terminate in the nucleus accumbens (*Basic Neurochemistry*, 6 ed.).

PSYCHOLOGY

Distributed neural representation of expected value.

Knutson B, Taylor J, Kaufman M, Peterson R, Glover G.

J Neurosci. 2005 May 11;25:4806-12.

Nucleus accumbens activation on functional MRI in 14 healthy volunteers correlated with the magnitude of an anticipated monetary reward and reported positive arousal, while medial

frontal cortex activation correlated with the probability of anticipated reward and reported probability estimates. See Figure 5.

Dopamine neuron signaling appears to represent predicted rewards (*J Neurophysiol.* 1998 Jul;80:1-27). Rewards are associated with release of dopamine from neurons of the ventral tegmental area onto neurons of the nucleus accumbens (*Basic Neurochemistry*, 6 ed.).

BIOLOGY

Neural cell adhesion molecule-secreting transgenic mice display abnormalities in GABAergic interneurons and alterations in behavior.

Pillai-Nair N, Panicker AK, Rodriguiz RM, Gilmore KL, Demyanenko GP, Huang JZ, Wetsel WC, Maness PF.

J Neurosci. 2005 May 4;25:4659-71.

Transgenic mice with neurons that secrete the extracellular portion of neural cell adhesion molecule (NCAM), when compared to wild-type mice, had reduced synapses of GABAergic interneurons in cingulate and frontal cortex and amygdala, reduced excitatory synapses on pyramidal cells in cingulate cortex, increased baseline locomotion and increased locomotor response to amphetamine, reduced prepulse inhibition that normalized with clozapine, and reduced contextual and cued fear conditioning – all similar to findings in humans with psychosis. See Figures 2 and 6.

Decreased embryonic NCAM immunoreactivity has been detected in postmortem hippocampi of schizophrenic patients versus healthy controls (*Proc Natl Acad Sci U S A.* 1995 Mar 28; 92:2785-9). Immunoglobulins like NCAM participate in cell-cell adhesion and neurodevelopment (*Molecular Biology of the Cell*, 4 ed.).



DUKE RESEARCH

GERIATRICS

Greater MRI lesion volumes in elderly depressed subjects than in control subjects.

Taylor WD, Macfall JR, Payne ME, McQuoid DR, Steffens DC, Provenzale JM, Krishnan RR.
Psychiatry Res. 2005 May 28

Apolipoprotein e genotype and mortality: findings from the cache county study.

Hayden KM, Zandi PP, Lyketsos CG, Tschanz JT, Norton MC, Khachaturian AS, Pieper CF, Welsh-Bohmer KA, Breitner JC; for the Cache County Investigators.
[J Am Geriatr Soc. 2005 Jun;53:935-42.](#)

SUBSTANCE ABUSE

Abstinence-Induced Changes in Self-Report Craving Correlate with Event-Related fMRI Responses to Smoking Cues.

McCleron FJ, Hiott FB, Huettel SA, Rose JE.
[Neuropsychopharmacology. 2005 May 25](#)

PHARMACOLOGY

Second-generation Antipsychotics and the Metabolic Syndrome.

Masand PS, Mago R.
[Curr Psychiatry Rep. 2005 Jun;7:153-4.](#)

MED-PSYCH

Cognitive dysfunction after cardiac surgery: revisiting etiology.

Grocott HP, Homi HM, Puskas F.
[Semin Cardiothorac Vasc Anesth. 2005 Jun;9:123-9.](#)

Lasting Effects of Developmental Dexamethasone Treatment on Neural Cell Number and Size, Synaptic Activity, and Cell Signaling: Critical Periods of Vulnerability, Dose-Effect Relationships, Regional Targets, and Sex Selectivity.

Kreider ML, Tate CA, Cousins MM, Oliver CA, Seidler FJ, Slotkin TA.
[Neuropsychopharmacology. 2005 May 25](#)

PSYCHOLOGY

The orienting of visuospatial attention: An event-related brain potential study.

Talsma D, Slagter HA, Nieuwenhuis S, Hage J, Kok A.
[Brain Res Cogn Brain Res. 2005 May 27](#)

Monkeys match the number of voices they hear to the number of faces they see.

Jordan KE, Brannon EM, Logothetis NK, Ghazanfar AA.
[Curr Biol. 2005 Jun 7;15:1034-8.](#)

BIOLOGY

Notch to remember.

Costa RM, Drew C, Silva AJ.
[Trends Neurosci. 2005 May 25](#)



FIGURE OF THE WEEK



[Cell. 2005 Jun 3;121:785-94.](#) Click above for Movie S3. The wild-type female is marked by a red paint dot on the thorax. The fruM female is to the left and the wild-type female to the right at the start of the movie.