



U.S. Illnesses and Deaths Associated With Compounded or Repackaged Medications, 2001-Present

Pew's drug safety project has identified over 25 reported compounding errors or potential errors associated with 1,049 adverse events, including 89 deaths, since 2001. Because many such events may go unreported this list is likely an underestimation. Contamination of sterile products was the most common error, though others were the result of pharmacists' and technicians' miscalculations and mistakes in filling prescriptions.

Year	Reported Cases	Reported Deaths	Adverse Events	Compounding Error	Product	States
2013	15	2*	Bacterial bloodstream infection	Bacterial contamination ¹	IV infusion (calcium gluconate)	TX
2013	Unknown		Fever, flu-like symptoms, soreness at injection site	Unknown ²	Injection (methylcobalamin)	TX
2013	5		Serious eye infections	Bacterial contamination ³	Eye injections (intravitreal bevacizumab [Avastin] injections)	
2013	26		Skin and soft tissue abscesses	Bacterial and fungal contamination ⁴	Injections (preservative-free methylprednisolone acetate)	AR, FL, IL, NC
2012	751	64	Fungal meningitis and other infections	Contamination ^{5**}	Spinal injections (preservative-free methylprednisolone acetate)	FL, GA, ID, IL, IN, MD, MI, MN, NC, NH, NJ, NY, OH, PA, RI, SC, TN, TX, VA, WV
2012	45		Fungal eye infection; vision loss in majority of cases	Contamination ⁶	Eye injections (brilliant blue-G [BBG] retinal dye and triamcinolone)	CA, CO, IL, IN, LA, NC, NV, NY, TX
2012	7		Bacterial bloodstream infection	Contamination ⁷	IV solution (fentanyl)	NC
2011	9		Bacterial eye infection, and 1 case of meningitis and encephalitis; 4 cases of loss of eyesight	Unintended presence of another medication ⁸	Eye injections (intravitreal bevacizumab [Avastin] injections)	TN
2011	12		Bacterial eye infection; 3 patients had eye removals	Contamination ⁹	Eye injections (intravitreal bevacizumab [Avastin] injections)	FL
2011	5		Blindness	Unintended presence of another medication ¹⁰	Eye injections (intravitreal bevacizumab [Avastin] injections)	CA
2011	19	9	Bacterial bloodstream infection	Contamination ¹¹	Parenteral nutrition solution	AL
2010	Unknown		Bacterial eye infection	Unknown ¹²	Eye injections (intravitreal bevacizumab [Avastin] injections)	

Year	Reported Cases	Reported Deaths	Adverse Events	Compounding Error	Product	States
2010	1	1	Fatal overdose	Dose of sodium 60 times stronger than ordered ¹³	IV solution (sodium chloride)	IL
2009	9		Eye inflammation; at least one case of vision loss	Unknown ¹⁴	Eye injection (preservative-free hyaluronidase)	
2007	3	3	Fatal overdose	Dose of colchicine 8 times stronger than ordered ¹⁵	IV solution (colchicine)	WA, OR
2007	7	1	Bacterial bloodstream infection	Contamination ¹⁶	IV solution (fentanyl)	MD, CA
2004-2006	80		Bacterial bloodstream infection	Contamination ¹⁷	IV flush syringes (heparinized saline)	MI, MO, NY, SD, TX, WY
2006	1	1	Fatal overdose	Dose of sodium chloride stronger than ordered ¹⁸	Chemotherapy infusion	OH
2006	1	1	Fatal overdose	Dose of zinc 1,000 times stronger than ordered ¹⁹	Neonatal parenteral nutrition solution	NV
2005	2		Bacterial bloodstream infection	Contamination ²⁰	IV flush vials (preservative-free	
2005	6		Bacterial eye infection; all cases had partial or complete loss of vision; two patients had eye removals	Contamination ²¹	Eye solution (trypan blue)	MN and 1 other state
2005	5	3	Systemic inflammatory response syndrome	Contamination ²²	Heart infusion (cardioplegia)	VA
2005	18		Bacterial bloodstream infection	Contamination ²³	IV solution (magnesium sulfate)	CA, NJ, NC, NY, MA
2004	2		Bacterial bloodstream infection	Contamination ²⁴	IV flush syringes (heparin-vancomycin)	CT
2002	5	1	Fungal meningitis and sacroiliitis	Contamination ²⁵	Spinal injections (methylprednisolone acetate)	
2001	11	3	5 cases of material meningitis; 5 cases of epidural abscess; 1 patient had an infected hip joint	Contamination ²⁶	Spinal or joint injections (betamethasone)	NC
2001	4		Bacterial bloodstream infection	Contamination ²⁷	IV infusion (ranitidine)	CA
TOTAL	1,049	89				

* As of publication, the CDC had not yet linked these deaths to the drug in question. See more details: <http://emergency.cdc.gov/HAN/han00353.asp>.

** Other products (betamethasone, cardioplegia, and triamcinolone) were also found to be contaminated, but adverse events linked to these products have not been reported. See more details: <http://www.fda.gov/drugs/drugsafety/fungalmeningitis/ucm325037.htm>

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