

There have been 342 deaths reported to the North Carolina Board of Pharmacy since 1992 when the death-reporting rule was enacted. Currently 37 deaths are questionable as to causation.

The highest death rate was attributed to blood modifying agents, which resulted in one-fourth of the deaths reported. Products such as warfarin, alteplase, eptifibatide, heparin, and enoxaparin are included in the blood modifying agents category.

Controlled substances were the second leading cause of drug-related deaths. Drugs such as morphine, diazepam and fentanyl are in this category. With controlled substances accounting for 15-20% of all prescription orders this figure confirms a prior conclusion that these deaths are proportional to their use in healthcare. The fact that a class other than controlled substances was the leading cause of death is noteworthy because of the much larger amount of resources devoted to monitoring controlled substances.

Type of Medication	Percent of Total Deaths Reported
Blood Modifying Agents	25%
Controlled Substances	19%
Antibiotics	8%
Anti-Cancer Drugs	5%
Contrast Dyes	4%
Anti-Depressant Drugs	3.5%
All Other Drugs or Devices	35.5%

#### DRUG OR DEVICES IN DEATH SUMMARY REPORT

(1992 - PRESENT)

ABCIXIMAB (REOPRO)<sup>1</sup>

ALEMTUZUMAB (CAMPATH)<sup>4</sup>

ALPRAZOLAM (XANAX)<sup>2</sup>

ALTEPLASE (ACTIVASE)<sup>1</sup>

ALTEPLASE (ACTIVASE)<sup>1</sup> & HEPARIN (HEP-LOCK)<sup>1</sup>

ALTEPLASE (ACTIVASE)<sup>1</sup>, EPTIFIBATIDE (INTEGRILIN)<sup>1</sup> & HEPARIN (HEP-LOCK)<sup>1</sup>

ALTEPLASE (ACTIVASE); HEPARIN (HEP-LOCK) & PREDNISONE (STERAPRED)  
AMIODARONE (CORDARONE OR PACERONE)  
AMIODARONE, METOPROLOL & DILTIAZEM  
AMITRIPTYLINE (ELAVIL)<sup>5</sup>  
AMITRIPTYLINE (ELAVIL)<sup>5</sup> & LORAZEPAM (ATIVAN)<sup>2</sup>  
AMITRIPTYLINE (ELAVIL)<sup>5</sup> & BUPROPION (WELLBUTRIN OR ZYBAN)<sup>5</sup>  
AMOXICILLIN (AMOXIL OR TRIMOX)<sup>3</sup>  
AMPICILLIN/SULBACTAM (UNASYN)<sup>3</sup>, AZTREONAM (AZACTAM)<sup>3</sup> &  
METHYLPREDNISOLONE (SOLU-MEDROL)  
ANTITHYMOCYTE GLOBULIN-EQUINE (ATGAM)  
AZATHIOPRINE (IMURAN) & PREDNISONE (STERAPRED)  
BACITRACIN (AK-TRACIN)<sup>3</sup>  
BACLOFEN (LIORESAL)  
BACTERIA FILTER ANESTHESIA DEVICE  
BENZODIAZEPINE<sup>2</sup> & BARBITURATES<sup>2</sup>  
BENZTROPINE (COGENTIN) & BUMETANIDE (BUMEX)  
BUPIVACAINE (MARCAINE OR SENSORCAINE) & MORPHINE<sup>2</sup>  
BUTORPHANOL TARTRATE (STADOL)<sup>2</sup>  
CALCIUM CHLORIDE INJECTION  
CARBOPLATIN (PARAPLATIN)<sup>4</sup>  
CARISOPRODOL (SOMA)  
CEFAZOLIN (ANCEF OR KEFZOL)<sup>3</sup>  
CEFOTAXIME (CLAFORAN)<sup>3</sup>  
CEFPODOXIME (VANTIN)<sup>3</sup>  
CEFTRIAXONE (ROCEPHIN)<sup>3</sup>  
CELECOXIB (CELEBREX)  
CEPHALEXIN (KEFLEX)<sup>3</sup>  
CHLORDIAZEPOXIDE (LIBRIUM)<sup>2</sup>  
CIPROFLOXACIN (CIPRO)<sup>3</sup>  
CIPROFLOXACIN (CIPRO)<sup>3</sup>, PHENYTOIN (DILANTIN) & OTHER MEDS  
CISAPRIDE (PROPULSID)  
CISATRACURIUM (NIMBEX)  
CLONAZEPAM (KLONOPIN) TAB<sup>2</sup>  
CLOPIDOGREL (PLAVIX)<sup>1</sup>  
CLOPIDOGREL (PLAVIX)<sup>1</sup>, TKN<sup>1</sup> & ENOXAPARIN (LOVENOX)<sup>1</sup>  
CONTRAST - NON IONIC  
CONTRAST DYE (ORAL& IV)  
CYTARABINE (CYTOSAR-U OR ARA-C)  
D5W + 1/2NS c 15mm POTASSIUM PHOSPHATE & 6gm CAL GLUC  
DACLIZUMAB (ZENAPAX)  
DENILEUKIN DIFTITOX (ONTAK)<sup>4</sup>  
DIATRIZOATE (RENOGRAFIN)  
DIAZEPAM (VALIUM)<sup>2</sup> & PROPRANOLOL (INDERAL OR INNOPRAN)

DIDANOSINE (VIDEX)  
DIGOXIN (LANOXIN OR DIGITEK OR LANOXICAPS)  
DIGOXIN (LANOXIN OR DIGITEK OR LANOXICAPS) & CLARITHROMYCIN (BIAXIN)<sup>3</sup>  
DIGOXIN (LANOXIN) & LEVOXYL  
DIGOXIN IMMUNE FAB (DIGIBAND)  
DIPYRIDAMOLE (PERSANTINE) 22MG IV<sup>1</sup>  
DOCETAXEL (TAXOTERE)<sup>4</sup>  
DOXEPIN (SINEQUAN OR ZONALON)<sup>5</sup>  
DOXEPIN (SINEQUAN OR ZONALON)<sup>5</sup> & OTHERS  
DOXORUBICIN (ADRIAMYCIN)<sup>4</sup>  
DOXYCYCLINE (ADOXA, DORYX, MONODOX, PERIOSTAT, OR VIBRAMYCIN)<sup>3</sup>  
ENALAPRIL (VASOTEC)  
ENOXAPARIN (LOVENOX)<sup>1</sup>  
ENOXAPARIN (LOVENOX)<sup>1</sup> & WARFARIN (COUMADIN)<sup>1</sup>  
ENOXAPARIN (LOVENOX)<sup>1</sup> & HEPARIN (HEP-LOCK)<sup>1</sup>  
EPOPROSTENOL (FLOLAN)  
EPTIFIBATIDE (INTEGRILIN)<sup>1</sup>  
EPTIFIBATIDE (INTEGRILIN)<sup>1</sup> & HEPARIN (HEP-LOCK)<sup>1</sup>  
EPTIFIBATIDE (INTEGRILIN)<sup>1</sup>, HEPARIN (HEP-LOCK)<sup>1</sup>, & CLOPIDOGREL (PLAVIX)<sup>1</sup>  
EPTIFIBATIDE (INTEGRILIN)<sup>1</sup>, HEPARIN (HEP-LOCK)<sup>1</sup>, ASA<sup>1</sup> & CLOPIDOGREL (PLAVIX)<sup>1</sup>  
EPTIFIBATIDE (INTEGRILIN)<sup>1</sup>, HEPARIN (HEP-LOCK)<sup>1</sup>, ASA<sup>1</sup> & ENOXAPARIN (LOVENOX)<sup>1</sup>  
ETHINYL ESTRADIOL & NORETHINDRONE (ORTHO TRI-CYCLEN)  
ETOPOSIDE (VEPESID)<sup>4</sup>  
FELBAMATE (FELBATOL)  
FENTANYL (DURAGESIC)<sup>2</sup> IV & PATCH  
FENTANYL (DURAGESIC)<sup>2</sup> & OTHER MULTIPLE MEDS  
FLUDARABINE (FLUDARA)<sup>4</sup>  
FLUOROURACIL (5-FU, ADRUCIL, CARAC, EFUDEX, FLUOROPLEX)<sup>4</sup>  
FLUOXETINE (PROZAC)<sup>5</sup> MIXED WITH COCAINE USE  
GATIFLOXACIN (TEQUIN OR ZYMAR)<sup>3</sup>  
GEMTUZUMAB (MYLOTARG)<sup>4</sup>  
GENTAMICIN (GARAMYCIN, GENTACIDIN, OR GENTAK)<sup>3</sup>  
GLYBURIDE/METFORMIN (GLUCOVANCE)  
HALOPERIDOL (HALDOL)  
HEPARIN (HEP-LOCK)<sup>1</sup>  
HEPARIN (HEP-LOCK)<sup>1</sup> & EPTIFIBATIDE (INTEGRILIN)<sup>1</sup>  
HEPARIN (HEP-LOCK)<sup>1</sup> & TPA<sup>1</sup>  
HYDRALAZINE (APRESOLINE)  
HYDROCODONE<sup>2</sup> & DOXEPIN (SINEQUAN OR ZONALON)<sup>5</sup>  
HYDROCODONE/APAP (LORCET PLUS)<sup>2</sup> & OXYCODONE (OXYCONTIN)<sup>2</sup>  
HYDROCODONE/APAP (VICODIN)<sup>2</sup>& POSSIBLY OTHERS  
IBUPROFEN (MOTRIN OR ADVIL)  
IMIPRAMINE (TOFRANIL)<sup>5</sup>

IMMUNE GLOBULIN (BAYGAM)  
IMMUNE GLOBULIN (SANDOGLOBULIN) IV  
INAMRINONE (AMRINONE)  
INFLIXIMAB (REMICADE)  
INSULIN & RANITIDINE (ZANTAC)  
IOHEXOL  
IRON DEXTRAN (DEXFERRUM) IV  
ISOVUE 300  
ISOVUE-370  
IV CONTRAST DYE  
KETORLAC (TORADOL) IM  
LAMOTRIGINE (LAMICTAL)  
LEPIRUDIN (REFLUDAN)<sup>1</sup>  
LEVETIRACETAM (KEPPRA)  
LEVOFLOXACIN (LEVAQUIN)<sup>3</sup>  
LEVOTHYROXINE (LEVOXYL OR SYNTHROID)  
LIDOCAINE (XYLOCAINE)  
LIDOCAINE (XYLOCAINE) 10% & TETRACAINE 10% CREAM  
LISINAPRIL (PRINIVIL OR ZESTRIL)  
LORAZEPAM (ATIVAN)<sup>2</sup>  
MAGNESIUM SULFATE  
MELPHALAN (ALKERAN)<sup>4</sup>  
MEPERIDINE (DEMEROL)<sup>2</sup>  
METFORMIN (GLUCOPHAGE)  
METHADONE (METHADOSE OR DOLOPHINE)<sup>2</sup>  
METHADONE (METHADOSE OR DOLOPHINE)<sup>2</sup> & OXYCODONE (ROXICODONE OR OXYIR)<sup>2</sup>  
METHADONE (METHADOSE OR DOLOPHINE)<sup>2</sup>, DOXEPIN (SINEQUAN OR ZONALON)<sup>5</sup> &  
ALPRAZOLAM (XANAX)<sup>2</sup>  
METHOTREXATE (RHEUMATREX)  
METHYLPREDNISOLONE (DEPO-MEDROL, MEDROL, OR SOLU-MEDROL)  
METHYLPREDNISOLONE (SOLU-MEDROL), HYDROCODONE/CHLORPHENIRAMINE  
(TUSSIONEX)<sup>2</sup>&  
TICARCILLIN/CLAV (TIMENTIN)<sup>3</sup>  
MIDAZOLAM (VERSED)<sup>2</sup>  
MILRINONE (PRIMACOR)  
MORPHINE (MS CONTIN, MSIR, KADIAN OR ROXANOL)<sup>2</sup>  
MORPHINE (MS CONTIN, MSIR, KADIAN OR ROXANOL)<sup>2</sup> & FENTANYL (DURAGESIC)<sup>2</sup>  
PATCH  
MORPHINE (MS CONTIN, MSIR, KADIAN OR ROXANOL)<sup>2</sup> & PROMETHAZINE (PHENERGAN)  
MORPHINE (MS CONTIN, MSIR, KADIAN OR ROXANOL)<sup>2</sup> & PUMP  
PROMETHAZINE (PHENERGAN) & OTHERS  
MORPHINE (MS CONTIN, MSIR, KADIAN OR ROXANOL)<sup>2</sup> & PROMETHAZINE  
NALOXONE (NARCAN) 0.5MG IV

NAPROXEN (ALEVE OR ANAPROX), CLONAZEPAM (KLONOPIN)<sup>2</sup>, PAROXETINE (PAXIL)<sup>5</sup>,  
PROPRANOLOL (INDERAL LA), ALPRAZOLAM (XANAX)<sup>2</sup> & HYOSCYAMINE (LEVSIN)  
NIFEDIPINE (PROCARDIA)  
NIFEDIPINE IMMEDIATE RELEASE (PROCARDIA), CAPTOPRIL (CAPOTEN) &  
LISINOPRIL (PRINIVIL OR ZESTRIL)  
NITROGLYCERIN 50MG/250ML IV  
OFLOXACIN (FLOXIN)<sup>3</sup>  
OMNIFLOX  
OMNIPAQUE 300 LOT#B925UJ EXPIR. DATE 08/03  
ONDANSETRON (ZOFTRAN)  
OPTIRAY (LOVERSOL)  
OSTEOBAND  
OXYCODONE (OXYCONTIN)<sup>2</sup>, CARISOPRODOL (SOMA) & ALCOHOL  
OXYCODONE (OXYCONTIN)<sup>2</sup>, MORPHINE (MS CONTIN)<sup>2</sup> & ZOLPIDEM (AMBIEN)<sup>2</sup>  
OXYCODONE (OXYCONTIN, OXYIR, ROXICODONE)<sup>2</sup>  
OXYCODONE (OXYCONTIN, OXYIR, ROXICODONE)<sup>2</sup>, ALPRAZOLAM (XANAX)<sup>2</sup> & COCAINE  
OXYCODONE (ROXICODONE)<sup>2</sup> SOLUTION  
PACLITAXEL (TAXOL)<sup>4</sup>  
PAMIDRONATE (ARELIA)  
PATIENT RESTRAINT  
PHENELZINE (NARDIL)<sup>5</sup> & HALOPERIDOL (HALDOL)  
PHENYTOIN (DILANTIN)  
PHYTONADIONE (MEPHYTON OR VIT K)<sup>1</sup>  
POTASSIUM CHLORIDE  
PROCAINAMIDE (PROCANBID OR PRONESTYL)  
PROMETHAZINE (PHENERGAN) 25MG  
PROPOFOL (DIPRIVAN)  
PROPOFOL (DIPRIVAN) & OTHERS  
PROPOFOL (DIPRIVAN), LIDOCAINE (XYLOCAINE) & CEFUROXIME (CEFTIN)<sup>3</sup>  
PROPOXYPHENE (DARVOCET N -100 AND DARVON)<sup>2</sup>, DIAZEPAM (VALIUM)<sup>2</sup>, OXYCODONE  
AND ASA (PEROC DAN)<sup>2</sup>, OXYCODONE & APAP (PERCOCET)<sup>2</sup>  
PROPOXYPHENE (DARVON)<sup>2</sup>  
PROPOXYPHENE-APAP (DARVOCET-N)<sup>2</sup>  
PROPRANOLOL (INDERAL LA)  
PROPRANOLOL (INDERAL OR INNOPRAN) & CISAPRIDE (PROPULSID)  
PROTAMINE<sup>1</sup>  
QUETIAPINE (SEROQUEL)  
QUINAPRIL (ACCUPRIL) & OMEPRAZOLE (PRILOSEC)  
RETEPLASE (RETAVASE)<sup>1</sup>  
RIFAMPIN (RIFADIN)<sup>3</sup>  
ROPIVACAINE (NAROPIN) 0.5%  
SALINE 3%  
SILDENAFIL (VIAGRA)

SIMVASTATIN (ZOCOR)  
SPECIFIC DRUG NOT LISTED  
SPIRONOLACTONE (ALDACTONE) 25MG & PROCHLORPERAZINE (COMPazine) 10MG  
STERILE WATER  
STREPTOKINASE (STREPTASE)<sup>1</sup>  
SUCCINYLCHOLINE (QUELICIN)  
SUMATRIPTAN (IMITREX) 50MG POXI  
TACROLIMUS (PROGRAF) (FK506)  
TALNETANT  
TENECTEPLASE (TNKASE)<sup>1</sup>  
TENECTEPLASE (TNKASE)<sup>1</sup> & HEPARIN (HEP-LOCK)<sup>1</sup>  
THALIDOMIDE (THALOMID) 50MG CAPSULES  
THEOPHYLLINE (THEODUR) TAB  
TIROFIBAN (AGGRASTAT)<sup>1</sup> & HEPARIN (HEP-LOCK)<sup>1</sup>  
TRETINOIN (RETIN-A)  
TRIMETHOPRIM SULFAMETHOXAZOLE (SEPTRA)<sup>3</sup>  
TROVAFLOXACIN (TROVAN)<sup>3</sup>  
UROKINASE (ABBOKINASE)<sup>1</sup>  
VALPROIC ACID (DEPAKOTE)  
VALPROIC ACID (DEPAKOTE) & MORPHINE TAB (MS CONTIN, MSIR, KADIAN OR ROXANOL)<sup>2</sup>  
VANCOMYCIN (VANCOGIN)<sup>3</sup>  
VANCOMYCIN (VANCOGIN)<sup>3</sup>, IMIPENEM/CILASTATIN (PRIMAXIN)<sup>3</sup>, AZTREONAM (AZACTAM)<sup>3</sup>,  
RIFAMPIN<sup>3</sup>, FUROSEMIDE (LASIX) & PROCAINAMIDE (PROCANBID OR PRONESTYL)  
VECURONIUM (NORCURON)  
VENLAFAXINE (EFFEXOR)<sup>5</sup>, PROPOXYPHENE (DARVON)<sup>2</sup> & OTHERS  
VERAPAMIL (CALAN, COVERA, OR VERALAN) & OTHER MEDICATIONS  
WARFARIN (COUMADIN)<sup>1</sup>  
WARFARIN (COUMADIN)<sup>1</sup> & ENOXAPARIN (LOVENOX)<sup>1</sup>  
WARFARIN (COUMADIN)<sup>1</sup> & CLOPIDOGREL (PLAVIX)<sup>1</sup>  
ZAFIRLUKAST (ACCOLATE)  
ZIDOVUDINE (RETROVIR) OR DIDANOSINE (VIDEX)  
ZOLPIDEM (AMBIEN)<sup>2</sup> & OXYCODONE WITH ACETAMINOPHEN (PERCOCET)<sup>2</sup>

## KEY

<sup>1</sup> Blood Modifier

<sup>2</sup> Controlled  
Substance

<sup>3</sup> Antibiotic

<sup>4</sup> Anti-Cancer

<sup>5</sup> Anti-Depressant