

Chapter 9

workers' Compensation

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workers' Compensation

INTRODUCTION

Health hazards in the workplace are governed by various sectors of law. Regulatory agencies are authorized to *prevent* hazards, whereas workers' compensation statutes and the tort litigation process are used primarily to *provide compensation* for injuries and diseases. Workers' compensation laws (and, to a lesser extent, tort law) are also intended to deter hazardous conduct by threatening employers with liability to injured workers or increased insurance costs. The failure of workers' compensation laws to have a significant deter-

rent effect resulted in the creation of the Occupational Safety and Health Administration (OSHA) and other agencies with the authority to mandate safe workplace conditions.

This chapter discusses State workers' compensation systems as a vehicle for compensating workers who have been reproductively harmed in the workplace; chapter 10 discusses the tort liability system. **Both the workers' compensation and tort liability systems fail to consistently provide compensation to the victims of occupationally induced reproductive failure, though they sometimes result in some compensation for some workers.**

¹This chapter relies in part on a contract report prepared by Michael Baram, Professor of Health Law, Boston University. M. Baram, Reproductive Hazards in the Workplace: Workers' Compensation Law (May 1984) (unpublished report).

WORKERS' COMPENSATION

Each of the 50 States requires that employees of private firms be covered by a form of insurance known as *workers' compensation*. Under the workers' compensation systems now in effect, workers are entitled to receive monetary compensation from their employers for wage losses, medical expenses, and other costs incurred as a result of injury, disease, or death arising from certain job-related circumstances. Although workers' compensation is the sole official source of compensation for injured or diseased workers, it is frequently criticized as providing inadequate benefits to employees and insufficient incentive for employers to offer more healthful workplaces.

Unlike a claimant in the tort system,³ the worker who seeks workers' compensation need not prove employer fault or negligence, nor establish that the worker was without fault or negli-

gence. The defendant (employer or insurer) may accept the claim, try to settle, or contest the claim. A defendant typically contests a worker's compensation claim by contending that the injury did not arise while the worker was acting within the scope of employment, that the worker's injury is not covered by the compensation statute, or that the worker was not injured at all. If a claim is contested, an evidentiary hearing is held before a State board. In most States, the board decision may be appealed to a special appeals board and/or to a court by either party.

Monetary benefits may be *scheduled* or determined by a *formula*. Scheduled benefits provide a specific sum usually determined by statute for the specific injury. Formula benefits provide workers who have permanent or temporary, total or partial disabilities with income maintenance at a level determined by the statutory formula during the period of disability.

Although workers' compensation laws vary from State to State, certain attributes are common among State statutory schemes. The fore-

²See generally P. Barth, *Workers' Compensation and Work-Related Illnesses and Diseases* (1980); A. Larson, *The Law of Workmen's Compensation* (1978); *Workmen's Comp. L. Rep.* (CCH).

³A *tort* is a private or civil wrong or injury, other than breach of contract, for which a court will permit recovery of monetary damages and/or other forms of relief.

most attribute, criticized by those who consider the system inadequate, is the exclusivity of remedy doctrine, discussed later, which provides that an employee covered by a workers' compensation statute cannot sue his or her employer at common law for any injury or disease subject to the statute. (Employee suits against the manufacturers of dangerous products used by their employers are not affected by the exclusivity doctrine. Also unaffected by the exclusivity rule are suits by the employee's spouse or offspring, since these nonemployees are not covered by workers' compensation laws in the first place.) This barrier to tort actions by diseased or injured workers against their employers has been eroded in several States, which now permit tort actions against employers in limited circumstances. Nevertheless, **workers' compensation is the sole official source of compensation for most injured or diseased workers.**

Occupational Disease Compensation

Workers' compensation laws were initially enacted to deal with the "easy case": compensating employees with injuries caused in accidents. Later, recognition of occupational diseases and the filing of disease claims led to expansions of coverage. Today, the workers' compensation law in every State is applicable to occupational diseases.⁴ Table 9-1 provides a summary of occupational disease coverage provisions.

Only 5 to 8 percent of all workers' compensation claims are claims for occupational diseases, however.⁵ Explanations for the small number of disease claims include:

- Workers, medical experts, and attorneys do not readily recognize the job-relatedness and compensability potential of many diseases.
- Some claims may be discouraged because of the difficulty of proving a causal link between a workplace exposure and the disease.

- Some States require disease compensation claims to be filed within a specified period of time (generally, 1 to 3 years) after the most recent occupational exposure, thereby precluding claims for diseases that have long latency periods, such as cancer and some developmental effects.

Classification of Workplace Reproductive Injury and Disease

The reproductive health of the male and female worker, the health of the embryo or fetus carried by the pregnant worker, and the health of the worker's spouse or offspring can be injured or impaired in many ways by occupational circumstances. The workers' compensation system, however, is structured so as to afford coverage and the opportunity for compensation for only some of these harms.

The occupational circumstances leading to possible reproductive injuries and diseases include:

- accidental injuries suffered by the worker or the embryo/fetus (e.g., testicular injury from physical impact, embryo/fetal injury from worker fall);
- physical stress of the worker (e.g., miscarriage arising from heavy physical exertion);
- acute or chronic exposure of worker or fetus to chemical, physical, or biological agents in the workplace that directly result in reproductive damage or loss of sexual capacity; and
- other acute or chronic exposures of workers that lead to primarily nonreproductive injuries or diseases but which, as a side effect, also impair the worker's reproductive or sexual function (e.g., prostate cancer, psychological stress leading to impotence).

No official lists or scientific classifications of reproductive health hazards exist in the United States. Furthermore, although numerous research reports on specific agents contain findings that indicate harmful effects on human and/or animal reproductive systems and embryo/fetuses, these have not been systematically organized or used for purposes of occupational health policy or insurance analysis,

⁴U.S. Chamber of Commerce, Analysis of Workers' Compensation Laws: 1982 (1982)

⁵See P. Barth, Workers' Compensation: 111 (1 Work-Related Injuries and Diseases (1980) (8 percent); U.S. Department of Labor, Bureau of Labor Statistics, Supplementary Data System, table 121 (1980) (5 percent).

Table 9-1.—Summary of Occupational Disease Coverage by State

Nature of coverage ^a	Medical boards	Onset of disability or death	Time limit on claim filing	Medical care	Compensation ^b
Alabama:					
All diseases		Death—within 3 years after last exposure or last payment. Radiation or occupational pneumoconiosis*—exposure must occur in at least 12 months over 5 years prior to last exposure.	Disability—within 1 year after last exposure or last payment (radiation—within 1 year and claimant knows/should know relation to employment). Death—within 1 year after death or last payment. Coalminers pneumoconiosis—within 3 years after total disability or death and claimant knows/should know relation to employment.	Unlimited	Same as for accidents. Coalminer's pneumoconiosis—total disability or death compensated same as Federal Black Lung Act.
Alaska:					
All diseases			2 years after knowledge of relation to employment. Within 1 year after death.	Unlimited	Same as for accidents
American Samoa:					
All diseases	Claimant examined by physician selected by Commissioner.		Within 1 year after claimant knows/should know relation to employment.	Unlimited	Same as for accidents
Arizona:					
All diseases	Board of 3 medical consultants may be appointed by Commission. Report is prima facie evidence of facts.	Silicosis or asbestosis—employer liable only if exposure during 2 years.	Within 1 year after disability or accrual of right, excusable.*	Unlimited	Same as for accidents
Arkansas:					
All diseases		Disability or death—within 1 year after last exposure (3 years for silicosis or asbestosis), or 7 years for death following continuous disability. Does not apply to radiation. Silicosis or asbestosis presumed nonoccupational absent exposure in 5 years over 10 years prior to (disability & 2 of 5 years in-state unless same employer)	Disability—within 2 years after last exposure (silicosis or asbestosis—within 1 year from disablement; radiation—within 2 years from diagnosis). Death—within 2 years.	Unlimited	Same as for accidents. Silicosis and asbestosis—partial disability less than 33⅓% noncompensable.*
California:					
All diseases Special account for asbestos-related disease.			Disability—within 1 year from injury or last payment. Death—within 1 year after death (or death within 1 year of injury); 1 year after last medical payment; or 1 year after death if compensation paid; no proceedings more than 240 weeks after injury except for claims based on asbestos exposure.*	Unlimited	Same as for accidents
Colorado:					
All diseases		Disability—within 5 years after injury (no limit for radiation, asbestosis, silicosis, or anthracosis). Silicosis or asbestosis—employer liable only if exposure lasts 60 days.	Within 3 years after disability or death (5 years in case of ionizing radiation, asbestosis, silicosis, or anthracosis or if reasonable excuse).	Unlimited	Same as for accidents
Connecticut:					
All diseases	Panel of 3 physicians may be appointed by Commissioner to resolve medical issues involving lung disease.		Within 3 years after first manifestation of disease (within 2 years if death occurs within 2 years after first manifestation of disease, or 1 year after death, whichever is later).	Unlimited	Same as for accidents

^a Employer and insurance carrier at time of last exposure are liable in Arkansas, Colorado, Florida, Georgia, Illinois, Indiana, Kansas, Kentucky, Maine, Maryland, New Hampshire, North Carolina, Oklahoma, Tennessee, Vermont, and Virginia. The employer at time of last exposure is liable in Alabama, Arizona, Iowa, Michigan, Missouri, Montana, New Mexico, Pennsylvania, South Dakota, Texas, and Utah. Liability is apportioned among responsible employers in New York and Rhode Island. California limits liability to employer during last year of exposure.

^b Benefits determined as the date of last exposure or last injurious exposure in Arkansas, Georgia, Illinois, Indiana, Kentucky, Louisiana, Maine, Michigan, Minnesota, Missouri, New Jersey, South Dakota, Texas, Washington, Wisconsin, and Wyoming. Benefits determined as of the date of disability, knowledge, or manifestation in Alabama, Alaska, Arizona, California, Colorado, Connecticut, Delaware, Florida, Hawaii, Idaho, Iowa, Maryland, Massachusetts, Mississippi, Montana, Nebraska, New Hampshire, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, Tennessee, Utah, Vermont, and West Virginia.

AL *Radiation illness caused by gradual exposure.

AZ *Limit on filing runs from when injury is manifest or when claimant knows/should know relation to employment; tolled during incapacity.

AK *Silicosis or asbestosis—worker who is affected but not disabled may leave work and receive up to 26 weeks of benefits plus up to \$400 for retraining

CA *Date of injury is date of disability and claimant knows/should know relation to employment.

Table 9-1.—Summary of Occupational Disease Coverage by State—Continued

Nature of coverage ^a	Medical boards	Onset of disability or death	Time limit on claim filing	Medical care	Compensation ^b
Delaware:					
All diseases			Disability or death—within 1 year after claimant knows relation to employment.	Unlimited	Same as for accidents
District of Columbia:					
All diseases			Within 1 year after injury, death, last payment, or knowledge of relation to employment.	Unlimited	Same as for accidents
Florida:					
All diseases		Death—following continuous disability and within 350 weeks after last exposure Employer liable for dust disease only If exposure lasts 60 days,	Within 2 years after disablement, death, or last payment,	Unlimited	Same as for accidents
Georgia:					
All diseases	Medical board of 5, finding conclusive,	Within 1 year after last exposure (3 years for byssinosis, silicosis, or asbestosis; 7 years for death following continuous disability). Employer liable for silicosis or asbestosis only if exposure lasts 60 days, presumed nonoccupational absent exposure in 5 years over 10 years prior to disability (2 years restate unless same employer). •	Within 1 year after disablement, death, or medical care, or 2 years after last payment.** Radiation—within 1 year after onset of disability and claimant knows/should know relation to employment.**	Unlimited	Same as for accidents***
Guam:					
All diseases			Within 1 year after injury, death, or last payment	Unlimited	Same as for accidents
Hawaii:					
All diseases			Within 2 years after Claimant knows relation to employment.	Unlimited	Same as for accidents
Idaho:					
All diseases		Within 1 year after last exposure (4 years for silicosis, 7 years for death following continuous disability), Employer liable for nonacute disease only if exposure lasts 60 days. Silicosis—exposure must occur in 5 years during 10 years prior to disablement (last 2 in-state unless same employer),	Within 1 year after manifestation or death, Silicosis—within 4 years after last exposure Radiation or unusual disease—within 1 year after incapacity, disability, or death and claimant knows/should know relation to employment	Unlimited	Same as for accidents, Silicosis—partial disability noncompensable. •
Illinois:					
All diseases		Disability—within 2 years after last exposure (3 years for berylliosis or silicosis, 25 years for asbestosis or radiation).	Disability—within 3 years after disablement or 2 years after last payment, Death—within 3 years after death or last payment. Coalminer's pneumoconiosis—within 5 years after last exposure or last payment, * Radiation—within 25 years after last exposure or 3 years after death or last payment,	Unlimited	Same as for accidents

a Employer and insurance carrier at time of last exposure are liable in Arkansas, Colorado, Florida, Georgia, Illinois, Indiana, Kansas, Kentucky, Maine, Maryland, New Hampshire, North Carolina, Oklahoma, Tennessee, Vermont, and Virginia. The employer at time of last exposure is liable in Alabama, Arizona, Iowa, Michigan, Missouri, Montana, New Mexico, Pennsylvania, South Dakota, Texas, and Utah. Liability is apportioned among responsible employers in New York and Rhode Island. California limits liability to employer during last year of exposure.

b Benefits determined as the date of last exposure or last injurious exposure in Arkansas, Georgia, Illinois, Indiana, Kentucky, Louisiana, Maine, Michigan, Minnesota, Missouri, New Jersey, South Dakota, Texas, Washington, Wisconsin, and Wyoming. Benefits determined as of the date of disability, knowledge, or manifestation in Alabama, Alaska, Arizona, California, Colorado, Connecticut, Delaware, Florida, Hawaii, Idaho, Iowa, Maryland, Massachusetts, Mississippi, Montana, Nebraska, New Hampshire, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, Tennessee, Utah, Vermont, and West Virginia.

GA *Byssinosis claims diagnosed before July 1, 1983, must be filed before July 1, 1984.

** Year is 200 days exposure over 12 months.

• "Silicosis or asbestosis—worker who is affected but not disabled may waive full compensation and if later disabled receive benefits for 100 weeks up to \$2,000

Table 9-1.—Summary of Occupational Disease Coverage by State—Continued

Nature of coverage ^a	Medical boards	Onset of disability or death	Time limit on claim filing	Medical care	Compensation ^b
Indiana:					
All diseases		Disablement—within 2 years after last exposure (3 years if caused by asbestos, coal, or silica dust); radiation—within 2 years after claimant knows/should know relation to employment. Death—within 2 years after disablement or during pendency of disability claim filed within that period; within 2 years after fixed disability expires but no later than 300 weeks after disablement. Employer liable for silicosis or asbestosis only if exposure lasts 60 days.	Within 2 years after disablement or death.	Unlimited	Same as for accidents
Iowa:					
All diseases	Medical board may decide controverted medical questions or provide medical examinations for certain employees.	Disability or death—within 1 year after last exposure (3 years for pneumoconiosis; 7 years for death following continuous disability). Pneumoconiosis presumed nonoccupational absent exposure in 5 years over 10 years prior to disability (2 of 5 years in-state); employer liable only if exposure lasts 60 days.	Within 2 years after death or disablement or 3 years after last payment. Radiation—within 90 days after disablement or death and claimant knows/should know relation to employment.	Unlimited	Same as for accidents. Pneumoconiosis—partial disability less than 33⅓% is noncompensable.
Kansas:					
All diseases		Disability or death—within 1 year after last exposure (3 years for death from silicosis, 7 years for death following continuous disability). Does not apply to radiation. Silicosis presumed nonoccupational absent exposure in 5 years over 10 years prior to disability (2 of 5 years in-state unless same employer); employer liable only if exposure lasts 60 days.	Within 1 year after disablement, death, or last payment (2 years after last payment in case of silicosis). Radiation—within 1 year after claimant knows/should know relation to employment.	Unlimited	Same as for accidents*
Kentucky:					
All diseases*			Disability—within 3 years after last exposure or first manifestation. Death—within 3 years, if it occurs within 3 years after last exposure or first manifestation. Limit waived where voluntary payment or employer knows of disease and cause. No claim more than 5 years after last exposure (20 years in case of radiation), except for death within 20 years after continuous disability begins in cases where there is award or timely claim for disability.	Unlimited	Same as for accidents. Where disablement occurs after 5 years exposure or results from silicosis or pneumoconiosis, apportioned between employer and Special Fund. Fund pays 75% of cost if not conclusively proven to result from last exposure, otherwise pays 40%. Employer pays balance
Louisiana:					
All diseases		Diseases contracted in less than 1 year presumed to be nonoccupational. Presumption is rebuttable by "overwhelming preponderance of evidence."	Disability—within 6 months after manifestation, occurrence of disability, or worker knows/should know relation to employment. Death—within 6 months, or within 6 months after worker knows/should know relation to employment.	Unlimited	Same as for accidents

^a Employer and insurance carrier at time of last exposure are liable in Arkansas, Colorado, Florida, Georgia, Illinois, Indiana, Kansas, Kentucky, Maine, Maryland, New Hampshire, North Carolina, Oklahoma, Tennessee, Vermont, and Virginia. The employer at time of last exposure is liable in Alabama, Arizona, Iowa, Michigan, Missouri, Montana, New Mexico, Pennsylvania, South Dakota, Texas, and Utah. Liability is apportioned among responsible employers in New York and Rhode Island. California limits liability to employer during last year of exposure.

^b Benefits determined as of the date of last exposure or last injurious exposure in Arkansas, Georgia, Illinois, Indiana, Kentucky, Louisiana, Maine, Michigan, Minnesota, Missouri, New Jersey, South Dakota, Texas, Washington, Wisconsin, and Wyoming. Benefits determined as of the date of disability, knowledge, or manifestation in Alabama, Alaska, Arizona, California, Colorado, Connecticut, Delaware, Florida, Hawaii, Idaho, Iowa, Maryland, Massachusetts, Mississippi, Montana, Nebraska, New Hampshire, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, Tennessee, Utah, Vermont, and West Virginia.

KS *Worker who is affected but not disabled may waive full compensation and if later disabled receive benefits up to 100 weeks.

KY *Black lung claimant must file under state and federal law.

Table 9-1.—Summary of Occupational Disease Coverage by State—Continued

Nature of coverage ^a	Medical boards	Onset of disability or death	Time limit on claim filing	Medical care	Compensation ^b
Maine:					
All diseases		Incapacity—within 3 years after last exposure (does not apply to asbestos-related disease). Employer liable only if exposure lasts 60 days (except for radiation and asbestos-related disease). Silicosis presumed nonoccupational absent in-state exposure in 2 years during 15 years preceding disability (part of exposure may be out of state if same employer)	Within 2 years after incapacity or 1 year after death or last payment (40 years after last payment for asbestos-related disease). * If mistake of fact, within reasonable time but no later than 10 years after last payment. Radiation—limit runs from date of incapacity and claimant knows/should know relation to employment.	Unlimited	Same as for accidents
Massachusetts:					
All diseases			Within 2 years after disablement, death, or actual knowledge of relation to employment, excusable (3 years for pulmonary dust disease)	Unlimited	Same as for accidents
Michigan:					
All diseases			Within 1 year after injury or death; excusable	Unlimited	Same as for accidents
Minnesota:					
All diseases			Within 2 years after claimant knows/should know relation to employment.	Unlimited	Same as for accidents
Mississippi:					
All diseases			Within 3 years after employee's knowledge of cause of injury or disability.	Unlimited	Same as for accidents
Missouri:					
All diseases			Within 2 years after injury, death, or last payment (3 years if no injury report filed), limitation runs from date injury is reasonably apparent	Unlimited	Same as for accidents
Montana:					
All diseases	Examinations made by 1 or more members of the occupational disease panel	Death—within 3 years after last employment unless continuous total disability (does not apply to radiation). Silicosis—total disability or death must occur within 3 years after last employment (except for death following continuous total disability), and employer is liable only if exposure lasts 90 workshifts.	Within 1 year after disability and claimant knows/should know relation to employment, may be extended 2 more years. No claim more than 3 years after last employment (except for radiation or death after continuous total disability)	Unlimited	Same as for accidents, excluding partial disability. Worker who is affected but not disabled may leave job and receive compensation up to \$10,000. Pneumoconiosis benefits reduced by amount payable under federal law. Benefits for silicosis are supplemented so that combined compensation is \$200 monthly, supplement is general revenue financed.
Nebraska:					
All diseases			Within 2 years after injury or death,	Unlimited	Same as for accidents

a Employer and insurance carrier at time of last exposure are liable in Arkansas, Colorado, Florida, Georgia, Illinois, Indiana, Kansas, Kentucky, Maine, Maryland, New Hampshire, North Carolina, Oklahoma, Tennessee, Vermont, and Virginia. The employer at time of last exposure is liable in Alabama, Arizona, Iowa, Michigan, Missouri, Montana, New Mexico, Pennsylvania, South Dakota, Texas, and Utah. Liability is apportioned among responsible employers in New York and Rhode Island. California limits liability to employer during last year of exposure.

b Benefits determined as of date of first exposure or last injurious exposure in Arkansas, Georgia, Illinois, Indiana, Kentucky, Louisiana, Maine, Michigan, Minnesota, Missouri, New Jersey, South Dakota, Texas, Washington, Wisconsin, and Wyoming. Benefits determined as of the date of disability, knowledge, or manifestation in Alabama, Alaska, Arizona, California, Colorado, Connecticut, Delaware, Florida, Hawaii, Idaho, Iowa, Maryland, Massachusetts, Mississippi, Montana, Nebraska, New Hampshire, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, Tennessee, Utah, Vermont, and West Virginia.

ME Claim for asbestos-related disease contracted between 11/30/67 and 10/1/63 must be filed by 1/1/85.
 MD *Disease or injury compensable under federal law (other than Social Security Disability Insurance) is not compensable.
 MI *Silicosis, dust disease, and logging industry fund reimburses compensation over \$12,500 (expires 1/1/66).
 MS • For radiation, date of disablement is date of injury.
 MT *Silicosis is noncompensable absent in-state exposure in 1,000 workshifts during 8 years preceding total disability; claimant who is discharged to avoid liability may receive compensation when totally disabled if employed 700 workshifts.

Table 9-1.—Summary of Occupational Disease Coverage by State—Continued

Nature of coverage ^a	Medical boards	Onset of disability or death	Time limit on claim fdmg	Medical care	Compensation ^b
Nevada:					
All diseases	Physician review board selected by insurer, findings conclusive	Silicosis or respiratory dust disease is noncompensable absent in-state exposure in 3 years during 10 years preceding disability or death	Within 90 days after knowledge of disability and relation to employment or 1 year after death. Silicosis or respiratory dust disease—within 1 year after temporary or total disability or death	Unlimited	Same as for accidents
New Hampshire:					
All diseases			Within 2 years after injury or death and claimant knows/should know of injury and relation to employment.	Unlimited	Same as for accidents
New Mexico:					
All diseases			Within 2 years after claimant knows relation to employment or last payment	Unlimited	Same as for accidents
North Carolina:					
All diseases		Death—within 1 year after last employment (3 years for death following continuous disability), and death must follow disability within 2 years. Silicosis or asbestosis—disability or death within 2 years after last employment (5 years for death following continuous disability); employer is liable only if exposure lasts 60 days, noncompensable absent in-state exposure in 1,250 workshifts during 10 years preceding disability. Radiation—disability or death within 10 years after last employment.	Within 1 year after disability or death or 1 year 31 days after last voluntary payment. Radiation—within 1 year after disability begins or death and claimant knows/should know relation to employment	Unlimited	Same as for accidents
New York:					
All diseases		Disease must be contracted within 12 months prior to disablement except in case of continuous employment for one employer or in case of certain illnesses* (within 5 years prior to death if no claim prior to death in case of certain illnesses). Not applicable to radiation, silicosis, or other dust diseases	Within 2 years after disablement or death. Radiation, silicosis, or dust disease—within 90 days after disablement and claimant knows relation to employment	Unlimited	Same as for accidents**
North Carolina:					
All diseases	Commission appoints 3-member advisory board for silicosis or asbestosis cases.	Death within 2 years after injury, if totally disabled 6 years after injury or 2 years after final determination. Asbestosis—disability or death within 10 years after last exposure, for death following continuous disability, disability must occur within 10 years after last exposure. Lead poisoning—disability or death within 2 years after last exposure, for death following continuous disability, disability must occur within 2 years after last exposure	Within 2 years after disablement, death, or last payment. Radiation—within 2 years after incapacity and claimant knows/should know relation to employment. Brown lung claims compensable regardless of last exposure, effective 6/25/80-4/30/81	Unlimited	Same as for accidents**

a Employer and insurer—At time of last exposure are liable in Arkansas, Colorado, Florida, Georgia, Illinois, Indiana, Kansas, Kentucky, Maine, Maryland, New Hampshire, North Carolina, Oklahoma, Tennessee, Vermont, and Virginia. The employer at time of last exposure is liable in Alabama, Arizona, Iowa, Michigan, Missouri, Montana, New Mexico, Pennsylvania, South Dakota, Texas, and Utah. Liability is apportioned among responsible employers in New York and Rhode Island. California limits liability to employer during last year of exposure.

b Benefits determined as the date of last exposure or last injury—Arkansas, Georgia, Illinois, Indiana, Kentucky, Louisiana, Maine, Michigan, Minnesota, Missouri, New Jersey, South Dakota, Texas, Washington, Wisconsin, and Wyoming. Benefits determined as of the date of disability, knowledge, or manifestation in Alabama, Alaska, Arizona, California, Colorado, Connecticut, Delaware, Florida, Hawaii, Idaho, Iowa, Maryland, Massachusetts, Mississippi, Montana, Nebraska, New Hampshire, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, Tennessee, Utah, Vermont, and West Virginia.

NH . Date of injury is last date of exposure or first date worker knows/should know relation to employment.

NY *Illness caused by compressed air, arsenic, benzol, beryllium, zirconium, cadmium, chrome, lead, or fluorine

**Disability or death due to silicosis or dust disease reimbursed from special fund for all payments over 104 weeks.

NC *Asbestosis is noncompensable absent in-state exposure in 2 years during 10 years preceding last exposure or if exposure is less than 30 working days in 7 consecutive months.

**Worker who is affected but not disabled by asbestosis or silicosis or who is removed from exposure receives benefits up to \$60 weekly for 104 weeks. If later totally disabled, full compensation is paid. If death results within 2 years after last exposure (350 weeks if caused by secondary infection), full compensation is paid. If partially disabled 66 2/3% of wage loss is paid for another 196 weeks. If unrelated death, balance of 104 weeks is paid plus 300 weeks (total disability) or percentage of 196 weeks (partial disability). Worker may waive full compensation and receive 104 weeks of compensation plus 100 more weeks if later disabled or dies

Table 9“1.—Summary of Occupational Disease Coverage by State—Continued

Nature of coverage ^a	Medical boards	Onset of disability or death	Time limit on claim filing	Medical care	Compensation ^b
North Dakota:					
All diseases		Death—within 1 year after injury if no disability, or 1 year after cessation of disability, or 6 years after injury if disability is continuous •	Within 1 year after injury, within 2 years after death (2 years after injury if no claim prior to death) •	Unlimited	Same as for accidents
Ohio:					
All diseases	Medical specialist in specific cases, findings advisory		Within 2 years after disability or death or within 6 months after diagnosis (whichever is later)	Unlimited	Same as for accidents. No partial disability for respiratory dust disease, •
Oklahoma:					
All diseases		Employer liable for silicosis or asbestosis only if exposure lasts 60 days	Within 18 months after last exposure or manifestation and diagnosis by a physician, or within 3 months after disablement,	Unlimited	Same as for accidents'
Oregon:					
All diseases			Within 5 years after last exposure and within 180 days after disablement or physician informs claimant of disablement 10 years after last exposure for radiation disease. •	Unlimited	Same as for accidents
Pennsylvania:					
All diseases	Examination by impartial physician may be ordered	Within 300 weeks after last exposure (except death following disability that occurs within 300 weeks after last exposure) Silicosis, anthracosilicosis, or coalminer's pneumoconiosis— noncompensable absent in-state exposure In 2 years during 10 years preceding disability, •	Within 3 years after disablement, death, or last payment Radiation—within 3 years after the employee knows/should know relation to employment	Unlimited	Same as for accidents"
Puerto Rico:					
Diseases as provided by law		Disability—within 1 year after last exposure, except diseases with longer latency periods	Within 3 years from time employee learns nature of disability.	Unlimited	Same as for accidents
Rhode Island:					
All diseases	Director of Labor appoints impartial physician		Within 3 years after disability or death. Radiation—within 1 year after claimant knows/should know relation to employment	Unlimited	Same as for accidents
South Carolina:					
All diseases	Medical board determines controverted medical questions, pulmonary cases may be referred to pulmonary specialists of state medical universities.	Disease must be contracted within 1 year after last exposure (2 years for pulmonary dust disease), except radiation Byssinosis is noncompensable absent exposure for 7 years.	Within 2 years after definitive diagnosis or 1 year after death. Radiation—limitation runs from date of disability and claimant knows/should know relation to employment	Unlimited	Same as for accidents. Worker who is affected but not disabled may waive compensation (except radiation).

a Employer and insurance carrier at time of last exposure are liable in Arkansas, Colorado, Florida, Georgia, Illinois, Indiana, Kansas, Kentucky, Maine, Maryland, New Hampshire, North Carolina, Oklahoma, Tennessee, Vermont, and Virginia. The employer at time of last exposure is liable in Alabama, Arizona, Iowa, Michigan, Missouri, Montana, New Mexico, Pennsylvania, South Dakota, Texas, and Utah. Liability is apportioned among responsible employers in New York and Rhode Island. California limits liability to employer during last year of exposure.

b Benefits determined as of the date of last exposure or last injurious exposure in Arkansas, Georgia, Illinois, Indiana, Kentucky, Louisiana, Maine, Michigan, Minnesota, Missouri, New Jersey, South Dakota, Texas, Washington, Wisconsin, and Wyoming. Benefits determined as of the date of disability, knowledge, or manifestation in Alabama, Alaska, Arizona, California, Colorado, Connecticut, Delaware, Florida, Hawaii, Idaho, Iowa, Maryland, Massachusetts, Mississippi, Montana, Nebraska, New Hampshire, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, Tennessee, Utah, Vermont, and West Virginia.

ND "Date of injury is date on which a reasonable person knows/should know relation to employment.

OH "Includes asbestosis, silicosis, and coalminer's pneumoconiosis. Worker who is affected but not disabled by respiratory dust disease and leaves employment may receive \$49 weekly for 30 weeks, 66 2/3% of wage loss (not to exceed \$40.25 weekly).

OK • Worker who is affected but not disabled by silicosis or asbestosis may waive compensation for aggravation of disease and, if later disabled, receive benefits for 100 weeks up to \$2,000.

OR "Asbestos-related disease—within 40 years after last exposure and 160 days after disability or knowledge of disability.

PA "Under Occupational Disease Act, State pays \$125 monthly for total disability or death caused by silicosis, anthracosilicosis, coalminer's pneumoconiosis, or asbestosis, provided there has been 2 years of in-state exposure, in cases where the claim is barred by the statute of limitations and the last exposure occurred before 1965 or where exposure occurred under several employers

Table 9-1.—Summary of Occupational Disease Coverage by State—Continued

Nature of coverage ^a	Medical boards	Onset of disability or death	Time limit on claim filing	Medical care	Compensation ^b
South Dakota:					
All diseases	Division may contract with physicians for re-rfs	Silicosis-noncompensable absent m-state exposure m 2 years (m-state requirement waived If same employer), employer liable only If exposure lasts 60 days	Within 2 years after disability or death. Radiation—within 1 year after disability and claimant knows relation to employment	Unlimited	Same as for accidents, No permanent partial disability for silicosis.
Tennessee:					
All diseases			Within 1 year after incapacity or death	Unlimited	Same as for accidents Coalminer's pneumoconiosis—same as Federal Black Lung Act.
Texas:					
All diseases	Provides for medical committee to pass on controverted questions and with power to order examinations		Within 1 year after injury or first distinct manifestation, 1 year after death May be extended		Same as for accidents
Utah:					
All diseases	Commission appoints medical panel of 1 or more to report on extent of disability	Partial disability—within 2 years after last exposure Total disability—within 1 year after last employment, for silicosis, 3 years (uncomplicated) or 5 years (complicated) Death—within 3 years after last employment (5 years for complicated silicosis or death following continuous total disability) Not applicable to radon Silicosis-noncompensable absent 5 years In-state exposure In 15 years preceding disability, employer liable only If exposure lasts 30 days	Within 1 year after Incapacity or death and claimant knows/should know relation to employment, but no later than 3 years after death Permanent partial disability - within 2 years	Unlimited	Same as for accidents'
Vermont:					
All diseases		Disability—within 5 years after last exposure Death—during employment or after continuous disability beginning within 5 years after last exposure, but no later than 12 years after last exposure Does not apply to radon	Within 1 year after discovery, death, or last payment Radiation—within 1 year after first incapacity and worker knew/should have known relation to employment.	Unlimited	Same as for accidents Affected but nondisabled worker may waive full compensation and later receive limited compensation
Virgin Islands:					
All diseases			Within 60 days after disability.	Unlimited	Same as for accidents
Virginia:					
All diseases		Exposure m 90 workshifts conclusively presumed injurious exposure	Within 2 years after diagnosis is first communicated to worker, or within 5 years after last exposure, whichever is first • Within 3 years after death occurring within periods for disability	Unlimited	Same as for accidents Worker who is affected but not disabled may waive compensation
Washington:					
All diseases			Within one year after physician's notice to claimant,	Unlimited	Same as for accidents
West Virginia:					
All diseases	Occupational Pneumoconiosis Board appointed by Commissioner determines medical questions	Occupational pneumoconiosis is non-compensable absent 2 years continuous In-state exposure m 10 years before last exposure or exposure m 5 years during the 15 years before last exposure	Within 3 years after knowledge or last exposure. Within 2 years after death	Unlimited	Same as for accidents

a Employer and insurance carrier at time of last exposure are liable in Arkansas, Colorado, Florida, Georgia, Illinois, Indiana, Kansas, Kentucky, Maine, Maryland, New Hampshire, North Carolina, Oklahoma, Tennessee, Vermont, and Virginia. The employer at time of last exposure is liable in Alabama, Arizona, Iowa, Michigan, Missouri, Montana, New Mexico, Pennsylvania, South Dakota, Texas, and Utah. Liability is apportioned among responsible employers in New York and Rhode Island California limits liability to employer during last year of exposure

b Benefits determined as in date of last exposure of last injurious exposure in Arkansas, Georgia, Illinois, Indiana, Kentucky, Louisiana, Maine, Michigan, Minnesota, Missouri, New Jersey, South Dakota, Texas, Washington, Wisconsin, and Wyoming. Benefits determined as of the date of disability, knowledge, or manifestation in Alabama, Alaska, Arizona, California, Colorado, Connecticut, Delaware, Florida, Hawaii, Idaho, Iowa, Maryland, Massachusetts, Mississippi, Montana, Nebraska, New Hampshire, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, Tennessee, Utah, Vermont, and West Virginia.

SD "Worker who is affected by silicosis but not disabled may waive full compensation and if later disabled or dies receive benefits up to \$2,000; if leaves employment, may receive compensation up to \$1,000.

UT "Worker with permanent partial disability who must change occupation may receive Up to \$1,000 for vocational rehabilitation and retraining, plus compensation of 66⅔% of average weekly wages up to 66⅔% of SAWW for Up to 20 weeks, then additional compensation (cumulative total may not exceed \$2,060).

VA "5-year limitation does not apply to cataract of the eyes, skin cancer, radium disability, ulceration, undulant fever, angiosarcoma of the liver due to vinyl chloride exposure, or mesothelioma; byssinosis—within 7 years after last exposure, coalminer's pneumoconiosis—within 3 years after diagnosis; asbestosis—within 2 years after diagnosis (if based on changed condition, within 2 years after diagnosis of advanced stage).

Table 9.1.—Summary of Occupational Disease Coverage by State—Continued

Nature of coverage ^a	Medical boards	Onset of disability or death	Time limit on claim filing	Medical care	Comensation ^b
Wisconsin:					
All diseases	May appoint independent medical expert in doubtful cases		Unlimited, After 12 years claim may be filed with state fund.	Unlimited	Same as for accidents
Wyoming:					
All diseases	Yes		Within 1 year after diagnosis or 3 years after exposure, whichever is last. Radiation—with 1 year after diagnosis or death	Unlimited	Same as for accidents
F. E. C. A. :					
All diseases			Within 3 years after injury, death, or disability and claimant knows/should know relation to employment, excusable	Unlimited	Same as for accidents
Longshore Act:					
All diseases			Within 1 year after injury, death, last payment, or knowledge of relation to employment.	Unlimited	Same as for accidents

^a Employer and insurance carrier at time of last exposure are liable in Arkansas, Colorado, Florida, Georgia, Illinois, Indiana, Kansas, Kentucky, **Maine, Maryland**, New Hampshire, North Carolina, Oklahoma, Tennessee, Vermont, and Virginia. The employer at time of last exposure is liable in Alabama, Arizona, Iowa, Michigan, Missouri, Montana, New Mexico, Pennsylvania, South Dakota, Texas, and Utah. Liability is apportioned among responsible employers in New York and Rhode Island. California limits liability to employer during last year of exposure.

^b Benefits determined as of the date of last exposure or last injurious exposure in Arkansas, Georgia, Illinois, Indiana, Kentucky, Louisiana, Maine, Michigan, Minnesota, Missouri, New Jersey, South Dakota, Texas, Washington, Wisconsin, and Wyoming. Benefits determined as of the date of disability, knowledge, or manifestation in Alabama, Alaska, Arizona, California, Colorado, Connecticut, Delaware, Florida, Hawaii, Idaho, Iowa, Maryland, Massachusetts, Mississippi, Montana, Nebraska, New Hampshire, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, Tennessee, Utah, Vermont, and West Virginia.

SOURCE: U. S. Chamber of Commerce, Analysis of Workers Compensation Laws, 1984.

The reviews of the scientific literature that have been published⁶ are incomplete in two ways. First, there is a lack of exhaustive research about the effects on reproductive function of most chemical, physical, and biological agents. The information available about a particular exposure is limited by the number and quality of animal and human studies of various aspects of exposure (e.g., dose, time, response). (See chapter 4.) Second, published sources do not reflect unpublished studies carried out in the private sector or by government agencies.

Thus no medical or scientific structuring of reproductive health hazards (or of occupational disease problems generally)—either by agent, occupational classification, or type of victim (male or female adult, embryo/fetus)—is currently available to guide either the workers' compensation system or legislators who have the power to improve the system. As a result, the compensation

system in each State proceeds on a case-by-case basis with various types of reproductive injury or disease claims.

Criteria for Securing Benefits for Reproductive Harms⁷

In most States, workers' compensation is viewed as a system enacted primarily for the benefit of employees, and the various boards, courts, and legislatures broadly construe the relevant law to promote the accomplishment of its beneficent design. A major reason for this 'beneficent' view is the harsh reality that each State's workers' compensation law provides that it constitutes the exclusive remedy for the injured or diseased worker, and thereby abrogates the common law rights of the worker against the employer for wrongful acts. The low level of compensation available also induces liberal construction of the workers' compensation law, since not much money is at stake in any individual claim. Finally, even boards and courts that do not view the sys-

⁶S. Barlow and F. Sullivan, *Reproductive Hazards of Industrial Chemicals* (1982); *Guidelines for Studies of Human Populations Exposed to Mutagenic and Reproductive Hazards* (A. Bloom (ed.) (1981)); *111 Assessment of Reproductive and Teratogenic Hazards* (M. Christian, W. Galbraith, P. Voytek, and M. Mehlman (eds.) (1983)); I. Nisbet and N. Karch, *Chemical Hazards to Human Reproduction* (1983).

⁷L. Larson, *The Law of the Workmen's Compensation* § 65.20 (1978).

tern as beneficent nevertheless tend to construe workers' compensation laws liberally, since the alternative would be to force claims that fail into the tort system, thereby exposing industry to much higher economic risks and severely crowding court dockets. Nevertheless, reproductive harms will not generally satisfy the criteria for compensability even if the criteria are liberally construed.

To secure workers' compensation for an injury or disease, a claimant must meet several legal requirements. (Criteria differ among States; only their general features are discussed here.) There are three major requirements, common to most if not all State compensation systems, that affect a worker's ability to secure benefits for reproductive harms caused by workplace exposures. These are the requirement of a **“personal” injury or disease, that the injury or disease result in job disability, and that the injury or disease be caused by a workplace accident or exposure.**

“Personal” Injury or Disease

At the outset of the claims process in all States, the worker needs evidence of diagnosis of a “personal” injury or disease. This requirement precludes compensation for injuries or diseases suffered by others, such as the worker's spouse, fetus, child, or descendant. Thus, if the condition is job-related and impairs the male worker's ability to cause conception (e.g., by causing impotency, infertility, or sterility) or the female worker's abil-

ity to conceive and carry a fetus to term (e.g., infertility, sterility, spontaneous abortion, or miscarriage), the disease or injury is considered personal to the worker and is eligible for compensation so long as it meets the various other criteria discussed later. In most States, the personal injury criterion constitutes a barrier to claims for reproductive harms that involve the developing offspring including birth defects, decreased birth weight, change in gestational age at delivery, altered sex ratio, multiple births, infant death, and childhood morbidity or mortality (see table 9-2). It is important to note, however, that the worker's spouse, embryo/fetus, offspring, and descendants may be able to sue the employer under tort law principles (discussed in chapter 10).

Disability

Claims for reproductive harms that survive the “personal” injury test and satisfy various procedural requirements must still overcome other obstacles. One is the requirement that the claimant is disabled or otherwise qualifies for some type of benefits (e.g., benefits for loss of bodily function that do not result in disability if provided for by a State benefit scheme).

State workers' compensation laws vary, but typically provide for several different classes of benefits and set forth the proof that is needed to qualify for such benefits. The most common types of benefits are those for job disability or loss of earnings, medical costs, death, and bur-

Table 9“2.—Eligibility for Compensation for Reproductive Harms: Personal Injury Criterion

Circumstances of harm	Worker	Victim		
		Spouse	Embryo/fetus	Offspring
1. Accidental injury to worker reproductive system or fetus	Eligible	Not eligible	Not eligible	Not eligible
2. Physical stress on worker	Eligible	Not eligible	Not eligible	Not eligible
3. Acute or chronic exposure of worker's reproductive system, or of fetus, spouse, or offspring	Eligible	Not eligible	Not eligible	Not eligible
4. “Side effect” cases (worker reproductive function impaired due to other injuries or diseases)	Eligible, but “other” injury or disease will be primary personal injury for compensation purposes, not reproductive injury	Not eligible	Not eligible	Not eligible

NOTE “Personal” injuries include sexual dysfunction (libido, potency), sperm and ovum abnormalities, infertility, illness during pregnancy and parturition, early and late fetal loss, and worker's age at menopause. Personal injuries do not include any injury to any person other than the worker (e.g., spouse, fetus that results in offspring, or offspring)

SOURCE Office of Technology Assessment

ial. A number of States also provide modest benefits for a few specified losses of bodily functions. Job disability benefits are the most important form of compensation because they provide for support of the worker and his or her family over an extended period of time. The dollar levels for disability compensation tend to be low for two reasons: they are adjusted infrequently by the various State legislatures; and benefit levels are usually based on a predetermined percentage of the worker's wages, often the wages at the time of exposure rather than the wages at the time the disability begins. Since years may elapse between the time of exposure and the manifestation of an occupational disease, benefits may be substantially lower for an occupational disease victim than for an occupational injury victim who has been similarly disabled. Some States have adopted automatic cost-of-living adjustments as a remedy for these problems.

A reproductively harmed worker can generally recover medical benefits for incurred medical expenses if his or her medical problem meets the personal injury criterion discussed earlier and the worker can prove the job-relatedness of the injury. In many, if not most, cases of reproductive injury or disease, medical benefits alone are inadequate because they are not designed to compensate for a temporary or permanent loss of sexual and reproductive function, only to compensate for medical treatment costs. But unless the worker is disabled, he or she will often not be able to collect a monetary substitute for lost or diminished sexual or reproductive functions under the workers' compensation system.

Up to four subclasses of job disability benefits are provided in some States: temporary-total, temporary-partial, permanent-total, and permanent-partial. For total disability benefits, the worker must be incapable of earning wages or performing any work for compensation. For partial disability benefits, the worker may be able to work, but must be unable to earn his or her former average wage in order to be eligible to receive the differential amount between past and present wage levels unless a schedule covers the injury. Either type of benefit may be received for as long as the worker is disabled, temporarily or permanently. However, both partial and total dis-

ability benefits are subject to legislatively imposed limits that generally keep the disabled worker's total income at or below the average statewide or nationwide industrial wage. In addition to these benefits, the disabled worker may be entitled to secure benefits from other private and public compensation systems (e.g., Social Security disability benefits or private insurance disability benefits).

The requirement of a disability generally prevents the award of disability benefits for most claims of reproductive injury or disease, since such harms do not usually disable the worker or prevent him or her from resuming work at the same job. Of the few reproductive endpoints that meet the personal injury criterion (see table 9-2), only occupationally caused injury to reproductive organs, illness during pregnancy, and fetal loss are likely to result in any job disability, and this will usually be temporary disability at most. When a reproductive harm is sufficiently disabling to prevent the employee from performing the job for a temporary period, as in the case of a job-induced miscarriage, the worker is entitled to collect disability benefits. However, even when workers are able to make a connection between a workplace exposure and their disability, the short duration of the disability period makes such workers much more likely to take advantage of employer-provided sick leave and health insurance benefits than face the expense, risk of the claim being denied, loss of medical privacy, and low benefits endemic to workers' compensation claims. Thus, although disability compensation is *theoretically* available to a small number of reproductively harmed workers, they are unlikely to claim this entitlement. In those States that permit compensation for the loss of a bodily function, and where bodily function has been construed to include reproductive function, however, claims for reproductive harms that meet the '(personal injury)' test, detailed in table 9-2, may be compensable even when not occupationally disabling.

Some States provide a special benefit category for disfigurement or loss of function, which may include sexual or reproductive function, without requiring disability. Workers' compensation officials in 10 States reported to OTA that they would award compensation over and above medical ben-

efits for disfigurement or loss of some bodily function, while 9 reported they would pay medical benefits only, and 7 indicated no source of compensation.⁸ It should be noted, however, that most of the States that compensate for nondisabling reproductive injuries generally do so only for a narrow class of injuries that are listed for a scheduled benefit, such as cases of testicular injury or loss. Only a few States, such as North Carolina, provide benefits for a broader range of reproductive disorders. The North Carolina workers' Compensation Act provides that:

In case of the loss of or permanent injury to any important external or internal organ or part of the body for which no compensation is payable under any other subdivision of this section, the industrial Commission may award proper and equitable compensation not to exceed ten thousand dollars

Job-Relatedness (Causation)

Causation evidence is required in each State's compensation system, because the governing statutes typically require that compensation coverage and benefits apply only to claims "arising out of and in the course of employment." Usually the claimant has the burden of proof to persuade the compensation board that the claim is based on an **occupational** injury or disease. Causation as a determinant of eligibility for compensation assures that legislative purposes will be met, and that the system will not be abused by spurious claims that would impose additional costs on employers, their insurers, and ultimately the public.

In practice, a board's threshold for causation evidence is relatively low, compared to the evidentiary requirements in common law litigation, because of the previously mentioned view of the workers' compensation system as "beneficent." This attitude of beneficence is reinforced by the relatively low level of compensation and the harshness of the exclusivity of remedy rule (discussed later). Thus, from the perspective of the boards in many States, it serves neither worker nor employer interests to use stringent, claim-denying criteria for causation evidence. Neverthe-

less, a worker who has the type of reproductive problem that also occurs from nonoccupational causes (e.g., sexual dysfunction infertility, spontaneous abortion) may have a real problem proving that his or her problem resulted from an exposure at work.

Level of proof requirements differ among the States, but fall into several general categories, with "preponderance of the evidence" being the most common. This standard requires evidence to establish that the particular disease be more likely to have been caused by a workplace exposure than by some other cause. Some States have more stringent tests such as "must be clearly proven." Proof generally consists of written reports and/or oral testimony by medical professionals who have examined the claimant and, perhaps, reviewed the medical literature. The credibility of the doctor as expert will often be a key issue in contested disease claims of complex etiology. When a doctor's evidence alone is inadequate to support a finding of job-relatedness for a disease of complex origins, disease claims may also require oral or written testimony by toxicologists, epidemiologists, biologists, medical researchers, and other scientific experts. Even scientific experts may be unable to persuade a board that they have a reasonable certainty as to the cause of a worker's cancer, sterility, miscarriage, or other health problem. Epidemiological evidence is given weight in some States, toxicological evidence is generally accorded less significance, and neither type of evidence is likely to be considered as important as medical evidence by a physician.

Over time, as clusters of claims for certain types of diseases emerge, boards gain familiarity with these diseases, and causal relationships may be more easily established. When these events occur, State legislatures sometimes respond by setting forth minimal evidentiary requirements for claimants with such diseases. Experience with clusters has thus led to numerous statutory (and in some cases, judicial) modifications setting forth abbreviated evidentiary requirements for non-reproductive diseases such as black lung, asbestosis, and silicosis. Several States have taken the further step of establishing medical review panels or permitting the use of board-appointed physicians to assist their compensation boards.

⁸Twenty-six States responded to the survey

⁹N.C. Gen. Stat. § 97-31(24) (1979).

Evidence of causation has always been one of the critical legal issues in workers' compensation law. It has become even more critical and controversial because of the rising incidence and importance of disease claims and the new types of disease claims that have complex etiology. Some of the most troublesome issues arise from the different perspectives on causation held by doctors, scientists, and lawyers, as well as by the courts and legislators. Doctors are trained to diagnose, not to establish causation for, individual cases. Scientific views of causation involve considerations of multiple etiologic factors, and analysis of their interactions based on population studies, animal tests, and in vitro studies. The legal view stresses whether a particular event or element was the proximate, precipitating cause, often to the exclusion of other factors and their interactions. While the medical and scientific views emphasize preexisting and extra-workplace conditions (e.g., prior work exposure, genetics, lifestyle), the legal view commonly holds that all events occurring prior to or apart from the employment at issue are irrelevant, and the worker's existing medical and non-job-related vulnerabilities are taken as a given.

To the physician or scientist, proof means virtual certainty, a probability in the 95 to 99 percent range, whereas the law merely requires proof that the allegation is more likely true than false, a 51 percent probability. Thus:

... for the occupational disease claimant the burden of proving causability . . . becomes prohibitive when, as is often the case, medical experts can at best venture a guess, or testify to a probability that a particular . . . disease is in fact employment related. Epidemiological studies demonstrating a high probability of employment-relatedness of lung cancer in an asbestos insulation worker, for example, would probably not establish causation in an individual claim.

Although compensation board attitudes today are perhaps more liberal towards the admissibility and weight to be accorded scientific evidence, particularly statistical or epidemiological evidence of a probabilistic nature, the boards are also cautious, skeptical, and inconsistent. Therefore, de-

spite their beneficent view, boards generally still prefer medical evidence that a particular individual contracted a particular disease in a particular way, to scientific evidence that shows how many, or even most, people contract the disease. Both workers claiming benefits for occupational disease and insurers defending against such claims are unhappy with this situation and believe that a more receptive approach by boards and courts would work to the advantage of their differing interests.

Defendants (insurers and employers) disputing disease claims frequently argue that the claimant failed to establish the necessary causal relationship. In such cases, defendants may gain a distinct advantage from a more receptive approach to epidemiological and other scientific evidence. Defendants would then be able to use statistical evidence to better dispute claims on grounds of the complex etiology of disease, pre-existing disability (in States where such evidence is useful), conflicting studies and results, and intervening causes that were not job-related. With more money than any individual claimant, defendants would probably be able to marshal more expertise and put it to better use.

Nevertheless, scientific studies can also be of considerable value to individual claimants, and several occupational health advocates have recommended various means for structuring their responsible use. One proposal suggests using expert panels to assist boards in evaluating evidence. Another recommends establishing "presumptive standards" that would presume a plaintiff was eligible for compensation, if sufficient epidemiological and toxicological evidence supported such a finding, and the defendant was unable to rebut the presumption.

These issues may not be of great importance at present in terms of claims for reproductive harms because of the paucity of compensation

¹¹M. Baram, *supra* note 1.

¹²E. Tanenhaus, *Administration, Coordination and Trial of Workers' Compensation occupational Disease Claims*, in *Occupational Disease Litigation* (S. Birnbaum (ed.) (1983)).

¹³F. Goldsmith, *Occupational Safety and Health* 193 (1982).

¹⁴American public Health Association, *Policy Statement No. 8329* (PP): *Compensation for and Prevention of occupational Disease*, vol. 74, No. 3, *Am. J. Pub. Health* 292, 294 (March 1984).

¹⁰Solomons, *Workers' Compensation for Occupational Disease Victims*, *Workmen's Comp. L. Rep.* (CCH) 11 (1977).

claims in this area, as well as the difficulty in detecting reproductive problems in populations of workers. Nevertheless, these factors can be expected to increase in importance over time as knowledge increases about workplace exposures and their reproductive implications. Only the claims that survive the obstacles discussed earlier (“personal” injury and, in most States, disability) will ultimately face the causation test (see table 9-3).

In the majority of States that require disability, the surviving claims would be those for serious and incapacitating injuries to reproductive organs, pregnancy-related illness, and miscarriage; in the minority of States that permit compensation for nondisabling loss of function, the surviving claims might also include sexual dysfunction, infertility/sterility, early menopause, and breast milk contamination. Those surviving claims that are for reproductive harms to workers arising from workplace accidents or physical stresses generally will not raise new or especially difficult causation issues, but those for reproductive diseases

suffered by the worker may involve substantial evidentiary problems of causation.

Other Requirements

State laws also impose a number of other conditions on eligibility for compensation. For example, the worker must be one who is not exempt from workers' compensation coverage under the law (e.g., in some States, agricultural, domestic, and other workers may be exempt), and who also has employee status (rather than independent contractor status) under the law.

In most States, an injury or disease that had pre-employment or extra-employment sources may be compensable if evidence establishes that it was accelerated or aggravated by employment circumstances. Several States still require that a disease, to be compensable, must have been specified as compensable in the basic statute. As has been noted, although most States require the disease to be one that arises “out of and in the course of employment,” some States also require that the

Table 9-3.—Summary of Harms, Victims, Benefits Criteria, and Causation Problems

Circumstances of harm	Victim		
	Worker	Spouse	Fetus and offspring
1. Accidental injury to worker reproductive system or fetus	Personal injury: eligible for compensation for medical benefits in all States and loss of function and disfigurement in a few States. No disability benefits unless earnings loss. No special causation problems.	No personal injury, therefore, no compensation	No personal injury, therefore, no compensation
2. Physical stress on worker	Personal injury: eligible for compensation for medical benefits in all States and loss of function in a few States. No disability benefits unless earnings loss. No special causation problems.	No personal injury, therefore, no compensation	No personal injury, therefore, no compensation
3. Acute or chronic exposure of worker, spouse, or fetus	If personal injury, will be eligible for compensation for medical benefits in all States and loss of function benefits in a few States. No disability benefits unless earnings loss. Special causation problems.	No personal injury, therefore, no compensation	No personal injury, therefore, no compensation
4. “Side effect” cases where reproductive function impaired due to other injuries or diseases	Probably not applicable, since other injury or disease will be primary personal injury for disability compensation, not the reproductive injury.	NA	NA

NA—Not applicable

SOURCE: Office of Technology Assessment

harm be peculiar or unique to employment. States with this narrow view may refuse to compensate so-called ordinary diseases of life that may be contracted outside of the workplace.

Reproductive Harm Claims Experience

Numerous studies and data collection activities have focused on claims under the various workers' compensation systems, and occupational disease claims in general. No study has yet focused on claims involving reproductive harms. Moreover, the occupational disease claim studies do not contain categories or separate entries for harms, claims, board decisions, or settlements related to reproductive functions. Since these disease studies have been conducted by various insurers and insurance associations, employers and trade associations, academicians, Federal and State governments, and other interested organizations, the dearth of data or interest in reproductive claims can probably be attributed, at least in part, to the low incidence of such claims, and their consequent lack of economic or social significance to those conducting the studies,

Because of this lack of available data on reproductive claims, OTA contacted the State compensation boards for each of the 50 States seeking information on coverage of reproductive injuries and diseases that were job-related, and asking for citations or references to any relevant decisions or studies. No responses offered references to cases or studies. Two State boards (Florida, Minnesota) mentioned that anatomical injuries to male sex organs had led to several claims. The other States provided no information as to the incidence of reproduction-related workers' compensation claims or types of injuries or diseases. One State board (Kentucky) had no recollection of any such claims during the last 12 years, and another (Kansas) observed that State statistical studies do not provide the information sought; this condition probably prevails in most States.

A review of the reported legal cases yielded a small collection of workers' compensation cases involving reproductive harms. The actual incidence and types of claims for reproductive harms could not be assessed, however, because claim files are sealed, and board decisions and set-

tlement outcomes are unpublished in virtually all States. Further, although researcher access to claims files may be provided if provision is made for claimant privacy rights, most States do not organize or label their thousands of files by types of claims (e.g., disease, injury). In addition, it appears to be common practice for insurers as defendants to settle most disease claims, including reproductive damage claims, and avoid the costs and risks of full hearings. The costs arising from such settlements can be recaptured by the insurer over the next few years by means of adjusting the cost of insurance to the employer. **It appears that the best possible source of claims information—the records of workers' compensation insurance—is unavailable to most researchers and therefore remains unused for purposes of public policy analysis.**

The incomplete picture that emerges indicates that historically the most common uses of the workers' compensation systems for redress of reproductive harms involve accidental injuries to male workers, primarily injuries to male genitalia and injuries that lead to male impotence for either physical or psychological reasons.

Only a few of the tens of thousands of workers' compensation claims that have been appealed to State courts have involved reproductive harm claims due to chronic exposure to chemical, physical, and biological agents. Such claims may increase as recognition grows of the reproductive and developmental effects of these agents, but compensation would be limited to the worker, not the spouse or offspring, under the personal injury criterion.

Exclusivity of Remedy

Because only a few of the many types of reproductive harms are "personal" and therefore subject to workers' compensation law, and still fewer are compensable because of a lack of job disability and because amounts of compensation, if any, will be low in most cases, workers and their families increasingly seek common law remedies. By suing the employer or other party, under any of the several theories of liability at common law, a worker or a member of his or her family may be able to secure more ample remedies in the form of compensatory and punitive damages.

But the “exclusivity of remedy” doctrine embedded in State compensation statutes has traditionally been construed by State courts as barring tort actions by the worker against the employer, even if the worker does not file a worker’s compensation claim. Remedies for nonpersonal injuries (those to the worker’s spouse, fetus, offspring, and descendants) are not disturbed by the exclusivity doctrine because they are not covered under State compensation law.

The exclusivity doctrine has withstood worker challenges as an unconstitutional denial of due process. It has instead been viewed by the courts as part of a system that constitutes a rational exchange by which employees, in theory, are guaranteed swift disposition of claims and provision of monetary payments. Over the years, two narrow exceptions to the exclusivity doctrine have evolved (the intentional tort and dual capacity exceptions). These are discussed in chapter 10.

The bar to worker tort suits against employers and their insurers has generally been maintained by the courts without regard to whether the worker’s claim actually resulted in the payment of benefits. One of the early (1921) leading cases involved a personal injury to the claimant’s public nerve, arising from an accident on the job, which resulted in sexual impotence for which no job disability was shown. The claimant, denied disability benefits, sought to sue the employer in tort. The court refused to permit the common law action on the basis of the compensation statute’s exclusivity provision, and concluded that any changes in the law to provide relief in such cases of job-related injuries that did not impair wage-earning capacity should come about by legislative, not judicial, action.¹⁵

Inequitable outcomes in which the claimant is denied any compensation under both the workers’ compensation and common law systems have led a few State legislatures to enact “loss of function” categories of benefits. But in the absence of such remedial legislative amendments, the problem has been left to the courts.

The harshness of the exclusivity rule has led some courts to provide workers’ compensation

for functional or health impairments without job disability. A 1952 case¹⁶ concerned a male worker who had been exposed to airborne particles of female hormones, allegedly resulting in breast development and impotency. The worker filed suit, claiming that the workers’ compensation statute did not apply because he did not suffer an occupational disease under the State compensation law. The court disagreed, but held that a permanent injury involving the loss of a physical function used in the ordinary pursuits of life was compensable under the compensation statute even if there were no disability or wage loss. Such interpretations of statutory language on occupational disease may become more widespread if State legislatures fail to respond. ”

Nonetheless, **most courts steadfastly maintain the exclusivity doctrine, and bar tort actions by workers against their employers without considering the worker’s inability to secure the statutory remedy. Thus, in a recent personal injury suit by a worker and his wife seeking common law damages from his employer for sterility claimed to be caused by workplace exposure to the chemical DBCP, the Michigan Court of Appeals held that the State workers’ compensation act’s exclusivity provision barred the suit, even though the worker’s sterility was not compensable under the compensation act. A dissenting opinion argued for a more humane judicial approach:**

[t]he right to procreate is basic Procreation constitutes a fundamental human experience. The Legislature could not possibly have intended to include deprivation of an employee’s ability to procreate, accomplished in the insidious manner alleged in this case, as a personal injury or disease subject to the Worker’s Disability Compensation Act. (“Personal injury” and “disability” as used in the Act connote inability to perform labor, not inability to procreate. Sterility in and of itself is not compensable under the Act. . . . Plaintiffs should have their day in court. 18

Other recent decisions involving alleged reproductive harms from chemical exposure have also

¹⁵Stepnowski v. Specific Pharmaceuticals, 18 N.J. Super. 495, 87 A.2d 546 (1952).

¹⁶See generally P. Barth, Workers’ Compensation and Work-Related Illnesses and Diseases 26 (1980).

¹⁸Cole v. Dow Chemical Co., 112 Mich. App. 198, 315 N.W.2d 565 (1982).

¹⁵H. v. Northwestern } 147 Minn. 413, 80 N.W.2d 552 (1921).

maintained the barrier to tort remedies. The most recent involved five workers who brought a tort action against their employer, claiming that their exposure to DBCP resulted in carcinogenesis, mutagenesis, and sterility. The court dismissed the tort action on the ground that the claims were subject to the exclusive jurisdiction of the State workers' compensation statute:¹⁸

[i]t is true that neither sterility, carcinogenicity, nor mutagenicity are scheduled injuries, unless one were to construe them as constituting partial loss of use of testicles. . . . Nor are they disabling conditions in themselves. Nonetheless, this does not mean that plaintiffs have no remedies under the Workers' Compensation Act. Claims based on psychological employment disabilities are compensable under the Act. [Citations omitted.] It is clear that the allegations of the complaint, if taken as true, would bring plaintiffs within the scope of the Act, and that under the Act, plaintiffs would be entitled to be considered for some form of relief.²⁰

The court concluded that:

blased on the allegations in the instant action, it is possible that plaintiffs would be entitled to medical expenses. . . . Any work-related physical or psychological earning disabilities would possibly be compensable. . . . The inadequacy of the award or the complete lack of an award, under the Workers' Compensation Act, cannot furnish the basis of a common law cause of action. So long as the accidental injury, occupational disease or infection arises out of and in the course of the employment, the Workers' Compensation Act affords the exclusive remedy.²¹

Nevertheless, decisions involving a variety of other types of injuries indicate that the exclusivity doctrine has been eroding, and tort actions increasing, for several reasons, Courts in several States now permit workers to sue employers irrespective of whether the worker's job-related injury is statutorily compensable. In these cases, the courts in some States have refused to permit the exclusivity rule to protect the employer from tort liability when the employer acted negligently,²²

¹⁸Vann v. Dow Chemical CO., 561 F. Supp. 141 (W.D. Ark. 1983).

¹⁹Id. at 144-45.

²⁰Id. at 145.

²²See, e.g., Ferriter v. D.O'Connell's Sons, 381 Mass. 507, 413 N.E.2d 690 (1980); Reed Tool Co. v. Copelin, 610 S.W.2d 736 (Tex. 1981).

acted in a "dual capacity" (e.g., as both employer and manufacturer of the product that harmed the employee),²³ or, acted in a willful, deliberate, or intentional manner to cause the worker's injury.²⁴ These exceptions are discussed in greater detail in chapter 10.

Because of these judicial decisions, the exclusivity doctrine is now at a crossroads, with strong pressures being exerted on legislatures to enact liberalizing reforms due to concerns about fairness. In the absence of Federal legislation, each State will continue to grapple with the boundaries of the exclusivity doctrine and how to deal fairly with reproductive harms to workers. If an increase in reproductive harms occurs, and causal linkages to workplace exposure become clearer? the problem of workers and other parties adversely affected who either have no remedies or, at most, inadequate remedies in the worker compensation system will become more acute. These potential parties will press forward with common law actions of various types, discussed in chapter 10.

Conclusion

Most workers who are reproductively harmed are not entitled to workers' compensation, despite the fact that State workers' compensation statutes are designed to provide compensation for injuries and diseases that occur in the course of employment. In addition, an employee covered by a workers' compensation statute generally cannot sue his or her employer for any injury or disease subject to the statute,

The three major requirements that are common to most if not all State compensation systems that affect a worker's ability to secure benefits for reproductive harms caused by workplace exposures are: 1) the requirement of a "(persmal" *injury or*

²³See, e.g., Be]] v. Industrial Vangas, Inc., 30 Cal. 3d 268, 637 P.2d 266, 179 Cal. Rptr. 30 (1981); Douglas v. Gallo Winery, 69 Cal. App. 3d 103, 137 Cal. Rptr. 797 (1977). For U.S. Supreme Court recognition of dual capacity under a Federal compensation program, see Reed v. The Yaka, 373 U.S. 410 (1963).

²⁴See, e.g., Johns Manville Corp. v. Contra Costa Superior Court, 27 Cal. 3d 465, 612 P.2d 948, 165 Cal. Rptr. 858 (1980); Blankenship v. Cincinnati Milacron Chemicals, Inc., 69 Ohio St. 2d 608, 433 N.E.2d 572 (1982); Mandolidis v. Elkins Industries, Inc., 246 S.E.2d 907 (W. Va. 1978).

disease, 2) the requirement that **the** injury or disease result in **job disability**, and 3) the requirement that **the** injury or disease **be caused by a** workplace accident or exposure.

The requirement of a “personal” injury or disease precludes compensation for injuries or diseases suffered by others, such as the worker’s spouse, fetus, child, or descendant. Thus, if the condition is job-related and impairs the male worker’s ability **to cause** conception (e.g., by causing impotence, infertility, sterility) or the female worker’s ability to conceive and carry a fetus **to term** (e.g., infertility, sterility, spontaneous abortion, miscarriage), the disease or injury is considered personal **to the** worker and is eligible for compensation so **long as it meets** various other criteria. Conversely, if the condition is one that has not prevented conception or birth, but instead impairs the worker’s fetus, child, spouse, or descendants, the doctrine of personal injury or disease as a condition for securing workers’ compensation would prevent financial recovery. In most States, the personal injury criterion precludes claims for reproductive harms that involve the developing offspring, including birth defects, decreased birthweight, change in gestational age at delivery, altered sex ratio, multiple births, infant death, and childhood morbidity or mortality.

A reproductively harmed worker can generally recover medical benefits for medical expenses incurred if his or her medical problem **meets the** personal injury criterion and the worker can prove the job relatedness of the injury. A worker who loses sexual or reproductive function may want additional benefits to compensate for the lost function, but unless the worker **is** disabled, **he or she** will often be unable to collect a monetary substitute under the workers’ compensation system. The requirement of disability prevents the award of nonmedical benefits for most claims of reproductive injury or disease, since such harms do not usually disable the worker or prevent him or her from resuming work at the same job. Of the few reproductive endpoints that meet the personal injury criterion discussed above, only injury to reproductive organs, illness during pregnancy, and fetal loss are likely to result in any temporary job disability. When a reproductive harm is sufficiently disabling to prevent the em-

ployee from performing the job for a temporary or permanent period, as in the case of a job-induced miscarriage, the worker is entitled to collect disability benefits. However, because of the short duration of the period of actual disability, such workers are probably more likely to take advantage **of** employer-provided sick leave benefits than face the expense, risk of the claim being denied, loss of medical privacy, and low benefits endemic to workers’ compensation claims. Thus, although disability compensation is theoretically available to a small number of reproductively harmed workers, they are unlikely to claim this entitlement.

Causation evidence is required in each State’s compensation system, because the governing statutes typically require that compensation coverage and benefits apply only to claims arising out of and in the course of employment. usually, the claimant has the burden and expense of proving by a preponderance of the evidence that the injury or disease is job-related. Proving causation is complicated by the fact that compensation board attitudes toward the admissibility and weight to be accorded scientific evidence, particularly toxicological or epidemiological evidence of a probabilistic nature, have been cautious, skeptical, and inconsistent. Boards generally still prefer medical evidence that a particular individual contracted a particular disease in a particular way, to scientific evidence that shows how many, or even most, people contract the disease. Both workers claiming benefits for occupational disease and insurers defending against such claims are unhappy with this situation and believe that a more flexible approach by boards and courts would work to the advantage of their differing interests. The causation problem is endemic to disease claims in general.

Because only a few of the many types of reproductive harms are compensable under the workers’ compensation system, workers increasingly seek common law remedies. But the “exclusivity of remedy” doctrine embedded in most workers’ compensation statutes provides that an employee covered by a workers’ compensation statute cannot sue his or her employer for any injury or disease subject to the statute. This bar to worker suits has generally been maintained by the courts

without regard to whether the worker's claim actually resulted in the payment of benefits. This is especially troublesome in the case of job-induced reproductive harms because the workers' compensation system usually fails to award benefits for reproductive problems, yet employees with job-related reproductive problems are precluded from suing their employers. The harshness of the exclusivity rule has led some courts to provide compensation for functional or health impairment without job disability. Other courts have expanded the list of exceptions to the rule for cases of dual capacity and intentional torts. Nonetheless, most courts steadfastly maintain the exclusivity doctrine and bar actions by employ-

ees **who** claim they have occupationally induced reproductive harms. This has generated concerns about the fairness of the compensation system.

If an increase in reproductive harms occurs, and causal linkages to workplace exposure become clearer, the problem of workers and other parties adversely affected who either have no remedies or, at most, inadequate remedies in the workers' compensation system will become more acute. These victims of hazardous occupational exposures will by default bear the burden of their occupational exposures to reproductive health hazards.