

Fulfilling Broken Promises

**REFORMING THE CENTURY-OLD COMPENSATION SYSTEM FOR
OCCUPATIONAL LUNG DISEASE IN THE SOUTH AFRICAN MINING SECTOR**



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Executive Summary

Serious shortcomings in South Africa’s statutory compensation system for occupational lung disease suffered by mineworkers and former mineworkers demand immediate remedial action. Silicosis and tuberculosis rates in current mineworkers are among the highest in the world. These diseases also affect former workers and their families throughout South Africa and nearby, labor-sending countries. However, only a minority of those entitled to compensation according to South African law receives statutory payouts. The deficiencies of the system arise from both the inadequate substance and the weak implementation of the statute governing compensation. This paper seeks to offer suggestions for compensation policy reform, drawn from a comparative analysis of relevant practices in select countries around the world with similar issues pertaining to mining and health justice.

The Introduction provides an overview of the current situation by briefly describing the history of mining in South Africa, the laws governing compensation—in particular, the Occupational Diseases in Mines and Works

Act (ODIMWA)—and the heavy public health burden of silicosis and tuberculosis in southern Africa, which interacts with the region’s HIV/AIDS epidemic. The Methodology & Framework section describes the paper’s comparative approach. The Comparative Analysis section is then divided into six parts; in each part, the paper lays out principles that should ideally govern compensation systems, identifies one or more shortcomings in South Africa’s system, discusses how other countries approach similar issues, and makes informed conclusions about moving the policy debate forward in South Africa. The six sections examine (1) the general structure and governance of a compensation system, (2) the financing of the system, (3) how clinical diagnoses are made and used, (4) the application process for claims, (5) the benefits provided, and (6) accountability mechanisms to help ensure adequate funding and effective administration. A full list of principles, shortcomings, and conclusions is included in the box below.

Digest of Comparative Analysis Findings

System Structure & Governance

PRINCIPLES	Statutory compensation systems should acknowledge the relative risks of different types of work, diminish the potential for corruption, and ensure system sustainability.
PROBLEMS	Mineworkers with occupational lung disease are treated separately and unequally under compensation law (ODIMWA), in comparison to other workers.
CONCLUSIONS	South Africa should evaluate several potential system structure and governance models. While popular, the options of discarding ODIMWA entirely in favor of a unified compensation system resembling the Compensation for Occupational Injuries and Diseases Act (COIDA) or of relying on a private trust model presents certain risks that have not yet been sufficiently analyzed.

System Financing

PRINCIPLES	Statutory compensation systems should be properly and transparently funded by contributions from employers that are clearly set out. To this end, governments should set mining companies’
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financial responsibility at sufficient levels to compensate for all disease caused by mine work. The funding system and decision-making should not be susceptible to industry manipulation or excessive influence, and thus enjoy a level of independence.

PROBLEMS The compensation system in South Africa for mineworkers is underfunded. Levy calculations are consistently subject to industry influence and are not directly tied to expert evaluations of how much money is required to fund the system sustainably and equitably.

CONCLUSIONS Better levy-setting and improved collection and administration are needed to provide adequate compensation that will pass constitutional muster. Increased funding should consist of a combination of higher levies, with possible funding from court settlements in recently concluded and ongoing cases pertaining to compensation. It should cover the large deficit of compensation currently owed and provide a sustainable funding mechanism for the future. All eligible beneficiaries in South Africa and labor-sending countries should be guaranteed compensation.

Clinical Diagnosis

PRINCIPLES Diagnosis and diagnostic facilities should be accessible, accurate, and culturally sensitive. Diagnosis certification requirements should be tailored to each compensable disease.

PROBLEMS Mineworkers have difficulty getting diagnosed because of inadequate access to medical personnel and facilities. In the current law, there is a 12-month time limit after leaving mine work within which claimants must be diagnosed with TB (in the absence of silicosis) in order to be eligible for compensation, which does not account for a persistent risk of TB after ceasing work.

CONCLUSIONS

1. Diagnostic services should be made more accessible, in particular in rural areas, through the use of mobile exam units and dedicated occupational health clinics. Moreover, alternative diagnosis certification standards, such as work-relatedness “presumptions,” should be considered with respect to identification of and compensation for TB.
2. ODIMWA’s current autopsy provision for deceased mineworkers effectively puts compensation out of reach for already disadvantaged claimants, many of whom live across South Africa’s borders and/or cannot send organs to Johannesburg as required. If autopsy remains a route to compensation, the provisions should be radically reviewed, with the goal of making the process more accessible, fair, and acceptable.

Application

PRINCIPLES Compensation application processes should be accessible to all claimants, including migrant workers, and should not involve prohibitively burdensome documentation requirements. Claimants should have sufficient support and guidance as they move through the processes.

PROBLEMS Challenges in the process of filing claims include a lack of required employment documentation, distance from the centralized authority that must certify diagnosis and approve compensation, and a paperwork backlog within that authority that can lead to delays of four or more years.

CONCLUSIONS Decentralization as well as a strong network of workers’ advocates are necessary to ensure fair and efficient compensation claim procedures.

Benefits

PRINCIPLES	Benefits should fully cover the costs associated with compensable diseases and should be distributed in a form that meets beneficiaries' needs. Benefit levels should also correspond to specific degrees of impairment.
PROBLEMS	Compensation awards—when made—are low and are only available in lump sums. There is only one chance for receiving increased benefits for a disease's progression, and levels do not accurately reflect degrees of impairment.
CONCLUSIONS	<ol style="list-style-type: none">1. Raising ODIMWA's inadequate benefit levels is a reform priority. ODIMWA's distinctive lump sum benefit structure should also be reconsidered, and future research should focus on exploring the viability of hybrid lump sum-pension payout models.2. Benefit calculations should more accurately account for inflation and specific degree of impairment. Moreover, ODIMWA's requirement that benefits cover the ongoing medical treatment necessary for managing compensable diseases should be enforced.

Accountability

PRINCIPLES	A compensation system must be underpinned by effective accountability measures to ensure adequate implementation and improvement of conditions leading to the need for compensation in the first place.
PROBLEMS	Neither the South African government nor mining companies have been held fully accountable for the compensation system's shortcomings or for insufficiently regulating mine conditions. A Constitutional Court decision has permitted suits to be brought under ODIMWA, and court proceedings are ongoing in much the same vein as previous, successful suits regarding asbestos compensation. At the time of writing this report, however, only one major case had settled. Overall, the proceedings' potential impact is unclear.
CONCLUSIONS	Accountability of both the government and the mining industry could be advanced through private tort litigation, personal criminal liability, the national human rights apparatus, and/or positive incentives.

Compensation reform will require the involvement of a variety of actors, including the South African government, mining companies, labor unions, medical professionals, and human rights advocates. This paper recognizes that cooperation and collaboration are critical to building and implementing a better compensation system that can serve as a key component in the broader project of providing health justice to some of South Africa's most vulnerable workers and their families.

Acknowledgments

This paper was written with the guidance and support of the Yale Global Health Justice Partnership (GHJP), a joint program of Yale Law School (YLS) and Yale School of Public Health (YSPH) to promote research, projects, and academic exchanges on a global stage in law, health, and human rights. It will be shared with relevant stakeholders as a tool to advance ongoing efforts to reform South Africa's compensation system for occupational lung disease in the mining sector so that it operates fully and fairly for its beneficiaries.

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Abbreviations

ART

Asbestos Relief Trust

CCOD

Compensation Commissioner for
Occupational Diseases

COIDA

Compensation for Occupational Injuries and
Diseases Act

DDB

Dust Diseases Board of New South Wales, Australia

DOH

Department of Health (South Africa)

ICESCR

International Covenant on Economic, Social,
and Cultural Rights

ILO

International Labor Organization

MBOD

Medical Bureau for Occupational Disease

NHRC

National Human Rights Commission of India

NIOH

National Institute for Occupational Health
(South Africa)

NUM

National Union of Mineworkers (South Africa)

ODIMWA

Occupational Diseases in Mines and Works Act

SAHRC

South African Human Rights Commission

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Introduction

Introduction

“From 1886, the story of South Africa is the story of gold.”¹

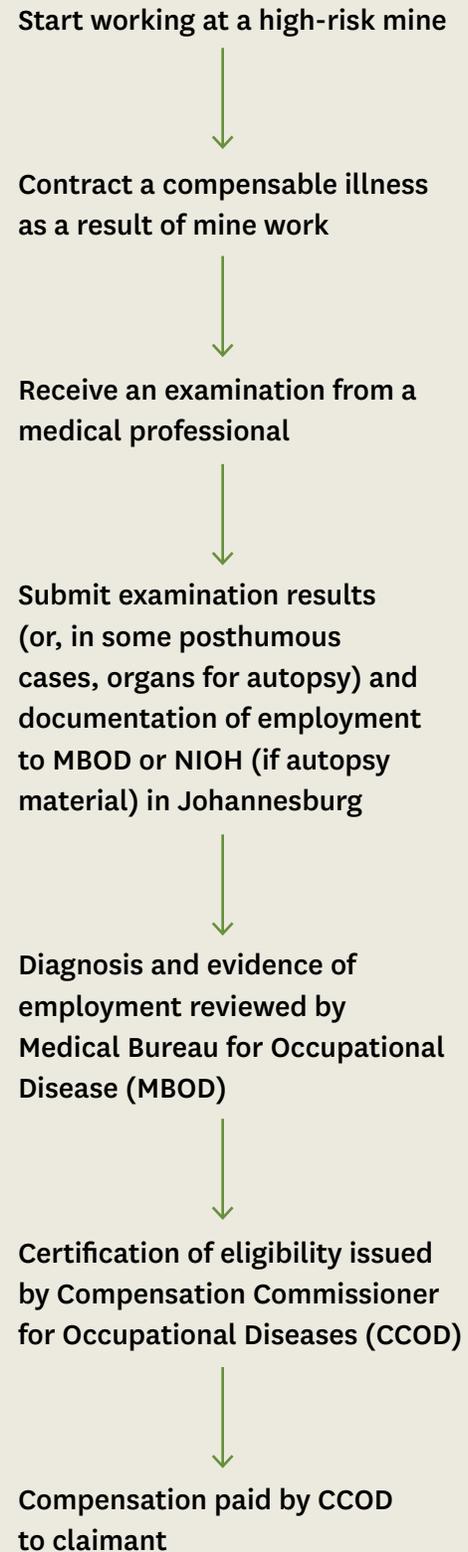
HISTORICAL BACKGROUND

Since the discovery of the major gold deposits on the Witwatersrand in 1886, gold mining has shaped South Africa for better and for worse. South African mines have produced roughly 40 percent of all gold ever mined on the planet.² Over time, this production prompted the founding and growth of Johannesburg and the development of South Africa’s economy, which is today the largest in Africa, with mining constituting 6 percent of the country’s GDP.³ But mining also contributed to the Second Boer War and to the repressive migrant labor system and Apartheid policies that still define the sociocultural landscape across southern Africa.⁴ Among other areas, labor-sending locations within South Africa today include the Eastern Cape, and labor-sending countries include Swaziland, Lesotho, Botswana, and Mozambique.

Mine work is inherently dangerous, and conditions in South Africa are particularly risky. The country has the world’s deepest gold mines and very narrow orebodies, which have exposed workers to serious health hazards, including high concentrations of silica dust.⁵ Consequently, the gold industry has played an important and sinister role in the history of South Africa’s workers’ compensation laws. In the late nineteenth and early twentieth centuries, silicosis killed mine workers by, on average, age 35.⁶ This led to a series of commissions and laws regulating dust levels in the mines and establishing mechanisms for workers’ compensation, including for silicosis (a 1912 law was the first in the world to recognize it as a compensable disease).⁷ However, these developments were discriminatory. White mineworkers received far more compensation than black mineworkers and had greater access to testing and treatment.⁸ The result was a “hidden epidemic” among black mineworkers caused by continual exposure to levels of silica dust low enough to not cause acute silicosis but high enough to lead to chronic silicotic disease.⁹ Although the *de jure* racial disparity ended with the collapse of Apartheid and subsequent revisions of workers’ compensation statutes, South Africa’s compensation law still suffers from serious substance and implementation problems that disenfranchise black gold-mine workers, former workers, and their families.

The Unrealized Ideal: A Mineworker’s Journey through ODIMWA

(FIGURE 1)



LEGAL BACKGROUND

South Africa currently has two statutory systems for compensating occupational diseases. The oldest is the Occupational Diseases in Mines and Works Act (ODIMWA), which was enacted in 1973 but has roots in legislation dating back to 1911. ODIMWA governs the response to work-related lung diseases, including silicosis and tuberculosis, among mineworkers only. It requires employers to pay levies into a fund from which compensation benefits are drawn. The second law is the Compensation for Occupational Injuries and Diseases Act (COIDA), which governs all other circumstances requiring workers' compensation, including lung diseases acquired in non-mining sectors.¹⁰

ODIMWA is the focus of this paper, though its inequality in comparison to COIDA is cause for concern, as South Africa's Constitutional Court has articulated.¹¹ This inequality involves, among other issues, disparate compensation levels and payout mechanisms. *Figure 1* provides a visualization of how ODIMWA's compensation process should work, if fairly and efficiently implemented, which is rarely the case.

An important legal development with regard to ODIMWA is that, as of 2011, mineworkers with occupational lung diseases have a right to pursue civil law remedies for employers' negligence, as recognized by the Constitutional Court of South Africa in its *Mankayi* case.¹² Because of this landmark decision, one tort lawsuit was settled and several are pending

as of this writing.¹³ Given that, as a historical matter, workers' compensation around the world developed as an alternative to replace the common law tort liability of employers, this reversion to the tort liability model is reflective of ODIMWA's flaws and failures.

Some observers have argued that the disparate treatment under ODIMWA and COIDA is in contravention of the principle of equality, which is enshrined in Section 9 of South Africa's Constitution.¹⁵ This argument has yet to be tested fully in the courts. Inadequate compensation for mineworkers' occupational diseases also implicates a number of human rights, which are protected in the Constitution as well as a number of relevant international instruments. The two most pertinent are the right to health and to fair labor practices.

The right to health is protected in the South African Constitution, which grants the universal right to access health care services, as well as in the International Covenant on Economic, Social, and Cultural Rights (ICESCR), which recognizes "the right of everyone to the enjoyment of the highest attainable standard of physical and mental health."¹⁶ South Africa has signed but not ratified the ICESCR, which means that, while it cannot be held directly accountable for violations of the right to health, the Covenant still serves as relevant policy guidance. Moreover, the U.N. special rapporteur on the right to health has linked this right to high-risk mining, calling on states to lower dust levels in mines and treat former workers who are sick.¹⁷

The HIV-Silicosis-TB Syndemic

(FIGURE 2)

Silicosis is an inflammatory and fibrotic lung disease that also hinders the body's ability to control the *Mycobacteria* that cause TB.²³ This leads to about a doubling of the annual rate of TB in mineworkers with silicosis compared to mineworkers without silicosis.²⁴ HIV infection is also a known risk factor for developing TB, with HIV-positive mineworkers being more

than four times as likely to develop TB as HIV-negative mineworkers.²⁵ The risks from silicosis and HIV are multiplicative, with around 15 percent of HIV-positive, silicotic mineworkers developing TB each year, versus about 1 percent of HIV-negative, non-silicotic mineworkers.²⁶ Silica dust, cramped spaces in gold mines, poor housing conditions, and the synergis-

tic effects described above result in high rates of all three diseases. Studies have found silicosis prevalence between 22 and 32 percent in older or long-service current and former black mineworkers, rising above 50 percent for former black mineworkers over age 50.²⁷ As many as 41 percent of black gold-mine workers are found to have active tuberculosis disease

upon autopsy;²⁸ they suffer one of the highest incidences of TB of any group studies in the world.²⁹ HIV prevalence among mineworkers is also as many as 14 percentage points higher than among the general population.³⁰

In the area of labor rights, the International Labor Organization (ILO) is the leading global body. In 1995, the ILO, in partnership with the World Health Organization (WHO), initiated a Global Programme for the Elimination of Silicosis. South Africa signed on to this program, which set a goal of “significantly reducing” silicosis cases in mineworkers by 2015.¹⁸ This commitment is non-binding, but South Africa is party to the binding ILO Convention (No. 42) on workers’ compensation for occupational diseases. Article 1 of that Convention requires that compensation rates for occupational diseases not be “less than those prescribed by the national legislation for injury resulting from industrial accidents.”¹⁹ The discrepancies between ODIMWA and COIDA strongly suggest that South Africa is in violation of this obligation. Further research could point to ways to advance this legal argument.

THE CURRENT SITUATION

Today, mineworkers and their communities are suffering from a syndemic of silicosis, HIV, and TB (see *Figure 2* above for details). Exact statistics are unknown, but it has been estimated that there are at least 480,000 cases of compensable silicosis and 226,000 cases of tuberculosis in former mineworkers attributable to work in South African mines.²⁰ The public health effects of this crisis extend beyond mineworkers and South Africa’s borders. Over 20 percent of mineworkers come from Lesotho alone,²¹ while Mozambique and Swaziland also contribute significant numbers. Studies show that HIV and tuberculosis rates in both mining and labor-sending communities are high.²²

The compensation system established under ODIMWA has done little to alleviate the heavy impact of disease on mineworkers, former mineworkers, and their families. ODIMWA provides minimal benefits and does so only a minority of eligible cases. For example, in one 21-month period studied by the international consulting firm Deloitte, of 28,161 claims accepted by the Medical Bureau of Occupational Disease (MBOD), the Compensation Commissioner for Occupational Diseases (CCOD) made payouts in only 400.³¹

Administrative delays coupled with logistical hurdles prevent the system from functioning well and result in many qualified claims going unfiled or unanswered. And, even if the system were efficient, ODIMWA’s substantive weaknesses as well as significant and chronic underfunding would preclude proper and fair payment for all eligible claims.

Methodology and Framework

Methodology and Framework

Our task in preparing this policy paper was to identify promising approaches for compensation reform. To do this, we had two complementary objectives:

- 1 Gain an understanding of the problem areas and stakeholders in South Africa's current compensation system for lung disease among mineworkers; and
- 2 Assess the ways in which other countries provide compensation for occupational lung diseases.

To achieve our first objective, we conducted a literature review and situational analysis and also canvassed policymakers, academics, activists, and other stakeholders. Some of these conversations were held remotely. We also visited South Africa and Swaziland for two weeks in March 2013 to speak to people personally. Those approached represented government agencies (in South Africa and Swaziland); the National Union of Mineworkers (NUM); a former mineworkers' organization in Swaziland; NGOs that are active in advocacy around compensation and/or diseases common in mineworkers; and academic institutions with relevant, specialized offerings.

With regard to our second objective, we chose the following countries as points of comparison: the United States, Australia (New South Wales), Canada, China, the United Kingdom, Germany, Indonesia, Ghana, Chile, and India. We selected these countries, all of which have large mining industries and/or serious problems with dust-related disease, to ensure a range of developed and developing contexts in our comparisons. To understand these countries' compensation systems, we conducted remote and in-person interviews with country experts and also hosted a small conference of individuals who work with American and Canadian workers' compensation systems. Most individuals we interviewed have academic appointments, but others work for unions, NGOs, and other institutions. (For a complete list of individuals we spoke with and their affiliations, see the Acknowledgments section.)

A six-part framework based on the key failures that we identified in South Africa's compensation system guided our comparative work. We used this framework to assess how other countries tackle issues that feature in the South African context. The framework's six parts, which also form the backbone of the rest of this paper, are as follows: system structure and governance; system financing; diagnosis; application; benefits; and accountability.

Full comparative descriptions of the compensation systems in selected countries are available in the Appendix. The following sections draw particular points and lessons from these comparisons, but any mention of a country's compensation system(s) should be understood to reference and thus be read within the more comprehensive information found in the Appendix. The Appendix is divided by country, and each country section includes descriptions of compensation systems broken down by the six-part framework that guides this report.

In each of the six sections below, we first outline the principles that we believe characterize particular aspects of just and transparent compensation systems; we derived these principles from our comparative work, which provided an opportunity to survey compensation successes and failures around the world. We then note key problems—or encroachments on the identified principles—in South Africa and offer conclusions to further policy reform. Some of these conclusions involve concrete government, industry, or union action, while others suggest future research that would add important information to the arsenal of knowledge

needed to improve the welfare of mineworkers, former mineworkers, and their families across southern Africa.

This report is subject to limitations. First, this is not a formal academic study, but rather an exercise in gathering information, opinions, and insights in order to describe the problems and prospects for reform in the South African compensation system. Second, the comparative analysis did not consider every compensation system in the world. Rather, it provides a snapshot of select systems in a variety of economic contexts. We accept that, given time and resource limitations, we did not conduct a fully comprehensive survey. However, we believe the countries we selected are representative of the principles, problems, and practices of concern in South Africa. Third, no country is an exact parallel of South Africa, in terms of politics, migration, and the role of mining in the national economy. Thus, it would be imprudent to suggest that South Africa should adopt or reject the precise compensation model of another country; there must be careful consideration of contextual differences. Fourth, and relatedly, no compensation system is perfect. All systems we examined have limitations, some more so than others. In some cases, this is due to the substance and structure of compensation law; in others, it is due to corruption and/or poor implementation capacity. We have carefully crafted our analysis and conclusions with these facts in mind, and we urge that comparative lessons be absorbed with a full understanding of the circumstances surrounding them.

Comparative Analysis

PART I: SYSTEM STRUCTURE & GOVERNANCE

PRINCIPLES	Statutory compensation systems should acknowledge the relative risks of different types of work, diminish the potential for corruption, and ensure system sustainability.
PROBLEMS	Mineworkers with occupational lung disease are treated separately and unequally under compensation law (ODIMWA), in comparison to other workers.
CONCLUSIONS	South Africa should evaluate several potential system structure and governance models. While popular, the options of discarding ODIMWA entirely in favor of a unified compensation system resembling COIDA or of relying on a private trust model presents certain risks that have not yet been sufficiently analyzed.

In South Africa, mineworkers receive separate and unequal treatment under compensation law. As noted in the Legal Background section, ODIMWA only applies to certain occupational lung diseases contracted in the mining sector, while COIDA covers all other workers' compensation claims. The two systems are not only statutorily separate—they are also administered by different agencies. The Department of Health (DOH) administers ODIMWA, appointing the law's key regulators, whereas the Department of Labor administers COIDA.³²

Several interviewees in South Africa expressed a desire for a uniform compensation system, one in which mineworkers are not treated unequally and differently than other workers. A number of them suggested merging ODIMWA and COIDA, with the aim of bringing ODIMWA benefits, which the Constitutional Court has called “inferior,” in line with COIDA's.³³ This perspective was based on a sense that a “one-stop shop” for compensation might also improve efficiency. A 2012 study, however, reveals that COIDA is beset with problems not dissimilar from ODIMWA's: delays in processing claims, non-response from the government, and inadequate disability assessments.³⁴ COIDA also does not provide the right to free medical benefit examinations, which ODIMWA does, though the provision is not well implemented. Nor can claimants covered by COIDA pursue common law damages. Moreover, the Constitutional Court has recognized that the unique economic role and health toll of mining “justifies... distinct treatment”—though not unequal treatment.³⁵

Our comparative analysis shows that having a uniform compensation system is not the global norm. There are, however, promising examples of uniform systems dedicated to particular industries or to particular occupational diseases. Germany, the reputed inventor of social compensation, has a uniform system. Workers' compensation is embedded in the country's broader social security scheme, but mineworkers qualify for special treatment under this scheme's old-age and disability pensions, in light of the dangerous nature of their work. For instance, mineworkers who have worked for 25 years qualify for old-age pensions at an earlier age than other workers. Theoretically, it might be possible to bring ODIMWA (as well as COIDA) under South Africa's national insurance—a new endeavor—and social security umbrella in a similar manner. However, this would pose massive implementation problems, in no small part because of the lack of personnel required to serve in public healthcare facilities.³⁶ This includes occupational health experts, of which there are very few in the country. Thus, although the DOH has plans to bolster the occupational health workforce over the next 15 years (see Part III for more on this), it seems unlikely that compensation could be reasonably incorporated into national insurance and social security programs in the near future.

The United States, unlike Germany, does not have a uniform system. Coal mineworkers suffering from pneumoconiosis can apply to the federal Black Lung Fund, state compensation funds, or both. The Black Lung Fund is specific to mineworkers, while state funds are

not. In New South Wales, Australia, meanwhile, there is a Dust Diseases Board (DDB), which oversees a fund open to workers and former workers exposed to dust across economic sectors. The DDB has been cited as a model for compensating dust diseases, and there have been calls within the government to nationalize the model or create similar boards in other Australian states.

China and India, which in some respects are considered South Africa's political and economics peers (within the BRICS family), have uniform compensation systems administered at provincial or state levels. Both, however, are rife with reported corruption and suffer from a lack of political will to harmonize and improve their implementation. Given these facts and the heavy burden of disease (in particular, coal workers' pneumoconiosis in China and silicosis in India), human rights advocates have called for the creation of disease-specific compensation funds.

The concept of a fund prompts consideration of whether a non-governmental program like the South Africa's Asbestos Relief Trust (ART), which is run independently of the government with funding from a series of famous tort settlements, should be a model for providing silicosis and tuberculosis compensation. Some see this as a possible solution to ODIMWA's problems, particularly if there are further settlements in the historic and large suits currently underway. However, there are potential problems with such a trust. For instance, a trust might not be a sustainable or comprehensive long-term model for compensation, particularly if its funding, coverage of individuals, or timeframe is limited by a court ruling (as is the case with the ART).³⁷ Moreover, a private trust might dampen pressure on governmental/public actors to take responsibility for the long-term care of mineworkers, former mineworkers, and their families through revised statutory programs or by holding the mining industry accountable for its employees' health. Indeed, there are tradeoffs to consider. (We discuss these further in Part II, which explores various funding mechanisms, and Part VI, which explores options for accountability.)

We encountered the view that a private system/trust could in essence be "handed over" to the government at the end of its mandate. In theory, a permanent hybrid public-private partnership might also be a possibility. We did not identify any such models in our comparative research. Yet some important principles to keep in mind

when considering a hybrid system include the viability of a long-term commitment from both sides, the feasibility of sharing responsibilities and resources, the potential for corruption, and the need to establish clear lines of accountability for all partners.

Thus, further research and discussion are necessary to determine which system—uniform, industry-specific, or disease-specific; public and/or private—is best for South Africa and in line with the country's Constitution.

PART II: SYSTEM FINANCING

- PRINCIPLES** Statutory compensation systems should be properly and transparently funded by contributions from employers that are clearly set out. To this end, governments should set mining companies' financial responsibility at sufficient levels to compensate for all disease caused by mine work. The funding system and decision-making should not be susceptible to industry manipulation or excessive influence, and thus enjoy a level of independence.
- PROBLEMS** The compensation system in South Africa for mineworkers is underfunded. Levy calculations are consistently subject to industry influence and are not directly tied to expert evaluations of how much money is required to fund the system sustainably and equitably.
- CONCLUSIONS** Better levy-setting and improved collection and administration are needed to provide adequate compensation that will pass constitutional muster. Increased funding should consist of a combination of higher levies, with possible funding from court settlements in recently concluded and ongoing cases pertaining to compensation. It should cover the large deficit of compensation currently owed and provide a sustainable funding mechanism for the future. All eligible beneficiaries in South Africa and labor-sending countries should be guaranteed compensation.

ODIMWA's compensation fund is financed by levies on the owners of controlled mines.³⁸ The levy amounts are set by the CCOD on a per risk shift³⁹ basis, with actual per risk shift amounts dependent on the mineral being mined. While the CCOD has discretion under the law to set levy amounts, in practice, legal experts have shown that this generally has been done with the advice and consent of an oversight committee that includes industry representatives. This structure makes levy decisions susceptible to industry influence, which has contributed to funding inadequacy.⁴⁰

The current amounts paid into the fund are insufficient to cover all current and future claims. Even under the most conservative assumptions, the fund used to pay ODIMWA claims is more than 600 million rand (U.S. \$67 million) below the level required to cover current liabilities, and may in fact be 10 billion rand (U.S. \$1.12 billion) or more below the level required to cover the total annual costs to South African society. (Those estimates themselves are a decade old now, but newer comprehensive estimates are not available and are almost certainly not substantially lower.⁴¹) While the levy per risk shift in a gold mine increased from 0.32 rand (U.S. \$0.04) to 7.14 rand (U.S. \$0.80) between 2005 and 2011, this falls far short of the 30.91 rand (U.S. \$3.45) average levy that Deloitte calculated would be required to make the fund solvent.⁴² However, Deloitte did not take into account potential beneficiaries who never

make a claim or who make an incomplete claim but who are entitled, by statute, to compensation. It also made a number of assumptions that limit the amount required to pay all claims in their valuation report.⁴³ So even at the full levy amount suggested by Deloitte, large unfunded liabilities would exist.⁴⁴

Critically, in 2011, a Chamber of Mines lawsuit to prevent levy increases that would cover former mineworkers did not succeed fully, with the court finding that the CCOD could set levies at levels required to pay claims from past and present mineworkers.⁴⁵ This opens the door to raising the levies to or above levels proposed by Deloitte. In what follows, we survey three measures that could be used as the basis for setting the levies: dust levels, experience rating, and production.

Dust levels. One option is basing levies directly on dust levels, allowing the per risk shift levy amount to vary between mines or even shafts. This could theoretically provide a strong incentive for companies to lower dust levels and improve working conditions to reduce disease. However, dust levels measured by the mines themselves, as is currently the case in South Africa, are open to manipulation, and most of the experts we consulted felt very pessimistic about the possibility that a dust-level levy scheme could ever be protected from undue influence. This could lead to continued under-assessing of levies if mining companies manipulate reported dust levels—for example, by averaging dust

levels from high- and low-risk areas in the mines. Currently, the South African government recommends an occupational exposure limit (OEL) of 0.1 mg/m³; while many mineworkers continue to be exposed to higher levels, research has also shown that workers still develop silicosis at exposure levels below the limit.⁴⁶

Even if dust levels were accurately measured, because of silicosis's long latency period, changing dust levels would likely not have an immediate effect on the amount of compensation required since there are many mineworkers exposed to dust and/or TB who will become sick in the next decade regardless of any changes in dust level. This would result in many years of underfunding. Additionally, according to interviewees, the medical effect of changes in measured dust level on compensable disease is not sufficiently well known to create a fine-tuned scale of how much levy is required per unit of dust.

Experience rating. COIDA and many other systems, such as Canada's, use experience rating, in which levies are based on a history of compensation claims. However, since many mineworkers are employed at multiple mines over time, complete employment histories are not readily available. Moreover, silicosis's long latency period means that using claims history to determine levies might not be feasible in South Africa in the near term. Additionally, given the low percentage of workers in South Africa and the surrounding region who have received compensation in the past, the institution of such a claims-history levy system would require many years of improved claims administration in order to generate enough accurate data to create experience ratings. Given the urgent need for reform, waiting several years would be difficult to justify. Finally, this model risks creating an adversarial situation between mine owners and former mineworkers, since owners would have a financial stake in minimizing claims. This dynamic has had a deleterious effect on the compensation system in Canada, particularly in Quebec, which moved to a system based more heavily on experience rating in the 1990s.

Production. Levies based on production are less open to manipulation by mine owners than dust-level or claims-history systems. As a result, they may represent the best choice for South Africa. Production-based levies would also decouple the levy paid from the number of shifts worked, which would reduce the potential of companies to compensate for higher levies by increased mechanization and layoffs.

While this system does not provide a strong incentive for mines to improve working conditions, the urgent need for reform and the problems with other systems, as described throughout our Comparative Analysis, likely make production-based levies advisable in the near-term. Other legislation and regulations, such as those stipulating maximum acceptable dust levels, can continue to be used to promote safety.

A production-based levy system is employed by the United States to combat Black Lung disease. The compensation fund is paid by an excise tax on coal production, while safety improvements are made via separate regulations. (We will discuss this system further in the Part VI.)

Having laid out these options, it is important to note that there is a risk that raising levies could be detrimental to current mineworkers. Increasing levies, particularly if they continue to be tied to the number of risk shifts worked, could cause mining companies to close or mechanize mine shafts that are currently only marginally profitable, in turn causing layoffs. A range of interviewees expressed serious concern about the risk of triggering unemployment, though many others believed that any levy increase would have only a negligible impact on mining companies' profit margins.

Ultimately, whether a given levy increase would trigger significant layoffs is an empirical question that demands further research. It is clear that the current state of the conversation hinders productive debate: mining companies and their allies claim an unknown number of workers will lose their jobs if levies are increased, while opponents respond with claims that profits are sufficient to absorb the financial burden, and no progress is made toward a solution. This conversation also sidesteps the fundamental question of whether South Africa should allow companies to operate in a manner that causes significant negative externalities instead of closing industries that cannot profitably exist while paying for the damage they cause. ODIMWA itself provides one answer, saying companies should pay enough to compensate "every person who performs risk work at or in connection with that mine or works and who is after the commencement of this Act found to be suffering from a compensable disease."⁴⁷

Ultimately, some amount of funding might originate outside of ODIMWA's administrative scheme or a levy

system. The recently settled and pending tort lawsuits may result in the provision of large, one-time payments by mining companies, perhaps administered in the form of a trust much like ART (the pros and cons of which were described in Part I.) Still, an increase in levies will be required, in particular to address future compensation claims. The exact amount of increase will depend on the amount and structure of any court settlement(s), as well the results of newer epidemiologic and actuarial research.

Additionally, South Africa's government could consider guaranteeing compensation by using general treasury revenue to meet unfunded liabilities in the event that the ODIMWA compensation fund and/or other funds set up after court cases become insolvent. Several other country systems, including the U.S.'s Black Lung fund, provide such guarantees, with government serving the function of funder of last resort. The South African government has allowed gold mining companies to pay levies far below what is required for fund solvency. This omission arguably establishes an ethical obligation on the part of the government to ensure that all eligible beneficiaries are paid, even if the levy monies run out. It might also give effect to ODIMWA's requirement that companies are charged enough to cover compensation, by giving the government a financial motivation to enforce the statute.

PART III: CLINICAL DIAGNOSIS

- PRINCIPLES** Diagnosis and diagnostic facilities should be accessible, accurate, and culturally sensitive. Diagnosis certification requirements should be tailored to each compensable disease.
- PROBLEMS** Mineworkers have difficulty getting diagnosed because of inadequate access to medical personnel and facilities. In the current law, there is a 12-month time limit after leaving mine work within which claimants must be diagnosed with TB (in the absence of silicosis) in order to be eligible for compensation, which does not account for a persistent risk of TB after ceasing work.
- CONCLUSIONS** Diagnostic services should be made more accessible, in particularly in rural areas, through the use of mobile exam units and dedicated occupational health clinics. Moreover, alternative diagnosis certification standards, such as work-relatedness “presumptions,” should be considered with respect to identification of and compensation for TB.

To qualify for compensation under ODIMWA, claimants must be diagnosed as suffering from a compensable disease. Qualifying illnesses include silicosis, TB, and several other lung diseases that result in airway obstruction or permanent disability of cardio-respiratory organs.⁴⁸ ODIMWA entitles claimants to free assessments through a mine’s medical services or at public facilities and stipulates government repayment of other diagnosing physicians.⁴⁹ However, according to interviewees, claimants face systematic barriers in obtaining accurate and timely diagnoses. Many claimants, particularly migrants, live in remote regions far from medical facilities. Moreover, South Africa and labor-sending countries suffer from a shortage of medical specialists, and this gap is particularly pronounced in the field of occupational health. Medical equipment shortages (such as X-ray equipment) also contribute to the inaccessibility of diagnostic services.

One potential solution to these challenges, lauded by many interviewees, is mobile units. By deploying diagnostic services to claimants, this model would reduce the physical and financial burdens of travel, which can be significant since claimants are often poor, ill, and live in remote areas. Mobile units could be of particular benefit to migrants, who often reside far away from diagnostic services. Moreover, the public presence of units could serve the added function of increasing awareness of the right to compensation. The mobile unit model has been successfully implemented in many countries, including the United States, Australia (New South Wales), and Germany. For instance, the U.S. Black Lung program has conducted data analysis to determine potential “hot

spots” of compensation claimants and concentrated mobile units in these high-need areas. This is an option South Africa should seriously consider.

One potential downside to this model, however, is that mobile units are by nature transient, which could limit follow-up care opportunities. A complementary approach that would address this limitation is the establishment of dedicated occupational health clinics in high-need areas. Both mobile units and dedicated clinics could eventually capitalize on desires expressed by the DOH to bolster the occupational health workforce in South Africa. This includes incorporating occupational health training into residency programs for district hospital doctors; promoting an occupational health nursing certification; and ensuring that each regional public health center has a nurse who is trained to recognize occupational illnesses and to refer patients to specialists at district hospitals.

Still, the current diagnostic requirements for certification of compensable TB would undermine the positive impact of mobile units and dedicated clinics for many workers and former workers. TB is only compensable if it is diagnosed in active mineworkers or among workers within 12 months of leaving mine employment.⁵⁰ However, both silicosis and silica dust exposure in the absence of silicosis are associated with a greatly increased chance of developing TB throughout a former mineworker’s life.⁵¹ As such, a presumption that TB diagnosed at any time following mine employment for a certain number of years is in fact work-related, and thus compensable, would extend compensation to deserving claimants whom the current system neglects.⁵²

Under presumption-based certification standards,

claimants who suffer from compensable diseases are either presumed (rebuttable) or conclusively certified (irrebuttable) as eligible based on factors such as length of qualifying service. For instance, the U.S. Black Lung program uses a rebuttable presumption whereby at least 15 years of qualifying mine employment and the presence of a compensable illness together establish that the disease is work-related. The Black Lung program also utilizes an irrebuttable presumption that a mineworker is totally disabled when there is manifest lung scarring of more than one centimeter associated with a compensable illness.

Justifications for the use of presumptions gleaned from interviews include: providing compensation to a small number of beneficiaries in error is potentially more cost-effective than paying for complex medical certifications for everyone; it is morally preferable to compensate some ineligible individuals than to withhold compensation from claimants who may not meet requirements because of poverty; and presumptions can result in higher accuracy overall given the vagaries of diagnosis, especially in countries with weak health systems.

CONCLUSIONS:

ODIMWA's autopsy provision for deceased workers effectively puts compensation out of reach for already disadvantaged claimants, such as migrants, women, and blacks. If autopsy remains a route to compensation, it should be more accessible and better explained.

If a mineworker or former mineworker was not diagnosed with a compensable disease while alive, survivor claimants can only receive compensation by submitting the deceased's cardiorespiratory organs to the DOH for autopsy.⁵³ This requirement can prove a major hardship. Organ removal is inconsistent with various claimant communities' cultural beliefs. For instance, some southern African customs exclude widows from decision-making, which can include providing medical consent, during a bereavement period following husbands' deaths.⁵⁴ As a result, using autopsies to determine eligibility disadvantages female survivors, especially those from certain African ethnic groups. In addition, logistical shortcomings, such as unequal distribution of government-issued autopsy organ collection boxes, make it challenging for black survivors to apply. These barriers are also high for survivors of

migrant workers, as the South African government does not distribute autopsy equipment in other countries. Moreover, many survivors are not even aware of the autopsy option.⁵⁵

Many interviewees were critical of the autopsy requirement for the reasons described above. Some advocated removing the provision entirely. Wholesale removal, however, could seriously disadvantage some claimants if a viable alternative to post-mortem diagnosis is not introduced. In particular, removal would risk putting compensation out of reach for those seeking payouts on behalf of former workers who could not access diagnostic services in life. Several alternatives, such as death certificates, presumptions (as described in the previous section), or "oral autopsy" (verbal testimony about physical manifestations immediately prior to death) arose throughout the course of our research. However, there are possible problems with each of these alternatives, stemming from implementation challenges and weaknesses in the medical evidence base. Thus, complete removal of autopsy is not advisable until further research indicates an alternative that is both more equitable and politically viable.

Some interviewees counseled against removal because autopsy presents scientific advantages. Notably, in some cases, autopsy is a more accurate means of diagnosis than examination methods available to living claimants. For example, lung diseases like silicosis are often missed by X-ray examinations.⁵⁶ Moreover, the DOH uses organs submitted under ODIMWA for scientific research, which has the potential to advance the medical understanding of illnesses commonly suffered by mineworkers, and to improve prevention and treatment. However, a thorough review of the system in light of evolving norms regarding free and informed consent should be conducted to guarantee that this research benefit is not used in an exploitive fashion.⁵⁷

If the provision does remain in place, decentralized removals and autopsies done at mobile units and/or dedicated occupational disease clinics are options for improving implementation. Local doctors could also play a role in decentralization. Online courses or conferences sponsored by the government could be used to train rural physicians in how, after organs are removed, to identify lung diseases and properly document them for submission to the MBOD. Decentralization mechanisms could also help increase access by removing some cultural barriers.

For instance, given that burial without organs is abhorrent to some claimants, decentralized autopsies could allow that organs be returned to families.⁵⁸

However, these potential reforms have limitations. Returning organs might preclude the possibility of long-term autopsy-based research and would complicate claimants' ability to appeal determinations. Moreover, given staffing issues in the healthcare sector highlighted earlier in the paper, broad-based training of local physicians to detect lung disease via autopsy would likely not be possible in the near term. Nonetheless, decentralization should be given serious consideration as a long-term strategy, given its potential for increasing access.

In lieu of or complementary to decentralized autopsies, a more equitable post-mortem diagnosis process could also be achieved by depositing organ bins bound for Johannesburg in health centers across southern Africa. (Currently, the MBOD will retrieve organs from any location within 100 kilometers of Johannesburg, covering many former white mineworkers but only a small percentage of former black mineworkers.⁵⁹) Compensation authorities could also more widely disseminate culturally sensitive information about the autopsy process, potentially in conjunction with a network of workers' advocates. (See Part IV for a more detailed discussion of workers' advocates.)

PART IV: APPLICATION

PRINCIPLES	Compensation application processes should be accessible to all claimants, including migrant workers, and should not involve prohibitively burdensome documentation requirements. Claimants should have sufficient support and guidance as they move through the processes.
PROBLEMS	Challenges in the process of filing claims include a lack of required employment documentation, distance from the centralized authority that must certify diagnosis and approve compensation, and a paperwork backlog within that authority that can lead to delays of four or more years.
CONCLUSIONS	Decentralization as well as a strong network of workers' advocates are necessary to ensure fair and efficient compensation claim procedures.

After being identified, ODIMWA claimants must apply to the Medical Certification Committee for Occupational Diseases. This committee consists of the director of the MBOD and 3-5 medical practitioners, all appointed by the Minister of Health. Industry nominates one member, and workers' representatives nominate another.⁶⁰ The committee receives medical evidence and determines whether a claimant has a certifiable disease.⁶¹ It may ask for additional tests if it deems them necessary.⁶² Claimants whose disease has been certified are notified, and then their cases proceed to the CCOD, which may request information, including proof of identity, documentation of employment, and banking details.⁶³ The CCOD ultimately determines the distribution of compensation. (See Figure 1 in the Introduction for a visualization of the claims process.)

Claimants routinely encounter obstacles in the application process. All procedures are centralized in Johannesburg, and the onus is on claimants to get their materials to government offices and reply to any requests for follow-up from the MBOD or CCOD.⁶⁴ Many claimants live far away from Johannesburg, including in Lesotho, Mozambique, and Swaziland. Many have poor literacy skills and live in areas with dysfunctional postal services, bad roads, and other infrastructure problems.⁶⁵ Furnishing employment data can also prove difficult, as not all claimants have contracts or other evidence of work. The Public Protector of South Africa stated in 2009 that the CCOD should accept affidavits as proof of employment,⁶⁶ but obtaining these can still require resources that claimants do not possess. Backlog is also a massive problem: one study, in which claimants

had assistance and thus may have been more likely to see their cases succeed, found an average of 51 months between initial submission to the MBOD and receipt of compensation, which, even then, only occurred in a minority of cases.⁶⁷

One of the key reforms needed in the ODIMWA application process is decentralization, whereby claimants would be able to access government offices and processes closer to home. Many interview subjects in South Africa expressed a desire for this reform, particularly given the diaspora of former workers throughout the country and in neighboring states. Decentralization is the norm in many other compensation systems. In the United States under the Black Lung program, for instance, federal centers are strategically placed for claimant access and transportation costs within 150 miles, including meals and lodging, are covered. In New South Wales, the mobile unit conducting medical exams can serve as a de facto awareness-raising mechanism for the work of the DDB; it also refers data to the board if evidence of dust disease is detected during screenings. In India, compensation implementation powers are vested in state-level commissioners, rather than the national government. Recent pressure from the country's human rights commission has led to some state-level progress in beginning to deal with silicosis. (See Part VI for more information on this progress).

Decentralization could occur on two fronts in South Africa. First, per the U.S. model, the government could open satellite offices of the MBOD and CCOD. Second, authorities could incorporate a mobile solution, much like

one proposed by the Aurum Institute in Johannesburg, wherein personnel in mobile units would be equipped to package benefit examination information for submission to the MBOD. As Aurum representatives have suggested, a mobile solution in particular could prove fruitful ground on which to coordinate with NGOs, foreign aid actors, academics, and others with an interest in improving the compensation process. Either or both of these solutions would also need to involve input from and collaboration with labor-sending states, to ensure that the benefits of decentralization would extend to migrant workers.

It is likely that introducing these solutions would incur costs to the South African government and possibly other governments. Research would be necessary to determine what these costs would be, how they should be distributed, which departments should bear them, and whether funding from other sources—including international donors—might be helpful and appropriate. That said, cost should not be a reason for preserving a status quo in which mineworkers have limited accessibility to the application process.

Complementary to the issue of decentralization is the need for stronger workers' advocates. Currently, there is not widespread, coordinated support for claimants that can assist them with paper work, follow up on their cases with the MBOD and CCOD, lobby on their behalf, and help ensure timely delivery of compensation. In fact, our interviews only revealed a perverse form of support: individuals called "sharks," who promise assistance in the application process but instead take money from claimants.

The most obvious source of potential claimant support is unions such as NUM, given that a union, by definition, advocates for the rights of workers. The unions could take on a greater role by training representatives to help compile claims and usher them through the system. In doing so, they could follow the lead of labor unions in the U.S., which assist mineworkers with occupational disease compensation claims. Another government-centered model is found in New South Wales, where, once a claimant files with the DDB, an officer is assigned to the case to compile a detailed industrial history. This helps ensure attention to individual cases and clear lines of accountability for bringing them to conclusion. Another promising example exists in Canada, where worker advisor or advocate offices exist in almost all provinces and territories. These offices are typically independent agencies of departments

or ministries responsible for occupational health and safety, and their personnel provide free services to workers and their families, including information about and assistance with compensation.

The potential solutions described above might benefit claimants who have yet to start the application process. As previously mentioned, however, there is also a backlog of unprocessed claims. An evaluation of the efficiency of the existing claims review process would be beneficial, with the subsequent goal of setting new rules, seeking new technology, or hiring more reviewers in order to expedite the process of dealing with backlog. This is also an area in which workers' advocates could have an impact: some advocates could focus on assisting claimants who applied years ago but have yet to receive a response. These advocates could be assigned to claimants by geographic region or time of application.

PART V: BENEFITS

PRINCIPLES	Benefits should fully cover the costs associated with compensable diseases and should be distributed in a form that meets beneficiaries' needs. Benefit levels should also correspond to specific degrees of impairment.
PROBLEMS	Compensation awards—when made—are low and are only available in lump sums. There is only one chance for receiving increased benefits for a disease's progression, and levels do not accurately reflect degree of impairment.
CONCLUSIONS	<ol style="list-style-type: none">1. Raising ODIMWA's inadequate benefit levels is a reform priority. ODIMWA's distinctive lump sum benefit structure should also be reconsidered, and future research should focus on exploring the viability of hybrid lump sum-pension payout models.2. Benefit calculations should more accurately account for inflation and specific degree of impairment. Moreover, ODIMWA's requirement that benefits cover the ongoing medical treatment necessary for managing compensable diseases should be enforced.

ODIMWA pays a maximum of approximately three times a claimant's annual salary for second-degree impairment (as described previously in this report), regardless of age, number of dependents, or any other consideration.⁶⁸ In practice, the relatively few individuals receiving benefits get less than the maximum amount. ODIMWA benefits are low in comparison to those available under COIDA and in other countries. COIDA pays monthly pensions of 75 percent of a former worker's earnings for total (100 percent) permanent disability; for permanent disability of more than 30 percent but less than 100 percent, claimants are entitled to monthly pensions pro-rated according to the percentage of impairment. This pension structure implicitly accounts for a worker's age and the number of productive years lost and also generally results in much higher overall awards than ODIMWA.⁶⁹ COIDA also pays survivor benefits that include funeral costs, a one-time cash payment, and a continuing pension set at 40 percent of the regular pension rate paid to permanently and totally disabled workers.⁷⁰ In comparing ODIMWA to COIDA, the Constitutional Court found ODIMWA's benefits "seemingly paltry and inadequate,"⁷¹ an assessment widely echoed in our interviews.

Other countries' statutory compensation levels are also more generous than ODIMWA's. In many countries, above a certain disability level, beneficiaries are entitled to a pension until the normal retirement age or death. The U.S. Black Lung program pays a monthly pension until death; the precise amount is based on the number of

dependents the former mineworker is supporting. India, meanwhile, bases compensation amounts on the age of the worker, with younger workers receiving more than older ones. China promises a monthly pension of 60-90 percent of the worker's former salary until death.

Instituting reforms in South African compensation law should also involve an examination of ODIMWA's lump sum payment structure.⁷² Poorly designed payment schedules can reduce the utility of even high awards, and ODIMWA's one-time payout model is detrimental to claimants in several respects. First, a one-time payment limits opportunities for adjustment of compensation based on changes in disease severity over time, which is particularly problematic given that silicosis is a progressive disease. In addition, many interviewees raised the concern that one-time payments present the danger of rapid expenditure, the resulting risk being that funds will not be available over the long periods of time that claimants may be unable to work. A study on the spending habits of ART beneficiaries noted that claimants from southern Africa may be especially vulnerable in this respect, as many may never have possessed such a large sum of money at one time and may have little experience saving or investing.⁷³

However, lump sum payments are not without potential advantages. According to interviewees, one-time payments may decrease administrative costs, reduce the burden on claimants to lobby compensation authorities in the event of non-payment, and provide more funding up-

front to claimants who have debts to pay or who may not have long to live because of age or illness. That being said, our comparative analysis reveals that lump sum models are rare. While ART compensation is a one-time, lump sum payment, COIDA reserves lump sum awards to the lowest degrees of impairment. All other COIDA claimants are entitled to pensions.⁷⁴ Compensation systems in nearly all of the other countries we reviewed provide benefits in pension form. For instance, in New South Wales and the U.K., payouts are weekly.

Some countries' benefit models combine one-time payments with pensions. For instance, in the U.S., Black Lung program benefits are typically paid in pension form, but claimants can apply to receive the value of their pension payments advanced through a lump sum. This option, known as "commutation," is at the discretion of compensation officials and must only be used in circumstances where a one-time award is "in the interest of justice." Indonesia, China, and Ghana also employ hybrid approaches, whereby claimants are eligible to receive some combination of one-time and regular benefit awards.

Not only are pure lump sum models rare, they are also discouraged. For example, ILO Convention No. 121 states that lump sum payments should be restricted to "exceptional circumstances" and only be awarded with "the agreement of the injured person...when the competent authority has reason to believe that such lump sum will be utili[z]ed in a manner which is particularly advantageous for the injured person."⁷⁵ Presumably, to have reason to believe a one-time payment will be "particularly advantageous," authorities need either in-depth knowledge of individual claimants' circumstances or comprehensive and highly representative population-level data. Under ODIMWA, officials are not required to consider either. (South Africa is not party to the ILO convention, but this does not diminish the document's importance as a source of global, normative guidance.)

Thus, international practice and standards suggest that pensions or hybrid models are preferable to pure lump sum awards. However, data on the tradeoffs between types of awards in the South African context is nearly non-existent. The only relevant study of which we are aware, which analyzed ART claimants' use of their compensation awards, found that lump sums were quickly exhausted. However, the vast majority of claimants expressed a strong preference for

lump sum payments, and there was little evidence of "wasteful" spending; beneficiaries' awards often went to expenditures on long-term items like housing and furniture.⁷⁶ Future research should assess beneficiaries' award preferences on a larger scale and also determine the reasons for these preferences. Special consideration should be given to the viability of hybrid models, such as commutation, that would give beneficiaries choices and tie payout schedules to individual circumstances. If designed and administered effectively, a hybrid model could help balance claimants' needs for both immediate and long-term support.

In addition to providing a robust assessment of the viability of the commutation model, future research and/or pilot programs should specifically consider the following:

- Any unique preferences and limitations faced by migrants and survivors of mineworkers who have died.
- Whether awards should vary according to beneficiary age.
- Whether benefit structure or payment mechanism should differ for widows whose husbands practiced polygamy, which is not uncommon in some high-volume, labor-sending countries.⁷⁷
- The extent to which other benefits (e.g. social security) are available, as well as how they might interact with different compensation payment models.
- Innovations, like cell-phone banking, that might facilitate distribution of funds.

CONCLUSIONS:

Benefit calculations should more accurately account for inflation and specific degree of impairment. Moreover, ODIMWA's requirement that benefits cover the ongoing medical treatment necessary for managing compensable diseases should be enforced.

ODIMWA benefits are determined in part by percentage of impairment as measured by lung function or ability to work. Impairment severity is categorized as either First Degree or Second Degree. A categorization of First Degree corresponds to impairment levels ranging from 10 to 40 percent, and Second Degree spans 41 to 100

percent.⁷⁸ These broad categorizations do not adequately account for the range of impairment that claimants actually suffer. As a result, benefit amounts are not sufficiently aligned with claimants' needs. For instance, a claimant assessed at 99-percent impaired is eligible to receive the same benefit award as a claimant classified as 41-percent impaired.⁷⁹

Numerous compensation schemes we surveyed calibrate benefit amounts more closely to actual degree of impairment. COIDA pegs benefit awards to a progressive scale of disease,⁸⁰ and the ART issues awards based on diagnosis and severity.⁸¹ Compensation benefits for mineworkers in China, India, and Australia are also more graduated. Under the Chinese system, disability-based payments correspond to a ten-point scale; in India, assessments are divided into four overarching categories with the possibility of more nuanced assessment (by medical professionals) for permanent, partial disablement. In New South Wales, payment amounts vary according to individualized disability determinations made by the DDB Medical Authority.

ODIMWA benefit calculations do not fully account for inflation. While they are based on current workers' salaries, which may reflect inflation, they are limited by a set maximum benefit that does not automatically rise with inflation or with increases in mineworkers' wages.⁸² Furthermore, while ODIMWA requires payment of interest accrued during the period between disease certification and claim disbursement, this does not occur in practice; given the lengthy delays between certification and payment, these forgone inflation payments can be significant.⁸³ According to several interviewees, benefit calculations' insensitivity to economic shifts has resulted in significant depreciation in the value of benefits. They further specified that this reduction in value negatively affects beneficiaries' ability to obtain basic necessities for themselves and their families.

Pegging compensation levels to inflation is a standard practice in several other systems around the world. Notably, COIDA awards account for inflation; monthly pension payments for claimants determined to be more than 30 percent disabled are inflation-adjusted.⁸⁴ In addition, U.S. Black Lung benefits are sensitive to changes in cost of living. These benefits are based on federal employee salary schedules that change every year partially in response to inflation.

In practice, ODIMWA benefits also do not cover

ongoing medical treatment. While the statute makes mines responsible for these costs and gives the CCOD discretion to pay expenses with government funds,⁸⁵ interviewees explained that compliance is nearly non-existent. Actual coverage of longer-term medical treatment is common in other statutory systems. Many of the other countries we reviewed (Germany, U.K., New South Wales) cover some or all medical costs for months to years. ODIMWA also stands out for its failure to cover funeral expenses, which can be considerable and are often borne by surviving members of workers' families. This gap exists not only in implementation; the statute itself makes no provision for funeral costs. COIDA, as well as China and New South Wales, promise to cover funeral expenses.

PART VI: ACCOUNTABILITY

- PRINCIPLES** A compensation system must be underpinned by effective accountability measures to ensure adequate implementation and improvement of conditions leading to the need for compensation in the first place.
- PROBLEMS** Neither the South African government nor mining companies have been held sufficiently accountable for the compensation system's shortcomings or for insufficiently regulating mine conditions. A Constitutional Court decision has permitted suits to be brought under ODIMWA, and court proceedings are ongoing in much the same vein as previous, successful suits regarding asbestos compensation. At the time of writing this report, however, only one major case had settled. Overall, the proceedings' potential impact is unclear.
- CONCLUSIONS** Accountability of both the government and the mining industry could be advanced through private tort litigation, personal criminal liability, the national human rights apparatus, and/or positive incentives.

The systemic problems in South Africa's compensation system reflect a failure of accountability on at least two levels: the legal responsibility of individual actors (including mining companies and their managers) to fairly and efficiently fulfill existing compensation obligations, as well as the broader societal and political responsibility of the South African government for reforming ODIMWA. This section focuses on select avenues for advancing accountability, including (1) common law tort liability; (2) criminal or administrative sanctions; (3) a national human rights apparatus; and (4) incentives and rewards for positive behavior. It finds that all of these avenues might prove useful in South Africa, some more than others.

Tort liability. As noted in the Legal Background section, in 2011, the Constitutional Court of South Africa held in its *Mankayi* decision that ODIMWA is not the exclusive remedy available to mineworkers suffering from occupational lung disease. This opened the door to civil lawsuits. The decision might seem surprising, given the common understanding of workers' compensation as a compromise whereby employees relinquish their right to sue employers in return for statutorily guaranteed compensation.⁸⁶ In reality, however, we found that civil lawsuits against employers for causing occupational disease, although a recent phenomenon in South Africa, are not uncommon internationally. Our findings are consistent with a previous comparative study from 1991, which found that, in a majority of surveyed countries, workers' compensation was not the exclusive remedy

available to employees against their employers.⁸⁷

Tort litigation is widely used in common law jurisdictions, and it tends to increase with the involvement of the liability insurance industry. However, this involvement should be considered carefully, as it might have unintended negative consequences. A striking example is the United Kingdom, where the private liability insurance industry is such a central actor that insurers can bring tort actions against the employer-policyholder for breach of duty to avoid accidents and handle claims properly. Following the 1969 passage of a U.K. law mandating compulsory employers' liability insurance, the number of lawsuits for work-related injuries and diseases exploded, accounting for 47 percent of total tort claims. However, only 19 percent of these cases resulted in damage awards, and settlements were relatively small, rarely exceeding GBP500 (U.S. \$766).⁸⁸ Although not entirely clear, it is quite possible that a more active role of the insurance industry tends to reduce overall compensation for workers, as the insurance companies develop increasingly aggressive legal methods to fight workers' claims. This risk is noted here as a caution for future policy development in South Africa in the event that the role of insurance companies is seriously considered; further research is needed to determine the effect of private insurance companies.

An additional caveat to the tort liability approach is that its effectiveness is contingent on the strength and effectiveness of the overall tort and judicial systems. Where the legal system is weaker, as in China, this

process is often unsuccessful and can take so long that ill workers often die waiting for judgments. Such inefficiency problems might be addressed by establishing a specialized court, such as the Dust Diseases Tribunal in New South Wales. Despite the one recent settlement, it is too early to say how efficiently the litigation in South Africa will proceed overall. In the event that it is too slow or otherwise unsatisfactory, the New South Wales model might be relevant to consider.

Administrative accountability. Another approach is through administrative oversight and sanctions, which exist under the law in the United States and China, among other countries. This approach, however, is not without enforcement challenges. Consider, for instance, fines based on violating dust thresholds. In the mining context, it is particularly challenging to ensure the accuracy of dust level assessments. Mining companies have an incentive to under-report (as noted in Part II), and independent third parties lack access to mining sites to conduct unannounced or undercover assessments. In the U.S., for instance, mines that breach pre-set dust levels are fined, but testing and reporting of dust levels are generally performed by mining companies, with infrequent government inspections for excess dust.

Other sanctions include fines on industry for failure to participate fully in a compensation system. In China, for example, recent amendments to the country's workers' compensation law place penalties on employers who do not participate in the mandated insurance program through which compensation is assessed and paid. However, it is not clear that these provisions are being enforced, given widespread corruption and variability of political will across provinces (the level at which compensation is administered).

Given these challenges, our suggestion is against relying heavily on administrative accountability (which is related to and consistent with our discussion of effective funding mechanisms in Part II). To the extent that funding is independent of measures that are subject to manipulation by mining companies, administrative accountability is less pressing.

Criminal accountability. Personal criminal liability of individual actors is a third possible mechanism that could complement the previous two. For example, U.S. federal law has strong anti-fraud provisions in this area: A mine manager or operator who knowingly submits improper dust samples is guilty of a felony, subject to

a maximum penalty of five years in prison and a fine of U.S. \$250,000. However, our research found no such criminal cases in the past decade. In addition to criminal sentences, senior mine officers may be personally liable for paying compensation if the mine falsely claims it is self-insured but does not have enough funds to pay out. South Africa would need to more fully assess the potential effectiveness of criminal accountability measures before implementing them.

Human rights. One potential accountability resource in South Africa is the national human rights apparatus, in particular the South Africa Human Rights Commission (SAHRC). It is important to note that, with respect to human rights, only states bear responsibility under international and domestic law; business responsibility for human rights is an emerging norm that has not yet solidified in international law.⁸⁹

Nonetheless, India might provide a model for employing the SAHRC. In India, the National Human Rights Commission (NHRC) has been very active over the past few years on the issue of uncompensated silicosis, thanks to an order by the Supreme Court in 2006. The NHRC set up a task force, issued reports and recommendations, and organized a national conference on silicosis in 2011. This conference generated multiple recommendations, including that all people affected by silicosis should be treated as living beneath the poverty line, that states should initiate criminal proceedings against factory owners whose workers have silicosis, that all cases of silicosis should be considered as 100-percent disability, and that migrating workers should be given identity cards that make it easier for doctors to obtain work, exposure, and health histories. The NHRC has also issued directions to several Indian states to compensate silicosis victims, including families of deceased workers, particularly those who are not formally documented and/or who work for unregistered mines and other employers. In response to such directions, in August 2012, the state of Gujarat passed a resolution laying out an insurance system that should compensate families accordingly.

Although the impact of the NHRC's work in India has yet to be fully realized, the SAHRC could follow its counterpart's lead and become more involved in pushing the issue of occupational disease compensation. In line with the conclusions in Part III, the SAHRC could become a part of a stronger, coordinated workers' advocacy network in southern Africa.

Positive incentives. In addition to punitive measures, there are also numerous comparative examples of policies intended to reward and incentivize exemplary industry behavior. For example, the German government confers a prize on companies that show particularly high degrees of commitment and innovation in the area of occupational safety and health. Similar prizes are awarded by governments of several states in the United States, including North Carolina (Department of Labor's Safety Awards) and Indiana (Governor's Workplace Safety Awards); as well as independent non-profit organizations in Australia (National Safety Awards of Excellence) and Canada (Canada's Safest Employers). This policy option could be considered in South Africa as a possible method to improve compliance with health, safety and compensation laws, but only once other accountability mechanisms discussed above are in place to discourage and punish noncompliance.

Conclusion

Conclusion

Mineworkers, former mineworkers, and their families in South Africa and labor-sending countries face significant barriers in accessing compensation for occupational lung diseases. Giving effect to claimants' right to compensation requires action on several fronts by multiple parties. Reform of compensation law and its full and appropriate application should be the principal avenues for change. In the short term, some challenges could be overcome or mitigated by administrative efforts, such as forming a network of workers' advocates who can assist claimants with the application process. In the longer term, improving compensation funding mechanisms or raising benefit levels will likely require multi-stage legislative reform.

It is our hope that, in providing comparative perspectives (examined comprehensively in the Appendix below), informed suggestions, and directed research questions, this paper will be a valuable tool for those seeking to advance change. It is possible to build and maintain just compensation systems in a wide variety of circumstances. South Africa is no exception.

Appendix

Comparative Research Matrix

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50	United States
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System Structure & Governance:

Mineworkers with occupational lung disease are treated separately and unequally under compensation law (ODIMWA), in comparison to other workers.

- Miners can choose to apply to the federal Black Lung Disability Trust Fund (hereafter the Black Lung Fund), to state compensation funds, or to both.
- The Black Lung Fund only accepts claims from miners; state compensation funds accept claims from all workers.
- Black Lung Fund benefits tend to be more generous than state benefits. So, to the extent that miners are treated unequally by the Black Lung Fund, they tend to be treated better.
- Double-dipping is not allowed. When miners obtain both Black Lung Fund and state benefits, the Black Lung Fund benefits are decreased by the amount of the state award. Social Security benefits are also reduced by the amount of any Black Lung Fund benefits received.

System Financing

The compensation system in South Africa for mineworkers is underfunded. Levy calculations are consistently subject to industry influence and are not directly tied to expert evaluations of how much money is required to fund the system sustainably and equitably.

- Benefits that do not come from state compensation funds are paid out by two sources: (1) the Black Lung Fund (which covers cases where the responsible employer cannot be determined or is insolvent); and (2) mines (or their insurers if they are not self-insured; the last mine that employed a worker for at least one year cumulatively is usually deemed responsible).
- Details about payouts made from the Black Lung Disability Trust Fund, created by The Black Lung Benefits Revenue Act of 1977 (P.L. 95-227) are as follows:
 - 1 The fund is administered jointly by the Departments of Labor, Treasury, and Health and Human Services.
 - 2 The fund is financed by an excise tax on coal mined and sold in the United States. In 2009, the fund received \$644.9 million in coal-based tax revenues.
 - 3 The sales-volume basis for employer contributions is generally seen as good insofar as it minimizes employers' ability to game the system. However, it does not create a safety incentive like a dust-level levy would.
 - 4 The fund is chronically underfunded; employer contributions do not cover compensation payouts.
 - 5 Fund deficits are covered by Treasury revenue. The Black Lung Fund is required to repay these loans with interest.
 - 6 The Department of Labor (DOL) has increased excise taxes. There is concern that tax increases will negatively affect jobs.
 - 7 The excise tax not only covers compensation, but also fund administration (judicial and managerial).
- Details concerning payments from mines are as follows:
 - 1 The law requires that mines buy insurance or self-insure. Mines breaking this regulation are subject to a \$1,100 fine each day they remain non-compliant.
 - 2 Mines need government authorization to self-insure (75 out of about 2,000 mines are so authorized).
 - 3 Many experts agree that the common practice of making the last employer financially responsible for occupational illness is illogical in the case of latent diseases. It may be more likely that an earlier employer bears greater responsibility.
 - 4 One potential problem identified is that workers' compensation insurance provided by mines is pooled with other forms of insurance they provide, so the feedback loop between insurance costs and mine conditions is not readily apparent. If a mine's insurance premiums go up because it is being unsafe and its insurers are paying out a lot of claims, it does not necessarily recognize that this is the cause of the premium increase. Requiring differentiated workers' compensation insurance is thought by some to be better for safety.

Clinical Diagnosis:

Mineworkers have difficulty getting diagnosed because of inadequate access to medical personnel and facilities. In the current law, there is a 12-month time limit after leaving mine work within which claimants must be diagnosed with TB (in the absence of silicosis) in order to be eligible for compensation, which does not account for a persistent risk of TB after ceasing work.

- The Black Lung Fund has its own medical experts in strategically placed regional locations. Miners can choose any doctor on the program list. In 2009, there were 177 doctors at 111 facilities listed. According to the DOL, it is hard to find qualified doctors willing to testify about diagnoses in compensation hearings, so they are hesitant to remove doctors from the list. Program doctors receive special training and are free. If miners want to be treated by their own doctors, they have to cover their own expenses.
- There are several stipulations and issues of note regarding medical evidence:
 - 1 The amount of medical evidence both sides (miners and mines) may submit in support of diagnoses is limited. (Limits can be exceeded if good cause is shown.) Diagnosis limits were instituted to speed up the adjudication process. Previously, according to experts, miners and mines would battle interminably by submitting conflicting medical evidence.
 - 2 Mine employment of 15 years or more creates a rebuttal presumption that compensable illness is caused by work.
 - 3 Scarring of greater than 1 centimeter creates an irrebuttable presumption that the miner is totally disabled due to illness.
 - 4 The Black Lung Grants Program funds 15 non-profit clinics that provide specialized diagnosis.
 - 5 Judges have said DOL-appointed doctors frequently do not provide sufficient clarity/specificity on the causal factors of disease and do not adequately explain their reasoning in the reports they issue. (Mining company doctors provide much longer/more detailed evidence.) DOL has responded by increasing training and releasing a training DVD.
 - 6 The Government Accountability Office recommended that DOL solicit feedback from doctors and clinics about how to revise diagnosis forms to facilitate legally persuasive medical evidence.
 - 7 The National Institute for Occupational Safety and Health (NIOSH) has mobile diagnosis testing units that provide services in “hot spots.”
 - 8 Mines are required by law to post notices alerting miners that they are entitled to medical evaluations. However, the extent to which mines are actually meeting this requirement is unclear.

Application:

Challenges in the process of filing claims include a lack of required employment documentation, distance from the centralized authority that must certify diagnosis and approve compensation, and a paperwork backlog within that authority that can lead to delays of four or more years.

- The federal Office of Workers’ Compensation Programs assumed responsibility for processing and paying out new claims for the Black Lung Fund in 1973. Even when mines (or their insurers) pay out compensation, the worker applies to a district office, which submits a claim to the employer on the miner’s behalf. The mine has to respond within 30 days as to whether it will pay or contest. If the mine does not respond within 30 days, it cannot contest on normal grounds. Non-response thus constitutes an acceptance of liability.
- There is an application time limit: A worker must apply within 3 years of a miner learning of his condition.
- Inadequate work history documentation is generally not a barrier. Most claimants have tax-related documentation.
- Distance is not usually problematic, since federal centers are strategically placed and travel costs are covered (specifically, “reasonable costs” within 150 miles, which include meals and lodging; this is subject to approval from the district office).
- When claimants live in remote locations, hearings are delayed until enough cases have been filed to justify a judge travelling to the region. Sometimes just getting scheduled takes two years. Trial via videoconference technology has been suggested.
- The Black Lung Fund has a benefits ID card.
- An eligibility conference is only held if both parties have representation.

United States

- A miner's attorney fees are paid for by the fund; the amount must be approved by a government adjudication officer.
- There is an average of 201 days from the date of application receipt to final determination (as of 2009). However, this is only for the first level review, or for claims that are not appealed. DOL does not track how long claims remain in the entire process; oversight studies have found 28 percent of claims remain in system for 3 years or more.
- About 87 percent of claims are denied at first level review (as of 2008), while roughly 50 percent at the appellate level are denied.
- Mine owners appeal pro-claimant decisions about 80 percent of the time. In contrast, denied miners appeal about 15 percent of the time.
- If a worker's claim is denied after all levels of appeal have been exhausted, he or she must wait at least one year to reapply and must demonstrate that material circumstances have changed in the new application.
- The Black Lung system is backlogged. Attempted solutions have included temporarily rehiring retired administrative law judges to handle additional cases until the workload is under control.
- If an award is contested, miners receive benefits during the interim of appeal. However, miners who are appealing denied claims typically do not receive interim benefits. (DOL does not recoup interim benefits)
- Washington and Lee Law School has a legal clinic to help miners apply for compensation.³

Benefits:

Compensation awards—when made—are low and are only available in lump sums. There is only one chance for receiving increased benefits for a disease's progression, and levels do not accurately reflect degree of impairment.

- Black Lung benefits are paid out in pension form, on a monthly basis. See the table at the end of this box for the 2013 schedule.
- Pension awards can be advanced as larger, one-time payments. This payment method, known as "commutation," is at the discretion of compensation officials and must only be approved in circumstances where a one-time award is "in the interest of justice."
- There are two benefits: wage replacement and medical care.
- Black Lung Fund benefits are primary; recipients must deplete their benefits before they can claim compensation for the same condition under other programs, like Medicare.
- Black Lung benefits are not taxable.
- There has been a push to allow settlements (currently prohibited by statute) that would permit a single partial benefit for partial disability. Proponents of this say it would increase the number of miners who get awards and reduce adjudication times. Opponents say that, since disease is progressive, settlements would cheat miners out of more money later. Other U.S. compensation programs allow settlements.

Black Lung Payout Levels, 2013

- Primary beneficiary: \$625.60/month
- Primary beneficiary and one dependent: \$938.30/month
- Primary beneficiary and two dependents: \$1,094.70/month
- Primary beneficiary and three or more dependents: \$1,251.10/month

Accountability:

Neither the South African government nor mining companies have been held fully accountable for the compensation system's shortcomings or for insufficiently regulating mine conditions. A Constitutional Court decision has permitted suits to be brought under ODIMWA, and court proceedings are ongoing in much the same vein as previous, successful suits regarding asbestos compensation. At the time of writing this report, however, the proceedings' potential impact is unclear.

- Dust levels are regulated. Mines breaching regulated levels are subject to fines that go into the fund.
- Mining companies test and report their own dust levels. Federal mine inspectors occasionally inspect for excess dust. It is hard for a third party to check the accuracy of reported levels. One cannot go undercover at a mine and assess levels on one's own, as official access is required.
- The recent, sharp rise in the incidence of disease suggests that companies are not complying with dust level requirements.
- Mine managers found guilty of defrauding the system are imprisoned. It is a felony for an operator to send the government dust samples he or she knows were taken improperly. However, there have been no closed criminal cases involving this issue in the past decade. Enforcement and accountability are on the decline.
- A mine president, treasurer, and/or secretary may be personally liable for paying compensation if he runs a mine that claimed it was self-insured but turns out does not have enough funds to pay out.
- If a mine loses its eligibility appeal, it needs to pay retroactive benefits.
- Some states in United States have "second injury funds" paid into by all employers. These are used when an employer dodges paying.
- Many states award prizes to exemplary employers, including North Carolina (Department of Labor's Safety Awards) and Indiana (Governor's Workplace Safety Awards).

System Structure & Governance:

Mineworkers with occupational lung disease are treated separately and unequally under compensation law (ODIMWA), in comparison to other workers.

- Workers compensation is run by the states, so there are multiple schemes across the country. Some states have exclusive schemes for miners (Western Australia, for instance, which has the most mines in the country), while others have programs for all workers.
- Research indicates that New South Wales (NSW) is considered to have the best system. This portion of the matrix will thus deal with NSW.
- The NSW scheme is governed by the Dust Diseases Act of 1942, which replaced legislation dedicated to silicosis. A Dust Diseases Board (DDB) stands apart from other workers' compensation institutions; it oversees a fund that, with proper diagnosis and application, may be dispensed to workers with occupational dust diseases, or to their dependents. The board is comprised of both industry and employee representatives (three for each side).
- The 1942 act excludes coal workers. The head of medical services at DDB called this "an accident of history," based on the strength of the coal sector when the bill was passed and the work of organized labor at the time. Coal workers are covered under a sector-specific insurance scheme, run by Coal Services Ltd. There has been some industry-generated discussion of eliminating this special structure. To date, however, this has not happened.
- There is an ongoing, if slow, effort to harmonize workers' compensation across Australia. A Senate inquiry in 2006 identified the DDB as the model to use in setting up "nationally consistent identification, assessment and compensation mechanisms."

System Financing

The compensation system in South Africa for mineworkers is underfunded. Levy calculations are consistently subject to industry influence and are not directly tied to expert evaluations of how much money is required to fund the system sustainably and equitably.

- The dust diseases fund, as administered by the DDB, is comprised of levies paid by each employer in NSW. The amount per employer is based on hazards (meaning, the risk of dust disease claims) within an industry. Mining has higher premiums, as do construction and some other industries.
- Independent actuaries calculate the levy amounts each year.
- The fund took in more money in 2011-2012 than it distributed to workers, indicating solvency.

Clinical Diagnosis:

Mineworkers have difficulty getting diagnosed because of inadequate access to medical personnel and facilities. In the current law, there is a 12-month time limit after leaving mine work within which claimants must be diagnosed with TB (in the absence of silicosis) in order to be eligible for compensation, which does not account for a persistent risk of TB after ceasing work.

- Silicosis, silico-tuberculosis, asbestosis, and other forms of pneumoconiosis are compensable.
- Individuals may approach the DDB for diagnosis. If a person cannot get to a DDB facility, the board will make arrangements with a designated doctor, who will fill out a standard card to return to the DDB. Workers may also have their own physicians who have already diagnosed disease fill out DDB documentation; DDB cannot require extra diagnosis.
- The DDB also runs a mobile surveillance unit (called the "the lung bus").
- Diagnosis is based on X-rays, lung function tests, and general medical examinations.
- Workers who have been diagnosed with compensable disease receive follow-up examinations to monitor disease progress.
- A worker does not have to be in NSW to receive a diagnosis and begin a compensation application. If multiple employers across multiple jurisdictions contributed to a worker's illness, steps may be taken to share liability and the burden of compensation.
- A recent provision within the coal industry (known as Order 41) requires pre-placement and periodic health surveillance.

Application:

Challenges in the process of filing claims include a lack of required employment documentation, distance from the centralized authority that must certify diagnosis and approve compensation, and a paperwork backlog within that authority that can lead to delays of four or more years.

- After initial diagnosis, the DDB assigns an officer to a case and compiles an industrial history for the patient, which includes information on where he has been employed, the processes to which he has been exposed in which dust may have been encountered, and duration and frequency of exposure. The DDB's Medical Authority, a panel of three experts appointed by government, industry, and workers' representatives, then reviews the case to make a final, formal diagnosis. This authority may require additional medical tests. The final diagnosis approval by the Medical Authority, which includes an assessment of disability, is what determines compensation benefits.
- The Medical Authority also takes claims from dependents of deceased workers. There is a special claims form dependents must fill out, which includes information about the deceased's work and medical history.
- The Medical Authority reviewed 2,748 cases in 2011-2012. Of these, 1,270 were unsuccessful, and 381 were deferred for more information.
- Workers are not entitled to legal representation in DDB processes. (See the Accountability section for more information on how damages can be claimed with legal representation.)
- A noted barrier is that the onus is on workers to approach the DDB. They must seek diagnosis and make a claim; there is no automatic or mandated process involving doctors or employers. Moreover, DDB representatives have acknowledged that their work is not sufficiently known or understood among workers and former workers. There is limited outreach done to promote the DDB's work. This is particularly an issue for migrant and former workers who currently live outside NSW. Furthermore, if the DDB determines that compensation is due only in part to work in NSW, the onus is on the worker to seek compensation in other states in order to receive the full amount they are owed for their disability. There is no automatic mechanism for communicating with other compensation authorities.

Benefits:

Compensation awards—when made—are low and are only available in lump sums. There is only one chance for receiving increased benefits for a disease's progression, and levels do not accurately reflect degree of impairment.

- If a DDB claim is successful, workers are entitled to weekly payments (for the employee and dependents, if they exist) as well as coverage of medical and other reasonable expenses. The weekly payment amounts vary according to disability, as determined by the Medical Authority, with a minimum and maximum amount set twice each year (in October and April).
- Death benefits include a lump sum for dependent relatives (currently \$311,050), weekly payments to dependent spouses, and weekly payments to dependent children, all of which are also adjusted twice each year.
- Funeral expenses have been set at \$9,000 since 2004.
- As noted, compensated workers receive follow-up examinations over time to determine disease progression and whether there is a need to adjust compensation levels.
- There are no age limits for workers receiving compensation.
- Officials at the DDB have explained that individuals already receiving old-age pensions may not receive compensation on top of the pension amount. The compensation amount is subtracted from the pension. However, compensation is still beneficial to applicants already receiving a pension because of covered medical costs and benefits to dependents, as detailed above.

Accountability:

Neither the South African government nor mining companies have been held fully accountable for the compensation system's shortcomings or for insufficiently regulating mine conditions. A Constitutional Court decision has permitted suits to be brought under ODIMWA, and court proceedings are ongoing in much the same vein as previous, successful suits regarding asbestos compensation. At the time of writing this report, however, the proceedings' potential impact is unclear.

- In addition to the DDB, there is a Dust Diseases Tribunal, set up in 1989 to expedite claims of damages for occupational disease. In NSW and across Australia, legal claims are common.
- There has been some discussion in recent years of merging the NSW tribunal with other administrative commissions, but unions have been resistant to this idea.
- Positive incentives include the National Safety Awards of Excellence, given by an independent nonprofit association.

System Structure & Governance:

Mineworkers with occupational lung disease are treated separately and unequally under compensation law (ODIMWA), in comparison to other workers.

- Employers must pay work-related injury premiums, which combine to form injury insurance pools. Miners partake of the same injury insurance pools as other employees.
- These pools, although mandated by national law, are governed at the local level. Thus, there are multiple insurance pools across the country, each with slightly different characteristics because of local policy. The China Labor Bulletin (CLB), which advocates workers' rights, has identified that variance in the composition and control of insurance pools across the country is problematic, creating geographic and administrative barriers workers often struggle to overcome. Moreover, not all employers bother to participate in an insurance plan.
- Pneumoconiosis among coal workers (Black Lung) is the most pressing disease problem, affecting anywhere from 600,000+ people (according to official figures) to millions (according to some NGO estimates).

System Financing

The compensation system in South Africa for mineworkers is underfunded. Levy calculations are consistently subject to industry influence and are not directly tied to expert evaluations of how much money is required to fund the system sustainably and equitably.

- Premium rates, which the government sets, are based on workplace salaries and industry classification, with consideration given to health and safety risks.
- Whether there are sufficient funds depends on the locale, because there are multiple funds. CLB has indicated that businesses are not contributing what they owe. Moreover, it is difficult to say whether there are sufficient funds given how under-diagnosed people are (especially those with Black Lung) and how corrupt the system proves during diagnosis and application.
- CLB has called for a stand-alone, occupational disease fund at the national level, comprised of a "pro rata fee collected by the government from all enterprises in high-dust industries."

Clinical Diagnosis:

Mineworkers have difficulty getting diagnosed because of inadequate access to medical personnel and facilities. In the current law, there is a 12-month time limit after leaving mine work within which claimants must be diagnosed with TB (in the absence of silicosis) in order to be eligible for compensation, which does not account for a persistent risk of TB after ceasing work.

- Diagnosis of compensable diseases like Black Lung and silicosis must be completed by a government-authorized medical authority (hospital).
- CLB has identified multiple problems with this model. For instance, domestic migrant workers who are diagnosed in their current place of residence but, as required by law, apply for compensation in the location of their employment, often find that officials will not accept a diagnosis from another jurisdiction. This leads to workers paying their own expenses for a new diagnosis, delays in processing, and sometimes a complete cessation of the compensation application.
- Because medical authorities frequently collude with government and industry, they sometimes refuse to diagnose individuals. (This was outlawed in a recent amendment to workers' compensation law, but it still occurs in practice.)
- Local authorities sometimes create time limits on diagnosis that are particularly problematic for former workers. In Guangdong province, for instance, workers must be diagnosed within two years of leaving a job and then have one year to apply for compensation—a challenge for workers whose diseases have a long latency period.

Application:

Challenges in the process of filing claims include a lack of required employment documentation, distance from the centralized authority that must certify diagnosis and approve compensation, and a paperwork backlog within that authority that can lead to delays of four or more years.

- The application process is overseen by local social security authorities, who determine the work-relatedness of a disease and confirm the relationship between worker and employer. If a claim is accepted, a worker's disability is rated by a panel of health and sanitation experts, selected by the government, on a scale of 1 (most severe) through 10 (least severe). It is technically possible to receive a reassessment in case of disease progression.
- This system favors current workers, whose employers are required by law to submit a disease claim to local work-related injury insurance authorities within 30 days of diagnosis. Employers have no clear responsibility for former workers. CLB has documented cases in which employers fire workers with early-stage disease in order to avoid compensation liability.
- Documentation of an employment relationship can be very hard to come by. Many mines are small or illegal, without proper business licenses, and despite a recent law requiring that all workers be given contracts, CLB estimates that "millions of migrant workers... still do not have proper employment contracts."
- Under the law, a decision on a claim (pre-disability assessment) is required within 60 days, and within 15 days if there are clear facts in the case. A disability assessment must also be completed within 60 days. Delays are very common.

Benefits:

Compensation awards—when made—are low and are only available in lump sums. There is only one chance for receiving increased benefits for a disease's progression, and levels do not accurately reflect degree of impairment.

- Levels of benefits depend on the worker's assessed degree of disability (1-10). They are also subject to local policy variation.
- Workers with grades 1-6 disability qualify for both a lump-sum payout and, in all cases for those with grade 1-4 disability and sometimes for 5-6, a monthly pension. For instance, workers with grade 6 (which CLB says encompasses most early-stage pneumoconiosis patients) should, under national law, receive a lump sum worth 16 months of wages and a pension of 60 percent of wages if a suitable position (i.e. one not causing more damage to health) cannot be arranged. (See the bottom of this box for a full list of disability grades and benefits. This is taken from national law, but there are variances at the local level.)
- Injury insurance funds should also cover medical, food, and travel costs associated with a worker's disease/treatment.
- If a worker dies, the funds should pay for funeral expenses, a monthly pension, and a lump-sum amount that is 20 times the average per-capita disposable income of urban residents in the previous year.
- Again, the system favors current workers. CLB notes, "Even if workers who have left their jobs manage to get a diagnosis... the disability benefits they are entitled to under the law cannot be paid out as a matter of course because they are based on an existing labor relationship." The best a former worker with proper documentation can hope for is a lump-sum payment based on his last wage.
- In cases in which an employment relationship cannot be established, workers may, under a new provision, appeal to local authorities for help. However, there is no guarantee of success and, in the words of a CLB representative, it is a "charitable handout" worth much less than benefits mandated under the law.
- Workers who attain retirement age qualify for old-age pensions, not compensation. However, if the retirement pension is lower than what the worker would have been receiving from compensation, the injury insurance funds should make up the difference.

Benefit scale, under national law:

Grade	Lump Sum Payment	Monthly Pension
1*	27 months of wages	90 percent of wages
2*	25 months of wages	85 percent of wages
3*	23 months of wages	80 percent of wages
4*	21 months of wages	75 percent of wages
5**	18 months of wages	70 percent of wages if no suitable position can be arranged
6**	16 months of wages	60 percent of wages if no suitable position can be arranged
7	13 months of wages	None
8	11 months of wages	None
9	9 months of wages	None
10	7 months of wages	None

* Grades 1-4 mean an employee is no longer fit to work.

**Grades 5-6 mean a worker will remain employed, but may require a new placement

Accountability:

Neither the South African government nor mining companies have been held fully accountable for the compensation system's shortcomings or for insufficiently regulating mine conditions. A Constitutional Court decision has permitted suits to be brought under ODIMWA, and court proceedings are ongoing in much the same vein as previous, successful suits regarding asbestos compensation. At the time of writing this report, however, the proceedings' potential impact is unclear.

- Recent national amendments to compensation law place penalties on employers who fail to participate in insurance and compensation programs. For instance, if an employer does not purchase insurance, it is technically liable for all benefits. However, it is not clear that these provisions are enforced.
- It is possible to sue employers, but this process is often unsuccessful and takes so much time that involved workers often die.

System Structure & Governance:

Mineworkers with occupational lung disease are treated separately and unequally under compensation law (ODIMWA), in comparison to other workers.

- The compensation scheme for occupational diseases is embedded in Germany's broader social security system. Occupational diseases and injuries are considered among many causes of financial hardship; workers' compensation insurance, therefore, is dealt with under the umbrella of comprehensive social security. Like other branches of the social security system, workers' compensation insurance is mandatory.
- Miners are treated differently (which is to say better) under Germany's old-age pension system. Insured miners who are at least 60 years old (the qualifying age under the system is usually 65) and who have at least 25 years of contributions from employment in permanent underground work are entitled to old-age pension. (The qualifying age for miners is rising between 2012 and 2029 to 62; it will increase to 67 for other workers.)
- Miners are also treated differently (which is to say better) under the disability system. There are special rules for miners: Their ability to work is considered to be reduced if, as a result of illness/disability, they are no longer able to carry out usual mining duties, unless engaged in financially equivalent employment outside the mining sector. Additional income from employment that is not equivalent in financial terms to previous employment does not affect a pension. Upon reaching age 50, miners are entitled to pensions if they are no longer in employment equivalent in financial terms to their employment as miners. They must also have completed the 25-year qualifying period.

System Financing

The compensation system in South Africa for mineworkers is underfunded. Levy calculations are consistently subject to industry influence and are not directly tied to expert evaluations of how much money is required to fund the system sustainably and equitably.

- The government workers' compensation fund is administered as part of the general state "insurance fund." It operates as an organizationally and financially independent corporation with state supervision. This structure removes administrative burdens from the state.
- The German Social Code requires the establishment of self-administered bodies for all insurance funds.
- Governing members of the fund are elected by employers and employees.
- There are separate insurance funds for public and private jobs, and within the private sector, there are further subdivisions by industry.
- Funded entirely by employer contributions. (Other social programs require contributions from workers.)
- Employer contribution rates are calculated retrospectively, based on expenditures from prior years. At the end of each fiscal year, the insurance fund allocates their actual expenditures among member companies and determines premiums for the following year, adjusted based on wages and salaries of workers, and the hazard class of the industry.
- Employer contributions vary by assessed degree of risk. The average contribution is 1.32 percent of payroll (as of 2006).
- The insurance fund is the only avenue for seeking compensation. Lawsuits directly against an employer are precluded.
- The Federal Insurance Institute is responsible for supervision of federal insurance institutions.
- The Federal Ministry of Labor and Social Policy supervise the field of prevention.
- Managed by elected representatives of employers and the insured, accident insurance funds (non-agricultural, agricultural, and public authorities) administer the program.

Clinical Diagnosis:

Mineworkers have difficulty getting diagnosed because of inadequate access to medical personnel and facilities. In the current law, there is a 12-month time limit after leaving mine work within which claimants must be diagnosed with TB (in the absence of silicosis) in order to be eligible for compensation, which does not account for a persistent risk of TB after ceasing work.

- Work-related illnesses are either listed in the Work-Related Illnesses Ordinance (73 diseases) or are those which medical knowledge shows are caused by work. Silicosis is on this list, as is silicosis+TB (silicotuberculosis).
- Insurance coverage is only provided when illness can be causally linked to work-related (insured) activity. (Presumably, non-work related illness is covered by the health insurance branch of the social security system.)
- Pensions are only paid if a worker's capacity is reduced by 20 percent or more.
- The worker has right to legal aid during the process determining whether disease is work-related. The worker also has a right to appeal and call for a second expert opinion free of charge.
- The worker is only allowed to work in mines when he or she has passed a medical examination, undertaken at the employer's expense.
- Required follow-up examinations (surveillance) ensure continued monitoring and early diagnosis.
- The Government Insurance Institute assesses diagnosis, subject to confirmation by the labor inspection authority.

Application:

Challenges in the process of filing claims include a lack of required employment documentation, distance from the centralized authority that must certify diagnosis and approve compensation, and a paperwork backlog within that authority that can lead to delays of four or more years.

- There is no minimum qualifying period to apply for and receive benefits.
- Employees are immediately covered and eligible for compensation even without valid employment contract.
- Eligibility standards do not explicitly mention migrants. The language used is universal, and says "everyone" is covered. European Union (EU) regulations cover social security for migrant workers. Regulation 1408/71 guarantees:
 - 1 **Equal treatment:** Migrant workers must be afforded the same rights as nationals.
 - 2 **Aggregation:** When determining eligibility for benefits, time periods of residence, employment, and insurance in all EU member countries are counted in the aggregate.
 - 3 **Prevention of overlapping benefits**
 - 4 **Exportability:** Benefits should be payable throughout the EU. This covers migrant workers and their families. Family benefits are paid based on rules of the state where an employee works, but benefits are payable to family even if members reside in another member country.
 - 5 **Administration:** Within the insurance fund, there is a foreign liaison office (DVUA) tasked with providing medical care for workers during their stay in a host country and ensuring that regulations followed. Germany's liaison office works with other liaison offices in partner countries to administer benefits and provide all necessary information to the insured, employers, and insurance funds.

Benefits:

Compensation awards—when made—are low and are only available in lump sums. There is only one chance for receiving increased benefits for a disease’s progression, and levels do not accurately reflect degree of impairment.

- Cash benefits are provided in pension form. Benefits are comprehensive and include the following: replacement wages; medical care; medical, occupational, and social rehabilitation; appliances; and help with housework.
- If return to work is not possible after two years, the employee will be retired under the statutory insurance scheme.
- Benefits are allocated as follows:
 - 1 **Temporary Disability Benefits:** These start after unemployment insurance payments stop (usually 6 weeks). If recovery is not anticipated, there is a 78-week maximum on benefits. Benefits are equal to 80 percent of an employee’s last gross wage.
 - 2 **Permanent Disability Benefits:** If a person has total disability, these are equal to two-thirds of the previous year’s earnings.
 - 3 **Severe Disability Supplement:** This involves an additional 10 percent of the basic pension paid if a worker’s assessed loss of earning capacity is 50 percent or more and the insured is not working or receiving another pension; if the insured is unemployed, the pension is further increased for a maximum of two years.
 - 4 **Survivor Benefits:** These include a pension. For the first three months, this is equal to two-thirds of the deceased’s last earnings. After three months, the survivor receives either a “large widow(er) pension,” equal to 40 percent of the deceased’s last earnings or a “small widow(er) pension,” equal to 30 percent. The large pension is available if the widow(er) is aged 45 or older, disabled, or caring for at least one child. The small pension is only available for 24 months. There is also an orphan’s pension, for an orphan who is less than 18 years old (27 if the orphan is a student or in training); it is 20 percent of the deceased’s earnings; 30% full orphan. There are some other lump-sum survivor benefits for situations where there are divorced/remarried spouses, and lump-sum grants when someone doesn’t qualify for a survivor or orphan’s pension.

Accountability:

Neither the South African government nor mining companies have been held fully accountable for the compensation system’s shortcomings or for insufficiently regulating mine conditions. A Constitutional Court decision has permitted suits to be brought under ODIMWA, and court proceedings are ongoing in much the same vein as previous, successful suits regarding asbestos compensation. At the time of writing this report, however, the proceedings’ potential impact is unclear.

- The Federal Mining Act and Federal General Mining Ordinance provides for the possibility of financial guarantees to ensure the fulfillment of mining law obligations.
- The Federal Mining Act of 1980, Health and Safety Ordinance of 1995, and Federal General Mining Ordinance of 1995 contain detailed provisions on risk assessment of mines and mining activities, transposing relevant Individual EU Directives and ILO Convention No. 176 Concerning Safety and Health in Mines. Provisions comprise concrete orders and prohibitions concerning deployment and the behavior of staff, as well as the utilization of equipment.
- Government supervision of the mining industry historically is separate from inspection of all other industries. Occupational health legislation implementation is monitored and enforced by two inspection services, comprising 3,500 state labor inspectors and 3,000 inspectors of statutory accident insurance institutions. Inspectors have the right to call in the police if they are hindered in their work.
- Any economic advantage gained by an employer in committing an offence is taken into account in setting a fine.
- Employers are legally obliged to perform risk assessments. They must also contract occupational health services or provide access to outside ones. Non-compliance is subject to a fine. (Fines up to €25,000 can be imposed by state labor inspectorates and up to € 10,000 by inspectors of statutory accident insurance institutions. Severe cases of infringement may result in criminal prosecution.)
- There is no set fine schedule. Fines are determined at inspectors’ discretion.
- Inspectors can raise a firm’s insurance premium when the firm’s performance is consistently bad or getting worse.
- The German Occupational Safety and Health Prizes publicize efficient, innovative occupational safety/health measures, and presents them to the public as good examples. They are conferred on companies based on commitment to safety and health at work.

System Structure & Governance:

Mineworkers with occupational lung disease are treated separately and unequally under compensation law (ODIMWA), in comparison to other workers.

- The two key pieces of legislation are the Employees' Compensation Act (1923, amended over time) and Employees' State Insurance Act (ESI). However, the ESI Act (amended as recently as 2009) does not cover mineworkers.
- The 1923 act establishes the unilateral liability of an employer to compensate for injury and accidents, which under the law includes some diseases. It is not a social insurance scheme. This has been identified as one of the key weaknesses of the legislation and one of the reasons it is not well-implemented.
- An employer is liable under the law if an injury, including disease, arises out of work, happens in the course of employment, and results in disability.
- Occupational diseases are covered under Schedule III of the act. This includes silicosis and silico-tuberculosis (for the latter, "provided that silicosis is an essential factor in causing the resultant incapacity or death").
- The act is administered at the state level by commissioners for workmen's compensation, who are appointed by the government. There is no requirement that claims be filed with the commissioner; compensation may be sorted out independently between the employer and employee.
- There are also state-level laws specific to the implementation of the act, which means that processes, covered diseases, and other specifics vary across the country.
- Although technically mineworkers are covered, the Mine Labor Protection Campaign has identified both a failure to register mines with the government and an often-concurrent lack of employment documentation as huge barriers to holding employers liable for compensation. Human Rights Watch has described the landscape of unregulated mining in India as "chaos," citing government data (which are likely underestimates) of 30 illegal mining operations for every one legal operation in the country. In Rajasthan, only 3,706 of 30,000 mines are reportedly registered with the Department of Mines and vast numbers of workers are "unorganized," meaning they are not formally recognized/are working in the informal sector. This includes many migrant workers. HRW has cited both poorly designed and poorly implemented laws as central contributors to the regulatory crisis.

System Financing

The compensation system in South Africa for mineworkers is underfunded. Levy calculations are consistently subject to industry influence and are not directly tied to expert evaluations of how much money is required to fund the system sustainably and equitably.

- Because the ECA is a unilateral liability scheme, the onus is on the employer to pay compensation. There are not premiums or pooled funds from which to draw.
- According to the Alternative Law Center, relatively few employers take out insurance policies that might interact with their compensation obligations.

Clinical Diagnosis:

Mineworkers have difficulty getting diagnosed because of inadequate access to medical personnel and facilities. In the current law, there is a 12-month time limit after leaving mine work within which claimants must be diagnosed with TB (in the absence of silicosis) in order to be eligible for compensation, which does not account for a persistent risk of TB after ceasing work.

- If an employee gives notice of a disease, the employer may, within three days, offer a free medical examination to which the employee must submit him/herself. Employees must also submit themselves for examinations if so requested by the commissioner. Failure to do so means that employees waive their right to compensation. However, if an employee dies, the commissioner may still dispense compensation to dependents if a claim is brought.
- The act does not elaborate further on required medical evidence.

Application:

Challenges in the process of filing claims include a lack of required employment documentation, distance from the centralized authority that must certify diagnosis and approve compensation, and a paperwork backlog within that authority that can lead to delays of four or more years.

- The burden is on the employee to give notice to his employer of his disease, and the onus is also on the worker to file a compensation claim with the commissioner, if this is necessary.
- In case of disease, a notice is sent to an employer or an individual who supervises work in an establishment “as soon as practicable” after the disease is identified. The notice should occur within two years of identification of disease or death and may be sent by mail or be entered into a notice book kept on an employer’s premises.
- Disease identification occurs “on the first of the days during which the workman was continuously absent from work in consequence of disablement caused by the disease.” If a disease does not cause an employee to miss work, identification is based on the notice. If an individual has already ceased working for the employer, identification is the “day on which symptoms were first detected” and “within two years of the cessation of employment.” This timeline does not account for disease with long latency among former workers.
- Anyone may report death to the commissioner, who may then send a notice to an employer.
- Claims to the commissioner should be dealt with in less than three months.
- It is possible to appeal the decisions of a commissioner in a high court.

Benefits:

Compensation awards—when made—are low and are only available in lump sums. There is only one chance for receiving increased benefits for a disease’s progression, and levels do not accurately reflect degree of impairment.

- Grades of disability exist, based on the work being done at the time of injury: death, permanent total (total loss of earning capacity), permanent partial (reduced capacity), and temporary (reduced capacity for period of disability). A qualified medical practitioner (meaning, someone who is registered as such in a state) assesses disablement grade.
- Both employees and dependents may receive benefits.
- Compensation is mostly available in lump sums, although half-monthly payments exist for temporary disablement.
- There is no coverage of medical expenses.
- Compensation is calculated under a notional ceiling, which is currently 4,000 rupees per month. This means that, even if an employee’s wages are 10,000 rupees per month, were he to get a disease, compensation would be calculated on the basis of 4,000 rupees. The central government can revise this notional ceiling number as it sees fit.
- If a worker’s wages cannot be clearly identified, his compensation is calculated on the basis of the current minimum wage.

- In case of permanent total disablement, compensation is equal to 60 percent of monthly wages multiplied by the “relative factor,” a number listed in Schedule IV of the act. Relevant factors are intended to provide more money for younger people. Thus, the greatest relevant factor is 228.54 for anyone under 16, and 99.37 for people over 65. People may receive 1.4 million rupees if the monthly wage multiplied by the relevant factor is less than this amount. In case of permanent partial disablement, an individual is paid a percentage of the compensation for permanent total disablement passed on percentage loss of capacity.
- In case of death, compensation is owed to dependents and is 50 percent of monthly wages multiplied by the relevant factor, with a minimum of 1.2 million rupees. An employer may offer an advance of three months’ wages to dependents, which is later subtracted by the commissioner from the full compensation amount. The commissioner may also distribute compensation among dependents.
- The commissioner may, at his discretion, invest, apply, or otherwise deal with compensation “for the benefit” of a female dependent or one who has a legal disability.
- Compensation should be paid as soon as possible when it is due, with a delay of no more than one month.

Accountability:

Neither the South African government nor mining companies have been held fully accountable for the compensation system’s shortcomings or for insufficiently regulating mine conditions. A Constitutional Court decision has permitted suits to be brought under ODIMWA, and court proceedings are ongoing in much the same vein as previous, successful suits regarding asbestos compensation. At the time of writing this report, however, the proceedings’ potential impact is unclear.

- On a micro level, the commissioner may impose interest and/or a penalty (not exceeding 50 percent of the compensation) on an employer that has not paid due compensation resulting from a claim decision.
- There has been notable movement to hold employers and states accountable for occupational lung disease over the past several years. In particular, the National Human Rights Commission has been very active on the issue of uncompensated silicosis, thanks to prompting by civil society via the Supreme Court. In a 2011 report, the NHRC described silicosis as “a grave health concern and a human rights issue.”
- In 2006, the Supreme Court of India issued a Writ Petition in People’s Right and Research Centre (PRASAR) & Others vs. Union of India & Others (filed in 2001 on the basis of a silicosis survey conducted in Lalkuan, demanding remedy for the disease as well as compensation). The petition called on the Ministries of Health and Labour & Employment to assist the NHRC on action related to silicosis. It also asked the NHRC to “take up confirmed cases of persons ailing from silicosis and recommend immediate medical relief to them through the State authorities” and, in cases of death, to “facilitate provision of compensation to the families of the deceased.”
- The NHRC sent teams of enquiry to Rajasthan, Gujarat, and Madhya Pradesh, which revealed “umpteen numbers of cases in the country.” The commission also set up an expert group and organized a national conference on silicosis. It found that authorities were “evading the issue” by saying the workers were usually “unorganized” and thus could not fall under any state insurance and/or compensation scheme. The NHRC has called this a violation of the right to life and the right to live with dignity, and described the behavior of state governments toward the issue as “callous.”
- In 2007, the NHRC recommended “a comprehensive legislation and an effective operation mechanism to ensure the required care and rehabilitation of all affected persons and their families as well as prevention of further cases.” The same year, it also made recommendations for media campaigns about the issue, mapping silicosis cases, and constituting a national working group or task force.
- A task force was created, and it has recommended that states take primary responsibility for silicosis. The NCHR observed in 2008 that none of the states had a policy encompassing prevention, treatment, and rehabilitation. It called on state governments to report what steps they are taking to deal with the issue, describe their health systems’ capacity to deal with

India

diagnosis silicosis, and consider whether it might want a board or dedicated fund to insure affected workers.

- The national conference on silicosis, held in 2011, generated multiple recommendations, including that all people affected by silicosis should be treated as existing beneath the poverty line, states should initiate criminal proceedings against factory owners whose workers have silicosis, all cases of silicosis should be considered 100 percent disability (modeled on an order by the Gujarat High Court), and migrant workers should be given identity cards that make it easier for doctors to obtain work, exposure, and health histories.
- Though the full impact of the NHRC's work has yet to be realized, there has been some reform movement at the state level. For instance, in August 2012, the Gujarat government announced that it would set up an insurance scheme to compensate next of kin and/or heirs of unorganized workers who died of 29 serious occupational diseases. It will particularly cover those people whose relatives worked in mining, granite, or agate polishing industries.
- One of the downsides of using the NHRC, according to the NGO Mine Protection Labor Campaign, has been the slowness of the process and the leeway granted to government officials.

System Structure & Governance:

Mineworkers with occupational lung disease are treated separately and unequally under compensation law (ODIMWA), in comparison to other workers.

- Miners are not treated differently under the law. Nowhere in Canada are miners specifically singled out for different treatment.
- There are 13 jurisdictions that create laws in Canada. Each province has a different system or set of laws, though the overall structure as it pertains to workers' compensation is similar across provinces.
- In many provinces, there is specific legislation and case law dealing with diseases that are largely encountered in miners, such as asbestosis, mesothelioma, and silicosis. In these cases, miners (and other high-risk workers) are generally better off than other workers in terms of their legal rights. For example, many provinces have legislation that creates presumptions (some rebuttable and some not) that any asbestosis is related to work if a worker worked somewhere with asbestos dust, such as a mine, for a certain number of years.
- In a few cases, the specificity of mining-related disease compensation laws make some individual's claims harder. For example, in British Columbia, asbestosis, pervasive pleural thickening, or fibrosis over 5mm thick is required for compensation for mesothelioma.
- In all provinces with significant mining activity, mining-related lung disease has some special legislation and/or case law with fairly specific disease definitions and rules for whether a certain finding is compensable and for how long after employment the presumption of work-relatedness holds. This system came about because of the dangerous nature of mine work and relatively unique characteristics of occupational lung disease, particularly the long latency period for many mining-related diseases.

System Financing

The compensation system in South Africa for mineworkers is underfunded. Levy calculations are consistently subject to industry influence and are not directly tied to expert evaluations of how much money is required to fund the system sustainably and equitably.

- Compensation is funded entirely by employer contributions. This includes some self-employed individuals who pay into the systems as well.
- There are effective penalties for employers who do not pay.
- The systems have been well-funded and there is currently no clear evidence they will run out of money, though some compensation boards are starting to sound warning bells that they may not be able to pay all claims in the future.
- Contribution levels are based on a mix of expert assessments of risk in an industry and on past claims history, with certain provinces weighing one or the other more heavily. Quebec moved in the 1990s to base its system largely on claims history. Since then, experts say the system is far more adversarial, with an increase in employers contesting claims (often vigorously using private investigators to try to undermine claims of disability).
- Contributions ("premiums" or "assessments") are paid by businesses on a rate calculated per \$100 in a payroll.

Clinical Diagnosis:

Mineworkers have difficulty getting diagnosed because of inadequate access to medical personnel and facilities. In the current law, there is a 12-month time limit after leaving mine work within which claimants must be diagnosed with TB (in the absence of silicosis) in order to be eligible for compensation, which does not account for a persistent risk of TB after ceasing work.

- There are disparities in access to diagnosis in different provinces, prompting the creation of some specialized clinics to assist in areas where they are needed.
- Claims are often started by individuals' own physicians, or at least prompted by diagnosis from a family practitioner (technically doctors are required to report suspected occupational illness, but physician training to spot it can be highly variable).
- Provinces set up boards to ultimately decide on the correct diagnosis and attribution of illness to employment. For example, in Quebec there is the Central Board for Respiratory Disease, consisting of six specialists paid for by the government. The independent nature of the boards' members limit mining companies' power, which is especially important because of the inherent power imbalance between companies and their individual employees. However, the boards tend to be slow to adopt new science.
- There are no time limits on when a disease must be formally diagnosed, although most diseases (in some provinces, this even includes lung diseases with long latent periods) need evidence that they appeared during a period of employment or immediately after leaving a job in order to qualify for the presumption that they are work-related. Also, many provinces do not allow for wage replacement after retirement age, thereby reducing benefits for those diagnosed long after ending their employment (although such workers still retain their normal pension payments).

Application:

Challenges in the process of filing claims include a lack of required employment documentation, distance from the centralized authority that must certify diagnosis and approve compensation, and a paperwork backlog within that authority that can lead to delays of four or more years.

- Claims processes are often fairly streamlined and accessible (easily navigated on the web, with physician-required reporting, and clear mechanisms). Most workers have work history documentation available and access to initial diagnosis and treatment through Canadian health insurance.
- All provinces have worker advisors/advocates who assist workers in filing claims and following up with the process, greatly leveling the playing field between employees and employers and helping claimants successfully and quickly navigate compensation systems.
- Quebec is particularly good about easing the process of applying. In Quebec alone, the opinion of the attending physician is binding (in matters regarding treatment) and requires arbitration to overrule, which is done only rarely in practice. This is to the benefit of the worker/claimant.
- Quebec (unlike other provinces) also requires employers to pay sick employees for the first 14 days after their claims are filed, and then their compensation fund takes over, usually resulting in no break in salary. The fund repays the employers for those first 14 days of compensation if a compensation claim is successful.
- Only a small percentage (1-2 percent) of claims go to an appeal process in most provinces. In Quebec, however, a higher percentage of claim decisions are appealed. This is because Quebec law is generally more open to interpretation (due to less precise definitions/policies) and because employers have a greater incentive to fight adverse decisions because in Quebec employers' insurance premiums are more closely tied to claim history and experience rating than in other provinces. Quebec also features a less effective worker advisor system, which could lead to more claims being appealed.

Benefits:

Compensation awards—when made—are low and are only available in lump sums. There is only one chance for receiving increased benefits for a disease’s progression, and levels do not accurately reflect degree of impairment.

- Benefits are comprehensive, and include: replacement wages (replacing the loss of ability to earn money, not lost money); medical care (complete coverage); rehabilitation expenses (with some variability between provinces); survivor benefits; burial expenses; allowances for special living arrangements (traveling companions, required special clothing, independent living allowances, support animals, child care, court witness fees, and certain transportation, lodging, and meal expenses); and special compensation for permanent impairment.
- Cash benefits are provided in pension and/or lump sum forms, depending on province and disability level.
- If an employee cannot return to work after two years, they are retired under the statutory insurance scheme and become eligible for other social benefits outside the compensation funds.
- Benefits are allocated as follows:
 - 1 **Temporary Disability Benefits:** These start immediately (except in Nova Scotia, Prince Edward Island, and New Brunswick, which have 2-3 day waiting periods before benefits begin) and are paid weekly. Depending on province, benefits are equal to 75-90 percent of the employee’s previous weekly pay (or 100 percent for low-income individuals in some provinces), subject to a minimum (in three provinces: Manitoba, Ontario, Quebec), and maximum (every province).
 - 2 **Permanent Disability Benefits:** Other than Quebec, every province includes at least some pension as well as a lump sum payment, for permanently disabled individuals. These pensions are intended to offset the loss in earning potential. Many provinces do include a lump sum option (at the worker’s choice) for at least highly disabled individuals (Prince Edward Island, Alberta, Manitoba, New Brunswick, Newfoundland, and Labrador). The precise pension calculation formula varies by province, but it often is based on 90 percent of the person’s previous income (scaled for partial disability), and it is sometimes affected by a claimant’s age and the number of dependents they have. Most provinces set minimum benefit levels, while all but Nova Scotia set maximum benefit levels. Some provinces allow disabled employees to convert some or all of their pensions into a single lump sum benefit. For example, the Northwest Territories and Nunavut allow for a lump-sum option instead of a pension for permanent disability of less than 10 percent, and Nova Scotia requires part of the benefit to be paid as a lump sum for any worker with less than 30 percent disability.
 - 3 **Severe Disability Supplement:** There is an additional 10 percent of the basic pension added to the total pension paid if a worker’s assessed loss of earning capacity is 50 percent or more and the insured is not working or receiving another pension; if the insured is unemployed, the pension is further increased for a maximum of 2 years.
 - 4 **Survivor Benefits:** These are often a mix of lump sum and pension, both for spouses and children. Pensions generally run at 65-85 percent of the deceased worker’s former pension.

Accountability:

Neither the South African government nor mining companies have been held fully accountable for the compensation system's shortcomings or for insufficiently regulating mine conditions. A Constitutional Court decision has permitted suits to be brought under ODIMWA, and court proceedings are ongoing in much the same vein as previous, successful suits regarding asbestos compensation. At the time of writing this report, however, the proceedings' potential impact is unclear.

- Employers try to manipulate the system by vigorously attacking claims in places where the experience rating is very important in determining their premiums.
- The governments of the provinces push for accountability by, for example, hiring people to serve as patient advocates and lead workers through the system.
- No court cases or similar attempts to force industry/employers or the government to change its approach are pending or reported; it seems many people are satisfied with the system.
- The laws contain very strong prohibitions against suing one's own employer. Additionally, in Quebec, in most cases, the law actively discourages lawsuits against other employers covered by the scheme by limiting what plaintiffs can collect from any employer in damages. This has the effect of limiting even medical malpractice suits.
- Positive incentives exist; awards are given out to Canada's Safest Employers.

**System Structure
& Governance:**

Mineworkers with occupational lung disease are treated separately and unequally under compensation law (ODIMWA), in comparison to other workers.

- There is no separate treatment from the worker’s perspective, but there are differences in funding obligations for employers (see System Financing section below).
- To be covered, a disease must be listed in a presidential decree. Silicosis is the very first disease listed, as well as “silicotuberculosis, of which the silicosis constitutes the main causal, factor of inability or decease.”

System Financing

The compensation system in South Africa for mineworkers is underfunded. Levy calculations are consistently subject to industry influence and are not directly tied to expert evaluations of how much money is required to fund the system sustainably and equitably.

- The total cost is funded by employer contributions, which vary as a percentage of monthly payroll according to five classes of risk, ranging from 0.24 percent to 1.74 percent.

Clinical Diagnosis:

Mineworkers have difficulty getting diagnosed because of inadequate access to medical personnel and facilities. In the current law, there is a 12-month time limit after leaving mine work within which claimants must be diagnosed with TB (in the absence of silicosis) in order to be eligible for compensation, which does not account for a persistent risk of TB after ceasing work.

- Disease must arise within 3 years of termination of the employment relationship.
- Diagnosis is made by the “examining doctor,” which is a doctor who examined and treated the employee, normally a company doctor. There is also the “Advisory Doctor” (see below).

Application:

Challenges in the process of filing claims include a lack of required employment documentation, distance from the centralized authority that must certify diagnosis and approve compensation, and a paperwork backlog within that authority that can lead to delays of four or more years.

- The employer is required to report disease to the relevant government agency no later than two days after receiving a diagnosis from an examining doctor.
- This report should be accompanied by a copy of the member’s card, doctor’s notification, and receipts of the costs of medical treatment and transportation. If the government finds these documents insufficient, it notifies the employer no later than seven days after receiving the report.
- The employee submits an application to a government administrator, attaching the results of a doctor’s diagnosis, and the government then directly pays the benefits to the employee.
- An advisory doctor is appointed by the designated minister and gives input on the amounts of benefits awarded.

Benefits:

Compensation awards—when made—are low and are only available in lump sums. There is only one chance for receiving increased benefits for a disease’s progression, and levels do not accurately reflect degree of impairment.

- Benefits are paid directly to the employee, while medical costs are borne by the employer in advance and then reimbursed by the government, within one month of receiving the claim.
- For permanent disability, there is a pre-set monthly benefit for 24 months plus a lump sum (for temporary disability, there are only monthly sums). The lump-sum amount is tied to the employee’s last monthly earnings before the disability began and the degree of disability, based on a medical examination by a doctor. But this must be assessed by the state administrative agency.

Accountability:

Neither the South African government nor mining companies have been held fully accountable for the compensation system’s shortcomings or for insufficiently regulating mine conditions. A Constitutional Court decision has permitted suits to be brought under ODIMWA, and court proceedings are ongoing in much the same vein as previous, successful suits regarding asbestos compensation. At the time of writing this report, however, the proceedings’ potential impact is unclear.

N/A

**System Structure
& Governance:**

Mineworkers with occupational lung disease are treated separately and unequally under compensation law (ODIMWA), in comparison to other workers.

- Miners are covered in the general workers' compensation law (1987); however, occupational health standards in mining are more up-to-date than in other sectors.
- Disease will be covered only if it is on the list of diseases specified by the health minister to be occupational.

System Financing

The compensation system in South Africa for mineworkers is underfunded. Levy calculations are consistently subject to industry influence and are not directly tied to expert evaluations of how much money is required to fund the system sustainably and equitably.

- There is no state-administered system.
- All cost is met by the employer through either (1) the direct provision of benefits or (2) the payment of insurance premiums—employers insure against liability with private insurance companies. One expert said this process is grossly underfunded, a reflection of the low priority accorded to it by the government.

Clinical Diagnosis:

Mineworkers have difficulty getting diagnosed because of inadequate access to medical personnel and facilities. In the current law, there is a 12-month time limit after leaving mine work within which claimants must be diagnosed with TB (in the absence of silicosis) in order to be eligible for compensation, which does not account for a persistent risk of TB after ceasing work.

- Disease must be contracted and diagnosed within 12 months after the employee has ceased to be employed by the employer from whom the compensation is claimed; if the incubation period of the disease is more than 12 months, that technically should be considered.
- However, this is all irrelevant in practice, given the dire shortage of medical staff and the general under-provision of medical services in the country. As of 2007, the whole country had four doctors and one nurse specializing in occupational health.

Application:

Challenges in the process of filing claims include a lack of required employment documentation, distance from the centralized authority that must certify diagnosis and approve compensation, and a paperwork backlog within that authority that can lead to delays of four or more years.

- There is a requirement to bring claims in court.
- Local experts say that the prosecution and court processes associated with compensation cases are laborious and time-consuming for the meager amounts prescribed by law.

Benefits:

Compensation awards—when made—are low and are only available in lump sums. There is only one chance for receiving increased benefits for a disease’s progression, and levels do not accurately reflect degree of impairment.

- If someone is deemed to have temporary disability, benefits may be paid periodically or as a lump sum or a combination of these forms, depending on the estimated duration of the disability. If a person is deemed to have total disability, there is a lump-sum of a maximum of 96 months of earning; amounts given under the maximum are proportionate to the assessed degree of disability. Plus there is a constant-attendance supplement (25 percent of the total disability benefit) if the insured requires the constant attendance of others to perform daily functions.
- However, again, this is largely irrelevant in practice.

Accountability:

Neither the South African government nor mining companies have been held fully accountable for the compensation system’s shortcomings or for insufficiently regulating mine conditions. A Constitutional Court decision has permitted suits to be brought under ODIMWA, and court proceedings are ongoing in much the same vein as previous, successful suits regarding asbestos compensation. At the time of writing this report, however, the proceedings’ potential impact is unclear.

N/A

System Structure & Governance:

Mineworkers with occupational lung disease are treated separately and unequally under compensation law (ODIMWA), in comparison to other workers.

- All workers are covered by the general workers' compensation system.
- Additionally, miners have access to supplemental benefits for pneumoconiosis. "Prescribed" miners' diseases include silicosis but not tuberculosis.

System Financing

The compensation system in South Africa for mineworkers is underfunded. Levy calculations are consistently subject to industry influence and are not directly tied to expert evaluations of how much money is required to fund the system sustainably and equitably.

- The country has a state-run system; the general ability to contract out of this system to a private insurer is not applicable to occupational health claims. Common law tort cases are also permitted.
- State system is funded through the following channels:
 - 1 Employees' contributions, on a progressive basis—meaning 9.95 percent of weekly earnings from £146 to £817 plus 1 percent of earnings over £817 (as of April 2012).
 - 2 Employers' contributions, which involves 11.9 percent of employee earnings over £144 a week (as of April 2012); contributions do not depend on industry
 - 3 Government funds, which involves approximately 14 percent of the cost of cash benefits and 85 percent of medical care costs, although these estimates are somewhat outdated.
- The historical trend seems to be toward increasing the share of funding that comes from the first two sources.

Clinical Diagnosis:

Mineworkers have difficulty getting diagnosed because of inadequate access to medical personnel and facilities. In the current law, there is a 12-month time limit after leaving mine work within which claimants must be diagnosed with TB (in the absence of silicosis) in order to be eligible for compensation, which does not account for a persistent risk of TB after ceasing work.

Under the law, a claimant must undergo a medical exam by one or possibly two experienced doctors, specially trained in these types of matters. Patients who can travel are informed when and where to go, and they can claim out-of-pocket expenses. If they are not fit to travel alone, either someone can travel with them or they can request an exam at home.

Application:

Challenges in the process of filing claims include a lack of required employment documentation, distance from the centralized authority that must certify diagnosis and approve compensation, and a paperwork backlog within that authority that can lead to delays of four or more years.

- There is a detailed form to be filled in and sent to a regional Industrial Injuries Disablement Benefit Centre. Then, the examining doctor must send a report and opinion to the designated decision-maker, who can also take into account other evidence.
- There is a right of appeal.

Benefits:

Compensation awards—when made—are low and are only available in lump sums. There is only one chance for receiving increased benefits for a disease’s progression, and levels do not accurately reflect degree of impairment.

There are 2 benefits:

- 1 In-kind medical care is provided directly (no expense reimbursement) through the National Health Service, which covers both occupational and non-occupational health on the same terms; there is no limit on duration of care.
- 2 Cash compensation for work-related disease is in addition to (not reduced by) generous, non-occupational-health-related statutory sick pay and a sickness benefit. It is paid as a weekly pension after a waiting period of 90 days. Benefit amounts are pre-set, in proportion to the level of liability (assessed by a medical advisor); they are not related to prior earnings and are paid even if an employee returns to work. Compensation also provides for a constant attendance allowance.

Accountability:

Neither the South African government nor mining companies have been held fully accountable for the compensation system’s shortcomings or for insufficiently regulating mine conditions. A Constitutional Court decision has permitted suits to be brought under ODIMWA, and court proceedings are ongoing in much the same vein as previous, successful suits regarding asbestos compensation. At the time of writing this report, however, the proceedings’ potential impact is unclear.

- The alternative tort remedy under common law is very widely used, and the private insurance industry is actively involved, especially since the passage of a 1969 law mandating compulsory employers’ liability insurance.
- Private liability insurers are such a central part of the system that in the United Kingdom that they are allowed to bring tort actions against the employer-policyholder for breaches of duties to avoid accidents and handle claims properly.

Works Consulted for Appendix

UNITED STATES

Barth, Peter S. “The Development of the Black Lung Act. In The Tragedy of Black Lung: Federal Compensation for Occupational Disease.” Kalamazoo, MI: W.E. Upjohn Institute for Employment Research. *Social Security Bulletin*, 67 no. 1 (2007): 1-31. Accessed April 17, 2013. http://research.upjohn.org/up_bookchapters/116.

Black Lung Benefits Act, Pub.L. 91-173, Title IV, December 30, 1969, 83 Stat. 792.

Black Lung Benefits Act of 1972, Pub.L. 92-303, May 19, 1972, 86 Stat. 150.

Fishback, Price V., and Shawn Everett Kantor. “The Adoption of Workers’ Compensation in the United States: 1900-1930.” *Working Paper 5840*, NBER (1996). Accessed April 17, 2013. http://www.nber.org/papers/w5840.pdf?new_window=1.

Ladou, Joseph. “A Proposal to Abolish Workers’ Compensation and Reestablish the Public Health Model.” *International Journal of Occupational and Environmental Health* 12(2006): 154-168.

U.S. Comptroller General. Report to the Congress of the United States. “Legislation Authorized Benefits of Black Lung Without Evidence of Black Lung or Disability.” (1982). Accessed April 17, 2013. <http://www.gao.gov/assets/140/136258.pdf>.

U.S. Department of Labor, Office of Workers’ Compensation Programs, Division of Coal Mine Workers Compensation. Accessed April 17, 2013. <http://www.dol.gov/owcp/dcmwc/>.

U.S. Department of Labor, Office of Workers’ Compensation Programs. “Office of Workers’ Compensation Annual Report to Congress FY 2009.” Accessed April 17, 2013. <http://www.dol.gov/owcp/09owcpmx.pdf>.

U.S. Government Accountability Office, Black Lung Benefits Program. “Administrative and Structural Changes Could Improve Miners’ Ability to Pursue Claims.” (2009) (GAO-10-7). Accessed April 17, 2013. <http://www.gao.gov/assets/300/297807.pdf>.

AUSTRALIA (NEW SOUTH WALES)

Coal Services Pty Limited. “About Order 41.” Accessed April 23, 2013. http://www.coalservices.com.au/MessageForce-Website/Sites/320/Files/Order_41_QA_finalversion.pdf.

Government of Australia. *Senate Inquiry Workplace Exposure to Toxic Dust: Australian Government Response*. Canberra: 2008. Accessed April 22, 2013. http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=OCDOQFjAB&url=http%3A%2F%2Fwww.aph.gov.au%2FParliamentary_Business%2FCommittees%2FSenate_Committees%3Furl%3Dclac_ctte%2Fcompleted_inquiries%2F2004-07%2Ftoxic_dust%2Fgov-resp.pdf&ei=tXx1Ub_vEoHZowHQmoGwCw&usq=AFQ-jCNG1DsIgCs5GqgsyyOExFzDNDOvhCQ&sig2=aDDG-2JZMgMRuNml-_dD3qg&bvm=bv.45512109,d.dmQ.

Government of New South Wales. *Workers Compensation (Dust Diseases) Act 1942 No 14*. (December 23, 1942; amended December 7, 2010). Accessed April 26, 2013. <http://www.legislation.nsw.gov.au/maintop/view/inforce/act+14+1942+cd+O+N>.

Government of New South Wales, Dust Diseases Board. *Application by Dependent of a Deceased Worker for Workers’ Compensation Entitlement*. Accessed April 23, 2013. http://www.ddb.nsw.gov.au/Forms/Documents/DDB_App_DODWWCE.pdf.

Government of New South Wales, Dust Diseases Board. *DDB – a guide to compensation*. Accessed April 23, 2013. <http://www.ddb.nsw.gov.au/Documents/DDBPublications/BookDDBGuide.pdf>.

Government of New South Wales, *Dust Diseases Board. Workers' Compensation (Dust Diseases) Board Annual Report 2011-12*. Sydney: October 31, 2012. Accessed April 23, 2013. <http://www.ddb.nsw.gov.au/Benefits/Documents/DDB%20Annual%20Report%2020112012.pdf>.

New South Wales Minerals Council. "Submission to Productivity Commission: National Workers' Compensation Frameworks." Accessed April 23, 2013. http://www.pc.gov.au/_data/assets/pdf_file/0010/20422/sub172.pdf.

SafeWork Australia. *Comparison of Workers' Compensation Arrangements in Australia and New Zealand*. Canberra: April 2012. Accessed April 23, 2013. <http://www.safeworkaustralia.gov.au/sites/swa/news/pages/tn11052012>.

SafeWork Australia. *Comparison of Workers' Compensation Arrangements for Asbestos Related Diseases in Australia and New Zealand*. Canberra: March 2011. Accessed April 23, 2013. <http://www.safeworkaustralia.gov.au/sites/swa/about/publications/pages/comparisonasbestos2011>.

Senate of Australia, Community Affairs References Committee. *Workplace exposure to toxic dust*. Canberra: 2006. Accessed April 22, 2013. http://www.maqohsc.sa.gov.au/_upload_docs/20080129034136.exposure_toxic_dust.pdf.

CHINA

Brown, Ronald C. *Understanding Labor and Employment in China*. Cambridge: Cambridge University Press, 2009.

China Labor Bulletin. "China's social security system." Accessed April 23, 2013. <http://www.clb.org.hk/en/view-resource-centre-content/110107>.

China Labor Bulletin. "Compensation for Work-related Injury and Occupational Disease in China." Accessed April 23, 2013. <http://www.clb.org.hk/en/view-resource-centre-content/100208>.

China Labor Bulletin. *The Hard Road: Seeking justice for victims of pneumoconiosis in China*. Hong Kong: 2010. Accessed April 23, 2013. http://www.clb.org.hk/en/files/share/File/research_reports/Hard_Road.pdf.

China Labor Bulletin. "What Happens When the Money for Pneumoconiosis Runs Out?" February 15, 2013. Accessed April 23, 2013. <http://www.clb.org.hk/en/content/what-happens-when-money-runs-out-victims-pneumoconiosis-0>.

Government of People's Republic of China, People's Congress. Law of the People's Republic of China on the Prevention and Control of Occupational Diseases. (October 27, 2001; amended December 31, 2011). Accessed April 26, 2013. http://english.gov.cn/laws/2005-10/10/content_75718.htm.

Government of People's Republic of China, State Council. Regulation on Work-Related Injury Insurance. Order No. 375 (April 27, 2003; amended December 20, 2010). On file with authors.

Wang, Xiao-Rong and David C. Christiania. "Occupational Lung Disease in China." *International Journal of Occupational and Environmental Health* 9 (2003): 320-325.

Zhang, Xuevan, Zhongxu Wang, and Tao Li. "The current status of occupational health in China." *Environmental Health and Preventive Medicine* 15 no. 5 (2010): 263-270.

GERMANY

European Union, European Parliament. "Social Security for Migrant Workers." (2000). Accessed April 17, 2013. http://www.europarl.europa.eu/factsheets/4_8_4_en.htm.

European Union, European Commission. "Your Social Security Rights in Germany." (2012). Accessed April 17, 2013. http://ec.europa.eu/employment_social/empl_portal/SSRinEU/Your%20social%20security%20Rights%20in%20Germany_en.pdf.

Government of Germany. Joint German Occupational Safety and Health Strategy. Accessed April 17, 2013. <http://www.gda-portal.de/en/AboutGDA/AboutGDA.htm>.

lj;sessionid=40C5FA12439B237150501A6370A74BFO.2_cid380.

United Nations, Office of the High Commissioner for Human Rights. "Questionnaire on social protection of older persons addressed to Governments by the Independent Expert on the question of human rights and extreme poverty, Reply of the government of the Federal Republic of Germany." Accessed April 17, 2013. <http://www.ohchr.org/Documents/Issues/EPoverty/older/Germany.pdf>.

U.S. Social Security Administration, Office of Retirement and Disability Policy. "Social Security Programs Throughout the World: Europe, 2012, Germany." Accessed April 17, 2013. <http://www.ssa.gov/policy/docs/progdsc/ssptw/2012-2013/europe/germany.pdf>.

World Health Organization, Regional Office for Europe. "Country Profile of Occupational Health System in Germany." (2012). Accessed April 17, 2013. http://www.euro.who.int/_data/assets/pdf_file/0010/178957/OSH-Profile-Germany.pdf.

World Health Organization, Regional Office for Europe. "Germany: Model of good governance for workers health," (2012). Accessed April 17, 2013. <http://www.euro.who.int/en/what-we-do/health-topics/environment-and-health/occupational-health/news/news/2012/12/germany-model-of-good-governance-for-workers-health>.

INDIA

Alternative Law Forum. *The Workmen's Compensation Act: A Guide for Activists*. Bangalore: 2005. Accessed April 22, 2013. <http://www.ngosindia.com/resources/wcact.pdf>.

Government of India. *Employees' Compensation Act, 1923*. Act No. 8 (March 5, 1923; amended 2009). Accessed April 26, 2013. <http://www.scribd.com/doc/39583145/The-Employees-s-Compensation-Act-1923>.

Government of India, National Human Rights Commission. *Special Report to Parliament of India on Silicosis. New Delhi: August, 2011*. Accessed April 22, 2013. <http://>

nhrc.nic.in/Documents/Reports/Special%20Report%20To%20Parliament%20of%20India%20On%20Silicosis.pdf.

"Govt plans insurance for workers dying of occupational diseases." *The Indian Express*, August 4, 2012. Accessed April 22, 2013. <http://www.indianexpress.com/news/govt-plans-insurance-for-workers-dying-of-occupational-diseases/983666/>.

Human Rights Watch. *Out of Control: Mining, Regulatory Failure, and Human Rights in India*. New York: 2012.

Jindal, Surinder Kumar. "Silicosis in India: past and present." *Current Opinion in Pulmonary Medicine* 19 (2013): 163-168.

Mine Labor Protection Campaign. "Proposal from the Mine Labor Protection Campaign Trust, India." Accessed April 23, 2013. <http://www.ohchr.org/Documents/Issues/TransCorporations/Submissions/CivilSociety/MineLabourProtectionCampaignTrustIndia.pdf>.

People's Right and Research Centre (PRASAR) & Others vs. Union of India & Others. Writ Petition (Civil) No(s). 110 (Supreme Court of India, 2006). Accessed April 23, 2013. [http://www.prasar.org/data/SC_Notice_27_3_2006\[1\].pdf](http://www.prasar.org/data/SC_Notice_27_3_2006[1].pdf).

Rawal, Urvashi Dev. "Rajasthan to issue notices to 27,000 mine owners." *The Hindustan Times*, January 30, 2013. Access April 22, 2013. <http://www.hindustantimes.com/India-news/Jaipur/Rajasthan-to-issue-notices-to-27-000-mine-owners/Article1-1003644.aspx>.

Solidarity Center. "India: 2.5 Million Miners Now Have Worker Compensation." AFL-CIO, January 31, 2013. Accessed April 22, 2013. <http://www.solidaritycenter.org/content.asp?contentid=1581>.

Saini, Debi S. *Social Security Law in India*. Alphen aan den Rijn, The Netherlands: Kluwer Law International, 2011.

CANADA

Association of Workers' Compensation Boards of Canada. "Assessment / Premiums." Accessed April 14, 2013. <http://www.awcbc.org/en/assessmentpremiums.asp>.

Association of Workers' Compensation Boards of Canada. "Workers' Compensation Benefits & Rehabilitation." Accessed April 14, 2013. <http://www.awcbc.org/en/workerscompensationbenefitsandrehabilitation.asp>.

Association of Workers' Compensation Boards of Canada. "Workers' Compensation History/Overview." Accessed April 14, 2013. <http://www.awcbc.org/en/workerscompensationhistoryoverview.asp>.

Eakin, Joan. "Towards a 'standpoint' perspective: health and safety in small workplaces from the perspective of the workers." *Policy and Practice in Health and Safety* 2 (2010): 113-127.

Eakin, Joan, Ellen MacEachen, Elizabeth Mansfield, and Judy Clark. "The Logic of Practice: An Ethnographic Study of Front-line Service Work with Small Businesses in Ontario's Workplace Safety and Insurance Board." Research Advisory Council of the Workplace Safety and Insurance Board Final Report (April 9, 2009). Accessed April 16, 2013. http://www.academia.edu/1546224/The_Logic_of_Practice_An_Ethnographic_Study_of_Front-line_Service_Work_with_Small_Businesses_in_Ontarios_Workplace_Safety_and_Insurance_Board.

Lippel, Katherine. "Preserving workers' dignity in workers' compensation systems: An international perspective." *American Journal of Industrial Medicine* 55 (2012): 519-536.

Lippel, Katherine. "Workers' compensation for asbestos related disease in five Canadian provinces." Canadian Partnership Against Cancer and the Occupational Health Clinics For Ontario Workers (OHCOW) Final Report (February 19, 2010). Accessed April 8, 2013. <http://ssrn.com/abstract=1663408>.

Lippel, Katherine. "Workers describe the effect of the workers' compensation process on their health: A Quebec study." *International Journal of Law Psychiatry* 30 (2007): 427-443.

Thomason, Terry and Silvana Pozzebon. "Determinants of firm workplace health and safety and claims management practices." *Industrial Labor Relations Review* 55 (2002): 286-307.

Work Safe BC. "Occupational diseases." Accessed April 15, 2013. http://www.worksafebc.com/claims/occupational_diseases/default.asp.

INDONESIA

Jamsostek. "Transforming into New Era." Annual report, 2011. Accessed April 24, 2013. <http://www.jamsostek.co.id/content/news.php?id=3276>.

Jamsostek. Compilation of regulations on Social Security Scheme. Jakarta, December 2008. Accessed April 24, 2013. http://www.eiifa.org/download/publ/Regulation%20Jamsostek_English.pdf.

Local Initiative for OSH Network (LION) and Asia Monitor Resource Centre (AMRC). "Potential of Silicosis Disease in Limestone Mining And Industry: A Preliminary Mapping in Bandung Barat District." 2011. Accessed April 24, 2013. <http://www.amrc.org.hk/text/node/1161>.

Markkanen, Pia K. "Occupational Safety and Health in Indonesia." International Labor Organization, Subregional Office for South-East Asia and the Pacific, Working Paper no. 9, Philippines (Aug. 31, 2004). Accessed April 24, 2013. http://www.ilo.org/manila/whatwedo/publications/WCMS_126058/lang--en/index.htm.

U.S. Social Security Administration, Office of Retirement and Disability Policy. "Social Security Programs Throughout the World: Asia, 2012, Indonesia." Accessed March 9, 2013. <http://www.ssa.gov/policy/docs/progdesc/ssptw/2012-2013/asia/indonesia.pdf>.

GHANA

Annan, Joe-Steve, "Occupational & Industrial Safety & Health in Ghana." GhanaWeb, November 22, 2010. Accessed April 24, 2013. <http://www.ghanaweb.com/GhanaHomePage/NewsArchive/artikel.php?ID=197916>.

Clarke, Edith. "Do occupational health services really exist in Ghana?" In *Challenges to Occupational Health Services in the Regions: The National and International Responses, Proceedings of a WHO/ICOH/ILO Workshop*, vol. 24, pp. 16-25. Helsinki: Finnish Institute of Occupational Health, 2005.

Government of Ghana. Factories, Offices and Shops Act (Act 328), 1970. Accessed April 24, 2013. http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---ilo_aids/documents/legaldocument/wcms_181176.pdf.

Government of Ghana. Labour Act (No. 651), October 8, 2003. Accessed April 24, 2013. <http://www.refworld.org/docid/44bf88234.html>.

Government of Ghana. Mining and Minerals Act (No. 703), 2006. Accessed April 24, 2013. <http://www.sds.org/wp-content/uploads/2011/06/Ghana-Minerals-Act-2006.pdf>

Government of Ghana. Workmen's Compensation Act (No. 187), August 12, 1987. Accessed April 24, 2013. http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---ilo_aids/documents/legaldocument/wcms_181174.pdf.

Grüb, Andreas. "Ghana-Social security schemes for health." *GNeMHO (unpublished)* (2007). Accessed April 24, 2013. <http://www.issa.int/library/read/56565>.

U.S. Social Security Administration, Office of Retirement and Disability Policy. "Social Security Programs Throughout the World: Africa, 2011, Ghana." Accessed March 9, 2013. <http://www.ssa.gov/policy/docs/progdesc/ssptw/2010-2011/africa/ghana.pdf>.

UNITED KINGDOM

Bartrip, Peter W.J. *Workmen's Compensation in Twentieth Century Britain*. Aldershot, England: Gower Publishing, 1987.

Buften, Mark W., and Joseph Melling. "'A Mere Matter of Rock': Organized Labour, Scientific Evidence and British Government Schemes for Compensation of Silicosis and Pneumoconiosis among Coalminers, 1926-1940." *Medical History* 49 (2005): 155-178.

Government of the United Kingdom, Department for Works and Pensions. "Industrial Injuries Disablement Benefit." Accessed April 24, 2013. http://www.dwp.gov.uk/advisers/claimforms/bi10Opd_print.pdf.

Government of the United Kingdom, Department for Works and Pensions. "DB1 - A guide to Industrial Injuries Disablement Benefits" (March 2013). Accessed April 24, 2013. <http://www.dwp.gov.uk/publications/specialist-guides/technical-guidance/db1-a-guide-to-industrial-injuries>.

Government of the United Kingdom, Department for Works and Pensions. "NI260 - A guide to Revision, Supersession and Appeal" (April 2009). Accessed April 24, 2013. <http://www.dwp.gov.uk/publications/specialist-guides/technical-guidance/ni260-a-guide-to-revision-supersession>.

Lewis, Sarah et al. "A cross sectional study of the independent effect of occupation on lung function in British coal miners." *Occupational and Environmental Medicine* 53, no. 2 (1996): 125-128.

Phillips, T. J. G. "Compensation for Occupational Lung Disease in the United Kingdom." *CHEST Journal* 78, no. 2 Supp. (1980): 363-364.

U.S. Social Security Administration, Office of Retirement and Disability Policy. "Social Security Programs Throughout the World: Europe, 2012, United Kingdom." Accessed March 9, 2013. http://www.ssa.gov/policy/docs/progdesc/ssptw/2012-2013/europe/united_kingdom.pdf.

Endnotes

- 1 Cornelis W. de Kiewiet, *History of South Africa, Social & Economic* (Oxford: The Clarendon Press, 1941), 1.
- 2 “Chasing Gold: Then and Now,” American Museum of Natural History, accessed April 8, 2013, <http://www.amnh.org/exhibitions/past-exhibitions/gold/incomparable-gold/chasing-gold-then-and-now>.
- 3 “Nationalisation in South Africa: A debate that will persist,” *The Economist*, December 3, 2011, accessed April 9, 2013, <http://www.economist.com/node/21541040>.
- 4 Martin Meredith, *Diamonds, Gold, and War: The British, the Boers, and the Making of South Africa* (New York: Public Affairs, 2007); Francis Wilson, “Historical roots of inequality in South Africa,” *Economic History of Developing Regions* 26 (2011): 1-15.
- 5 Jock McCulloch, “Hiding a pandemic: Dr. G.W.H. Schepers and the politics of silicosis in South Africa,” *Journal of Southern African Studies* 35 (2009): 835-848.
- 6 Elaine Katz, *The White Death: Silicosis on the Witwatersrand Gold Mines 1886 – 1910* (Johannesburg: Witwatersrand University Press, 1994), 212.
- 7 Jock McCulloch, “Counting the cost: Gold mining and occupational disease in contemporary South Africa,” *African Affairs* 108 (2009): 224.
- 8 Rodney Ehrlich, “A century of miners’ compensation in South Africa,” *American Journal of Industrial Medicine* 55 (2012): 560-569; McCulloch, “Counting the cost,” 221-240.
- 9 McCulloch, “Hiding a pandemic,” 836.
- 10 Parliament of South Africa, *Occupational Diseases in Mines and Works Act, Act No. 78 of 1973* (successor to the Mine-worker’s Phthisis Allowance Act, No. 34 of 1911; as amended in 1993), accessed April 25, 2013, <http://www.info.gov.za/view/DownloadFileAction?id=71081; Compensation for Occupational Injuries and Diseases Act, Act No. 130 of 1993, accessed April 25, 2013, http://www.acts.co.za/compensation-for-occupational-injuries-and-diseases-act-1993>.
- 11 For a detailed comparison of the two laws, see generally: Ehrlich, “A Century of Miners’ Compensation in South Africa”; Neil White, “Is the ODMW Act fair? A Comparison of the Occupational Diseases in Mines and Works Amendment Act, 1993 and the Compensation of Occupational Injuries and Diseases Act, 1993 with respect to compensation of Pneumoconiosis,” Centre for Occupational and Environmental Health Research. (Cape Town: University of Cape Town, 2004).
- 12 *Mankayi v. AngloGold Ashanti Ltd.*, CCT 40/10 (Constitutional Court of South Africa, 2011), accessed April 24, 2013, <http://www.saflii.org/za/cases/ZACC/2011/3.html>.
- 13 In August 2013, Anglo American South Africa settled claims for compensation for silicosis filed by 23 former miners. The resolution did not involve an admission of liability and the terms are confidential. Pending cases include *Balakazi et al. v. Anglo Gold Ashanti*, *DJ Jibhana et al. v. Goldfields Ltd.*, and *Nkomphela et al. v. Harmony Gold Mining Co.* See: Ed Cropley, “Anglo South Africa settles silicosis case with 23 gold miners,” Reuters, September 25, 2013, <http://www.reuters.com/article/2013/09/25/us-angloamerican-silicosis-idUSBRE980CGH20130925>.
- 14
- 15 See e.g., White, ““Is the ODMW Act fair?””
- 16 Constitution of the Republic of South Africa of 1996, art. 27; United Nations General Assembly, International Covenant on Economic, Social and Cultural Rights, New York, December 16, 1966, art. 12.
- 17 Anand Grover, *Report of the Special Rapporteur on the right of everyone to the enjoyment of the highest attainable standard of physical and mental health*, United Nations General Assembly, April 10, 2012, accessed April 10, 2013, http://www.ohchr.org/Documents/HRBodies/HRCouncil/RegularSession/Session20/A-HRC-20-15_en.pdf.
- 18 Department of Labor, South African National Programme for the Elimination of Silicosis (2005), accessed April 14, 2013, http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---safework/documents/policy/wcms_118112.pdf; International Labor Organization, “Occupational health: Silicosis,” November 25, 2009, accessed April 26, 2013, http://www.ilo.org/safework/info/WCMS_108566/lang-en/index.htm.
- 19 International Labor Organization, Workmen’s Compensation (Occupational Diseases) Convention (Revised) (No. 42), art. 1, accessed April 26, 2013, http://www.ilo.org/dyn/normlex/en/f?p=1000:55:0::NO::P55_TYPE,P55_LANG,P55_DOCUMENT,P55_NO-DE:CON,en,C042,%2FDocument.
- 20 Anna Trapido, Richard Goode, and Neil White. “Costs of occupational lung disease in South African gold mining,” *Minerals & Energy – Raw Materials Report* 13 (1998): 28.
- 21 AIDS and Rights Alliance for Southern Africa, “The mining sector, tuberculosis and migrant labour in southern Africa” (2008), accessed April 22, 2013, http://www.tac.org.za/community/files/Mines_TB_and_Southern_Africa.pdf.
- 22 Bertran Auvert et al, “HIV infection among youth in a South African mining town is associated with herpes simplex virus-2 seropositivity and sexual behavior,” *AIDS* 15 (2001): 889-891; Pam Sonnenberg et al, “HIV and pulmonary tuberculosis: the impact goes beyond those infected with HIV,” *AIDS* 18 (2004): 659-661.
- 23 R. L. Cowie, “The epidemiology of tuberculosis in gold miners with silicosis,” *American Journal of Respiratory Critical Care Medicine* 150 (1994): 1460.
- 24 Elizabeth L. Corbett et al, “HIV infection and silicosis: the impact of two potent risk factors on the incidence of mycobacterial disease in South African miners,” *AIDS* 14 (2000): 2762.
- 25 *Ibid.*, 2762.
- 26 *Ibid.*, 2763.
- 27 Gill Nelson et al., “Three decades of silicosis: disease trends at autopsy in South African gold mineworkers,” *Environmental Health Perspectives* 118 (2010): 422-423; Jaine Roberts, *The Hidden Epidemic Amongst Former Mineworkers: Silicosis, Tuberculosis and the Occupational Diseases in Mines and Works Act in Eastern Cape, South Africa*, (Westville, South Africa: Health Systems Trust, 2009), 31-45; McCulloch, “Hiding a pandemic,” 837.
- 28 Ntombizodwa Ndlovu, Gill Nelson, Tony Davies, and Jill Murray, Pathology Division Surveillance Report: Demographic Data and Disease Rates for January to December 2007, National Institute for Occupational Health, NIOH Report 14(2008)..
- 29 Corbett et al., “HIV Infection and Silicosis,” 2760.
- 30 Lucio Corno and Damien de Walque, “Mines, migration and HIV/AIDS in southern Africa,” World Bank Policy Research Paper 5966 (2012), accessed April 23, 2013, <http://elibrary.worldbank.org/docserver/download/5966.pdf>.
- 31 Deloitte & Touche, “Report on the Actuarial Valuation as at December 2003 for the Compensation Commissioner for Occupational Diseases in Mines and Works” (September 21, 2004), 61, on file with authors.
- 32 ODIMWA, §§ 3(a), 54(a); COIDA, Chapter 1, Definitions (xxvi).
- 33 *Mankayi*, ¶ 93.
- 34 Rodney Ehrlich, “Persistent failure of the COIDA system to compensate occupational disease in South Africa,” *South African Medical Journal* 102 no. 2 (2012): 95-96.
- 35 *Mankayi*, ¶ 109.
- 36 PlusNews, “SOUTH AFRICA: National Health Insurance falls short on health workers,” *IRIN*, July 11, 2012, accessed April 24, 2013, <http://www.irinnews.org/Report/95840/SOUTH-AFRICA-National-Health-Insurance-falls-short-on-health-workers>.
- 37 The Asbestos Relief Trust deed indicates several limitations,

- including on who may make claims and in what year the trust is to terminate its work. Asbestos Relief Trust, “The Deed of Trust,” accessed April 24, 2013, <http://www.asbestostrust.co.za/ARTdeed.htm>.
- 38 A controlled mine is defined in ODIMWA §§ 9-11 to be a mine where risk work is conducted on an ongoing basis by 30 or more individuals. Risk work is defined in ODIMWA § 13 to be a single shift of work at a controlled mine that exposes an individual to potentially harmful levels or concentrations of dust, gas, vapor, or chemicals. Mine owners can petition the Chief Inspector of Mines to be removed from the list of controlled mines by demonstrating the work there is not risky (e.g. if they lower dust levels sufficiently to argue that the levels do not present a risk to mineworkers) or that they have scaled back or ceased operations such that fewer than thirty individuals are engaging in risk work. Currently, according to interviews, less than one-third of mines in South Africa are controlled.
- 39 What defines a shift is left vague in the legislation, though to count for this purpose it must include at least 15 minutes of risk work as defined in the previous footnote (ODIMWA, § 13).
- 40 Historical data on worker disease rates and dust levels in mine shafts (provided by the companies themselves) are meant to be used to help establish mineral-specific levy amounts, but there is no specific formula or guideline to do this that we are aware of. In practice, it appears that the Chamber of Mines and CCOD usually agree on levy amounts based partially on independent actuaries’ reports and partially on concerns for company profit levels and stability. Legislation that guaranteed funding to satisfy actuarial valuations, when combined with reforms to reduce administrative and logistical burdens on claimants, would provide a stronger guarantee of adequate funding, though better epidemiological data would be required to divide risk (and therefore levy amounts) between different minerals mined.
- 41 Deloitte, “Actuarial Valuation,” 6-7; Trapido, Goode, and White, “Costs of occupational lung disease,” 30.
- 42 Deloitte, “Actuarial Valuation,” 67-68; South African Government, Government Notice R1249 / GG 32845 / 20091228, accessed April 14, 2013, http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---ilo_aids/documents/legaldocument/wcms_190734.pdf; Ingi Salgado, “Mining industry fights levy hike,” *Health Systems Trust* (August 26, 2009), accessed April 10, 2013, <http://www.hst.org.za/publications/mining-industry-fights-levy-hike-mines-told-pay-30-times-more-compensation-fund>.
- 43 For example, it assumes only 75 percent of successful claimants will actually receive payment, that claims processing will take 10-15 years on average allowing the Fund to invest in high-risk, high-return, illiquid investment vehicles, and that the Fund will not pay legally mandated interest payments.
- 44 Trapido, Goode, and White, “Costs of occupational lung disease,” 30-33.
- 45 Dewald van Rensburg, “Another silicosis ruling hits mineworkers,” *Miningmx.com* (May 15, 2011), accessed April 14, 2013, <http://www.miningmx.com/news/markets/Another-silicosis-ruling-hits-mineworkers.htm>.
- 46 Nelson et al., “Three decades of silicosis”; G.J. Churchyard et al., “Silicosis prevalence and exposure-response relations in South African goldminers,” *Occupational Environmental Medicine*, 61 (2004): 811-816.
- 47 ODIMWA, § 62(1).
- 48 ODIMWA, § 1.
- 49 Ibid., § 36.
- 50 ODIMWA, § 80(1).
- 51 Roberts, “Hidden Epidemic,” 49-55.
- 52 A presumption model would also make compensation available to “undeserving” claimants who contracted TB outside mines. However, mineworkers have more than double the risk of developing TB than the general population in South Africa. Thus, the presumption would likely include a majority of work-related cases, particularly if the presumption is limited by a minimum qualifying work-years requirement (see Roberts, “Hidden Epidemic,” 49-55 and works cited therein).
- 53 ODIMWA, § 34.
- 54 Audrey V. Banyini, David Rees, and Leah Gilbert, “‘Even if I were to consent, my family will never agree’: exploring autopsy services for posthumous occupational lung disease compensation among mineworkers in South Africa,” *Global Health Action* 6 (2013): 4, accessed April 17, 2013, <http://dx.doi.org/10.3402/gha.v6i0.19518>.
- 55 Roberts, “Hidden Epidemic,” 42.
- 56 Zodwa Ndlovu, Jill Murray, and Jim teWaterNaude, “Asbestos-related disease: Clinico-pathological correlation.” Abstract. *Neil White Memorial Seminar* (2011), accessed April 26, 2013, <http://www.asbestostrust.co.za/documents/Abstracts-2011.pdf>.
- 57 See, e.g. Jill Murray, Danuta Kielkowski, and Paul Reid, “Occupational disease trends in black South African gold mineworkers. An autopsy-based study.” *American Journal of Respiratory and Critical Care Medicine* 153 no. 2 (1996): 706-710.
- 58 Banyini, “Even if I were to consent, my family will never agree,” 5.
- 59 Nearly a third of all autopsies completed annually for the MBOD in Johannesburg are done on white mineworkers or former mineworkers. However, whites represent a much smaller percentage of the current and former mining workforce. See Roberts, “Hidden Epidemic,” 39-45.
- 60 ODIMWA, § 39(2).
- 61 Ibid, §§ 44 and 46.
- 62 Ibid, § 45.
- 63 Lerato Maiphethlo and Rodney Ehrlich, “Claims experience of former gold miners with silicosis – a clinic series,” *Occupational Health Southern Africa* 16 no. 2 (2010), 10.
- 64 Roberts, “Hidden Epidemic,” 12.
- 65 Maiphethlo and Ehrlich, “Claims experience of former gold miners,” 14.
- 66 Public Protector of South Africa, “Report on an Investigation Into Allegations of an Improper Insistence on the Provision of Documentary Proof of Service Relating to Claims for Benefits and an Improper Refusal to Accept Affidavits by the Compensation Commissioner for Occupational Diseases,” Report No. 1 of 2008/2009, on file with authors.
- 67 Maiphethlo and Ehrlich, “Claims experience of former gold miners,” 12.
- 68 ODIMWA, § 80(2).
- 69 COIDA, § 52, Schedule 3.
- 70 Ibid, §§ 54(1) and 54(2).
- 71 Mankayi, ¶ 18.
- 72 ODIMWA, §80(2).
- 73 Asbestos Relief Trust, “‘Great Expectations’: Expenditure Patterns and Assessment of Asbestos Relief Trust Compensation Awards” (2007): 5-6, accessed April 26, 2013, http://www.asbestostrust.co.za/documents/wits_survey.pdf.
- 74 Ehrlich, “Persistent Failure,” 96.
- 75 International Labor Organization, Convention concerning Benefits in the Case of Employment Injury, 1964 (No. 121), art. 15, accessed April 26, 2013, http://www.ilo.org/dyn/normlex/en/f?p=1000:12100:0::NO::P12100_ILO_CODE:C121.
- 76 Asbestos Relief Trust, “‘Great Expectations,’” 43.
- 77 United Nations Development Program, “Swaziland Human Development Report: HIV and AIDS and Culture.” (2007), 6, accessed April 18, 2013, http://hdr.undp.org/en/reports/nationalreports/africa/swaziland/Swaziland_NHRD_2008.pdf.
- 78 ODIMWA, § 44.
- 79 Roberts, “Hidden Epidemic,” 12.
- 80 White, “Is the ODMW Act fair?” 12.
- 81 Asbestos Relief Trust, “‘Great Expectations,’” 10.
- 82 ODIMWA, § 80; Ehrlich, “A Century of Miners’ Compensation in South Africa,” 6.
- 83 Deloitte, “Actuarial Valuation,” 54-56.
- 84 Ehrlich, “Persistent Failure,” 96.
- 85 ODIMWA, § 36A.
- 86 Roberts, “Hidden Epidemic,” 11.
- 87 C. Arthur Williams Jr., *An International Comparison of Workers’ Compensation* (Dordrecht, Netherlands: Kluwer Academic Publishers, 1991), 62, 200.
- 88 Peter W.J. Bartrip, *Workmen’s Compensation in Twentieth Century Britain* (Aldershot, England: Gower Publishing, 1987), 221-23, 230-31.
- 89 t.U.N. Office of the High Commissioner for Human Rights, “Guiding Principles on Business and Human Rights: Implementing the United Nations ‘Protect, Respect and Remedy’ Framework,” U.N. Doc. HR/PUB/11/04 (2011), accessed April 24, 2013, <http://>

www.ohchr.org/Documents/Publications/GuidingPrinciples-BusinessHR_EN.pdf; see also: JA Hilgert, "Building a human rights framework for workers' compensation in the United States: opening the debate on first principles," *American Journal of Industrial Medicine* 55, no. 6 (2012): 506-518.

- 90 Considerations specific to former and migrant workers factor into each section; they are not separated out into a separate portion of the matrix.
- 91 West Virginia Black Lung Conference, 2011: http://www.youtube.com/watch?v=97HMMnc_N_k&feature=youtu.be.
- 92 Black Lung Clinic: <http://law.wlu.edu/blacklung/>.
- 93 This summary describes Indonesia's system as of this writing, but Indonesia is in the process of completely overhauling its healthcare and social security systems, providing for much more comprehensive coverage that will begin in 2014 or 2015.