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Social Inequality and the Continuing Russian Mortality Crisis

Mike Haynes

This paper re-examines the Russian mortality crisis drawing attention to the evidence of the intensification of pre-existing mortality gradients and their relationships to social inequality. The paper notes that social scientists and area specialists have lagged behind health and demographic specialists in drawing attention to the links between social inequality and death in Russia. It suggests that social epidemiological approaches offer a way to link the analysis of death to the economic and social structures of society in Russia.

Keywords: Russia; demographic crisis; mortality; mortality gradients; social inequalities; class

Introduction

The aim of this paper is to explore some of the ways in which social inequalities are moulding the mortality crisis in Russia. This mortality crisis itself has been the subject of much discussion. Before the collapse of the USSR, the Soviet demographic situation exhibited a number of negative trends but the transition turned these into a huge demographic crisis (for example, Andreev, Mckee et al. 2003, Andreev, Nolte et al. 2003; Brainerd and Cutler 2005; Cornia and Paniccia 2000; Eberstadt 2005; Haynes and Husan 2003; McKee 2001; Men et al. 2003; Plavinsky, Plavinskaya, and Klimov 2003; Shkolnikov, Cornia et al. 1998; Shkolnikov, Deev et al. 2003; Stuckler, King et al. 2009; World Bank 2005). The population of Russia fell from 147 million in 1989 to 142 million in 2010 and is predicted to continue to decline. Life expectancy fell to a low in 2003 of 58.6 years for men and 71.8 for women. The scale of the crisis is evident in the UN medium population projection for Russia. This assumes a significant rise in the fertility rate, a recovery of life expectancy to 72 by the 2040s, and sustained net immigration. But, even so, this will still leave Russia
with a population of only some 112 million by 2050. This paper argues that running through this crisis is the issue of social inequality and this can best be made sense of in terms of the analysis pioneered by social epidemiologists in the last fifty years. The Soviet system, contrary to what is often claimed, was characterised by important social inequalities. The precise scale of these was unknown at the time but a crude sense of “them” and “us” was widespread in the Soviet era and this fed into the confusing cross currents of the movements for glas’nost and perestroika. But, although, many hoped that the transition to market capitalism would remedy these social inequalities, the transition intensified them. The evidence in the west is that the societies with better health and mortality records are not only the more equal ones but are those where “dissident movements” have created more pressure on policy makers to improve social conditions and well-being. If this is correct then the mortality crisis in Russia is a product of both changing social conditions across society but also the growing inequality and unequal lives within Russia and the unequal possibilities to respond to this.

Social Epidemiology and Gradients in Life and Death

There is nothing new in the argument that social conditions and social organisation determine patterns of life and death. But in the last half century, social epidemiologists have tried systematically to analyse these relationships. Marmot suggests that the transition in general and Russia in particular, is a “ghastly natural experiment” that “screams out for explanation” and not least in the terms established by social epidemiology (Marmot 2003, 202).

Although there is no single approach in social epidemiology, we can summarise the basic arguments in terms of the following points. The first is the insistence on the primacy of direct and indirect social causation in most health issues (some cancers provide the big exception). Health care can offer remedial action but no health care system is as efficacious as not being unhealthy in the first place. In advanced societies, where the burden of most infectious diseases has been overcome, this involves dealing with the burden of non-contagious diseases. Causation flows here from material stresses and more centrally from psychological stresses which affect bodily processes. Causation also flows from health behaviours but these too are socially rooted which is why they differ by society and within societies (Wilkinson 1996).

Because this approach raises such obvious issues of equity and justice, early critics were not slow to raise objections and in particular to talk of health selection effects, suggesting that it was poor health that led to a poor social position rather than vice versa. Putin in his April 2005 State of the Nation address in Russia, unwittingly advanced an individualistic lifestyle selection effect when he argued that “each young person must realise that a healthy lifestyle means success, his or her personal success”. The individual seemingly selects his or her behaviour which determines health and then success. But this
argument is less strongly advanced today in serious accounts because it seems to be relevant to a smaller range of negative health indicators than was once thought and because the argument is too simplistic. When negative health selection effects operate, the obvious question is, what causes the negative health or health behaviour in the first place. In Russia, for example, there is evidence that problem drinking can be a precedent for future dismissal which would then lead on to unemployment and poverty (World Bank 2005). But then we would obviously need to ask why there is a prior problem in drinking (at work) and the extent to which this shows a social pattern. Health selection, to the extent that it operates, is better seen as part of a socially determined and constructed negative/positive spiral.

Rooted in social and structural causes, health problems need structural and social solutions not mass psychotherapy. How this argument is then pushed back "upstream" into society remains controversial as searching for the "cause of the cause" can lead into different forms of social critique and social epidemiologists divide on this. (Krieger 2001; Labonté and Schrecker 2007). But there is a growing agreement that a crucial social proximate cause is inequality and what are called "the social gradients in life and death". Beyond a certain point the average level of material wealth in a society ceases to explain its comparative situation in terms of health and mortality, etc. as well as many other social problems. Wilkinson and Pickett quote an anonymous medical editorial in a leading UK health journal,

The big idea is that what matters in determining mortality and health in a society is less the overall wealth of that society and more how evenly wealth is distributed. The more equally wealth is distributed, the better the health of society. (Wilkinson and Pickett 2009, 81)

The path-breaking research led by Marmot in the 1980s and early 1990s established that in an advanced society like the UK, "the social gradient in health runs right across society, so that even among middle class office workers, lower ranking staff suffer much more disease and earlier death than higher ranking staff" (Marmot 2003, 10). Greater inequality not only leads to worse health outcomes but a greater level of social dysfunctionality and social corrosion reflected in a systematic variation in levels of educational attainment, obesity, teenage pregnancy, violence, imprisonment, etc. Strong social gradients mean that those at the bottom live significantly worse and shorter lives than those at the top. But in comparative terms, the impact is felt across the whole distribution with lower levels of life expectancy for those at the top as well compared to how they might fare in more equal societies. "The truth is that the vast majority of the population is harmed by greater inequality" (Wilkinson and Pickett 2009, 181).

This next issue is what we can call multiple social causation. Disadvantage in individuals accumulates vertically throughout their lives, starting in the womb where it is reflected in different survival rates, birth weights, metabolic
rates, etc. moving into the crucial inequalities of early childhood and then on to adulthood. But at any point in time in an individual’s life it will also be reflected in the pattern of advantage/disadvantage in their existing situation and relationships with different degrees of material, social and psychological pressures reflecting their immersion to different degrees in different formal and informal networks, etc.

Finally, this approach rejects the idea of “trade offs” and “trickle down” which have had a crucial influence on economic thinking about the transition. Social costs are not a price worth paying for economic growth and the like. Inequality does not produce “better” or “faster’ economic outcomes but worse ones. Nor can greater material wealth at point B be used to compensate for problems at point A. Even were this to make moral or ethical sense, the argument fails because social dysfunctionality becomes self perpetuating, unless there is a change in social organisation and policy.

Making Sense of Health and Inequality in the USSR

The idea still persists that the USSR, despite its many faults, had impressive comparative social achievements to its credit and lacked social differentiation on a western scale. This is not what the demographic record shows.

Assessing demographic and health patterns in the USSR is difficult not only because of its stormy history and the secrecy that existed from the late 1920s (Haynes and Husan 2003), but also because of the basis of comparisons. Figure 1 shows four possibilities.

The historical comparison compares the situation of the “present” with the past — the pre-revolutionary situation or (perhaps the pre Stalinist one). A second comparison might be with the advanced states that the USSR was seeking to catch up and overtake. A third is with states at a comparable level of development. The fourth is a comparison of the existing situation with an alternative one derived from other choices and/or the formally proclaimed goals of the regime (Lane 1996). These comparisons are not easy, even at the aggregate level. To illustrate this, Table 1 is taken from the work of Anatoly Vishnevsky, a leading demographer whose career spans the late Soviet era and the past two decades. The table clearly shows the real historical improvements in life expectancy, despite the problems of the Soviet people. However, we also see that from the late 1960s, the demographic and health improvement began to stagnate and then regress.

<table>
<thead>
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<th>1. Historical Comparison</th>
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Figure 1. How should we undertake a comparative evaluation of the USSR?
Whereas life expectancy in the 1970s and 1980s continued to grow in the West, in the USSR, it fell slightly until it was partially, but temporarily, restored by the anti-alcohol campaign of the mid 1980s. The predominance of an excess death rate for men in their prime was also well-established. By 1984, Russian women had a life expectancy that was 11 years greater than that for men. A Russian man of 20 had a 35% chance of dying before he was 60 compared to 13% for Russian women. Comparable figures for the west were around 10 and 4–6%. A crucial role here was being played by heart and circulatory diseases, and lung cancer, partly linked to negative health behaviours and not least smoking and alcohol which also played a role in deaths from external causes – accidents, violence, suicide, etc. Considerable gaps also existed between urban and rural areas to the disadvantage of the countryside. There were also marked differentials on a regional scale with higher death rates in the north and the east. Nor was it the case that the health service was as impressive as was often claimed. At the end of the Soviet period, health expenditure as a percentage of GDP was held down, as it had been from the late 1920s, by expenditure on the military and accumulation and was running at half the share in advanced western societies.

Table 1 also provides us with some basis for a comparison between the USSR and some other advanced countries. Here again the later data is unfavourable (the 2000 data is used simply for convenience — the basic point would have been true of 1980s data). However, exactly how unfavourable any comparison is depends on which countries are taken (or averaged) and which indicators are used. The third comparison with countries at similar stages of development is not attempted because the issue then is which countries and what is a comparable stage of development (Navarro 1993). Similarly, the fourth comparison is the hardest of all since it involves some kind of counter-factual. However, this does not mean that it is not important. For people in their daily lives, it is often the gap between what they experience and what they think they could or should experience that is central. Given the extent to which formal Soviet ideology placed an emphasis on "equality" and putting "man" first then even
an inchoate sense that different priorities actually dominated and that other possibilities existed could be important.

But if our argument about social causation and social inequality is correct, we also need to go beyond such simple aggregate comparisons and to look at the social divisions within Soviet society. The question of how to analyse Soviet society remains unresolved and we do not have time to address the theoretical issues involved. But we do need to consider the evidence that Soviet society was unequal. Figure 2 shows the trend in the Gini coefficient for the late Soviet period. It draws on data from the UN-WIDER database (one of the best sources for longer-term and comparative data). The figure shows a slightly worsening pattern in the late Soviet period and an overall level that is both "modest" and "significant". The level of inequality is modest, if we compare it to other advanced countries (think of the UK at its most equal or Sweden) (Dorling 2011a, 2011b). It is significant in that this still represents considerable inequality and it was also at variance with what was and is sometimes claimed for the USSR.

But this data seems likely to understate the degree of inequality and possibly more so than the western data with which we might wish to compare it. The data in Figure 2 is drawn from family budget data and earnings surveys. The data quality is deemed relatively good by the WIDER compilers (and there was some attempt to improve the samples over time). But it still seems likely in terms of the samples that they undercount more those at the bottom so that these coefficients are rather narrower than they really were. The second issue is then that access to goods and services in the USSR was not simply a function of income but also power and position so that here the undercount will be more at the top (see the country notes for the UN-WIDER Database).

But the importance of inequality goes beyond that of income. Inequality has occupational, educational and status dimensions. If these are not independent variables neither are they identical. These are also hard to measure and sometimes produce cruder aggregations than we would like. Additionally, crucial data is also missing. To build a proper analysis we need good mortality data in terms of death certification in which profession/education, etc. is recorded.
but this is only available for brief periods in the USSR (and subsequently in Russia).

It is here that we do see evidence that from the Soviet era that the health inequalities were real.

The first measurements based on the data of 1989 have shown remarkable mortality gradients associated with the level of education ... The difference was at least as great as in those western countries where the social differentials in mortality are comparatively large. (Shkolnikov, Leon, et al. 1998; see also Dennis et al. 1993; Paloso et al. 1998; Plavinsky, Plavinskaya, and Klimov 2003; Vishnevsky 2006b, 302–306)

It is interesting that when this data was first presented it was seen as paradoxical, since many commentators continued to assume that social inequalities and class differentials were not a major factor (Shkolnikov, Leon, et al. 1998; Murphy et al. 2006). But the pattern has been confirmed by other studies. Leinsalu, Vägerö, and Kunst (2003), for example, used Estonian data to suggest that “educational differences in mortality in 1989 were large compared to those of Western Europe” (1083). More recently, Andreev et al. (2009) use a unique data set found in the archives to track occupational differences. Because of the limitations of the data, they do this at a highly aggregated level but one directly relevant to our theme. Their data shows both the widening differentials in Soviet society and the concentration of mortality amongst manual workers and retired manual workers. In the 1970s and 1980s in Russia (within the USSR), non-manual male workers made up around 22–23% of the male age group 20–60, manual workers 69–70% and non workers 7–8%. Mortality in this latter group was high because it included those retired early from dangerous occupations and those retired early because of ill health. In the 1970s, mortality improvement for non-manual workers stagnated but for man-

**Figure 3.** A simple model of the Russian demographic crisis
ual and non-working males decline set in, widening the existing gaps. In the
1980s, especially as a result of the anti-alcohol campaign, the decline stopped
but the improvements were greatest for non-manual workers (the better edu-
cated profited more from the campaign than the less educated) so that the
social differentials continued to increase. As they summarise the pattern
(which they argue exists in other former Soviet bloc countries),

The manual workers or the proletariat (presented by communist propaganda as
"ruling" and the "most advanced" societal force) suffered most, while the
intelligentsia and other non manual workers showed better resistance under
the same macroscopic conditions. (Andreev et al. 2009, 162 emphasis in
original)

But far from the transition leading to an overcoming of these problems, the
way that it was driven from above, at the expense of the wider society, inten-
sified them and widened not only social inequalities overall but in the mortal-
ity data.

Rooting Russian Demography in Russian Society

In thinking about the relationship between the transition and the subsequent
demographic crisis, we can start with the simple model set out in Figure 3.

Basic though this is, it illustrates both the potential importance of social
causation; the dangers of a single-variable approach and the role of social class
inequality as a mediating factor. Missing out this latter link in the analysis will
produce an averaging effect of quite different responses to the crisis. Since
the key elements in Figure 3 are broadly known, we will only brief touch on
them here, pausing only to accentuate aspects which have been underplayed.

The transition, firstly, involved economic liberalisation in which market con-
trol superseded state control in many parts of the economy and state assets
were privatised or subject to oligarchic control. This involved freeing up the
markets for capital, goods and labour, albeit to different degrees. The process
was enormously disruptive, not least because many enterprises struggled to
survive, assets were plundered and central state controls were weakened, and
established organisational structures disrupted. Informal elements in the econ-
omy grew enormously. It took a decade or more to begin to re-establish a
sense of order based on a consolidation of new vertical links.

Output slumped, at least in the official data, by some 40%, to reach its nadir
after the 1998 financial crisis. Subsequently, a strong recovery took place but
the collapse had been so great that by 2008 output was only broadly back to
its 1989–1991 levels although per capita income, because of the population
stagnation, recovered slightly faster (the cumulative loss of output had 1991
levels been maintained was approximately equivalent to five years GDP). There
was much debate in these recovery years about the sustainability of the new
economic structure, buoyed up as it was by the rocketing price of oil and energy exports. In July 2008, when the oil price hit a nominal high of $147 a barrel the Russian economy appeared to be strong, even an “island of stability” according to the Finance Minister speaking to the World Economic Forum earlier that year. A year later it was in deep difficulties as it was sucked into the global economic crisis, the Russian stock exchange slumped, the oil price fell dramatically and capital flowed out of the economy. By August 2009, President Medvedev could reflect a reborn pessimism saying that an oil-based model was at “a dead end. The crisis forces us to take decisions and change the structure of the economy. Otherwise the economy has no future” (http://rt.com/business/news/russian-economy-slumps-further/).

The standard of living also went on a turbulent journey. Initially, hyperinflation destroyed the value of savings and cut the value of wages and benefits — a problem compounded by widespread delays in the payments of wages. In 1993–1994, 60% of the workforce was not paid fully or on time (Simai 2006, 11). Today an estimated 70% of Russians have no savings and a further 26% keep their savings in accessible cash. Many workers retained loose formal ties with their enterprises. And only at the turn of the new century did unemployment data begin to reflect (subject to more normal limitations) the real situation. Large sections of the population were pushed below the poverty line and only in the new century did the average standard of living begin to rise again as strong growth resumed for a time. The average monthly wage rose from 2200 roubles ($90) in to 12,500 roubles ($500) between 1999 and 2007. The average pension rose from 823 roubles ($33) to 3500 ($140) in the same period.

The restructuring of the transition disrupted the social base of the economy. New institutions and organisations appeared while the existing ones that had helped to structure peoples’ lives were weakened or even disappeared. Broader social networks were also thrown into turmoil as different parts of the population experienced change and responded in different ways. If some social ties weakened or disappeared others were strengthened but not necessarily in a healthy way. Dependencies could be re-enforced as when children and grandchildren became dependent on grandparents or through the need to exploit informal connexions to achieve positive outcomes (Rose 2000).

In understanding the mentality with which many people began the transition, it is important to distinguish between the formal ideals of the old regime and its lived reality. Conventional accounts misrepresent the mass psychology of the old order as unhealthily collectivist so that part of the psychic strain of adjustment is the hard shift to a supposedly healthier individualism. This argument is false at the level of theory — genuinely collectivist societies are more resilient than Anglo-American style individualist ones. But it is also false as a description of the Soviet system where an atomized individualism existed and where social relationships were marked by relatively high levels of social fragmentation, interpersonal hostility, corruption, paternalistic dependence, etc. (Kharkhordin 1999). The experience of perestroika and glasnost allowed a new...
solidarity to temporarily begin to emerge but the transition then undercut this so that negative socio-psychological traits appear to have been reinforced. These include not least a relatively high level of fatalism, an outlook, “of dependency, powerlessness and isolation … [which] … acts as an inhibitor to the development of active, coping, strategies, including seeking social support” (Goodwin et al. 2002; Goodwin 2006; Kozuireva 2011).

The final element that we wish to stress here is the role of class inequality. Gender, ethnicity, region, age, etc. all act as moderators but class inequality runs through all of these too (Walberg et al. 1998; Men et al. 2003). Many accounts of the transition stress the importance of social inequality but too few focus on it as a mediating factor and not least demographic responses. The most obvious manifestation of the huge increase in inequality was the growing gap between the elite of new billionaires and the abject material poverty evident on the streets and in provincial Russia (Haynes 2011). But growing inequality also had non-monetary elements reflected in changing access to education, health care, culture, social mobility and so on. It was also reflected in the challenge to the previous value systems (official and informal) with a celebration of displays of conspicuous wealth, income and consumption and the denigration of those at the bottom as “failures” or hang-overs from the past.

This multidimensional nature of inequality cannot be captured in a single indicator. But it also needs to be explored across the range rather than just at the extremes. The simplest indicator of this is again the Gini coefficient which is set out in Figure 4.

Here we see the extent to which Russia moved from measured “modest” but “significant” inequality to become an extremely unequal society, albeit subject to some fluctuations in the level and indicator (Sobeleva 2013). But within this shift the movement of different groups appears at first sight confusing and this makes it harder to see a link between social inequalities and divisions and health and mortality outcomes. But we can bring some order to the shifts, if we separate out the elements of what happened into two groups —

![Figure 4. Russian personal and household Gini coefficients](source: UN-WIDER)
the common factors across the economy and the differentiating factors between and sectors and groups within the widening inequality.

Four main elements explain the widening gaps. The first is capture of state property by individuals. This enabled a massive concentration of wealth and the development of significant streams of property income for a small part of the population. This shift has still not been adequately mapped, although the processes of privatisation-plunder are well described in many accounts. On one estimate, some 50% of all property incomes go to 1% of the population (Sobeleva 2013). The basis of wealth has been the exploitation of existing state capital accumulation and its shift into the private sector. The share of entrepreneurial middle class incomes and micro-entrepreneurs is well under a fifth of all capital income (Simai 2006, 16).

A second element of the shift was the development of a clear, more extensive and better rewarded managerial hierarchy in parts of the economy. This too is evident within all sectors. On one account, the share of managerial personal in the highest decile nearly doubled as the transition got underway (Sobeleva 2013). The third element — at the bottom — was the labour market marginalisation of some parts of the population with the rise of unemployment and various forms of part time and temporary work, the rise of a degree of self employment with many engaged in relatively primitive forms of production and trade as part of the own or their family survival strategy. At the bottom the problem was then made worse by the reduction of the social security net of the old regime. This was especially clear in the 1990s. With the recovery of the 2000s, there was some restoration of benefits, pensions and the like which did help some of those at the bottom without creating any great redistribution to reduce overall inequality levels.

But there was also a degree of differentiation within the economy that compounds the difficulties of tracking inequality. Two aspects are especially important here. The first is structural/sector change. The transition created new opportunities for the fuel sector and some parts of mining as well as new services linked to finance and the global economy. On the other hand, it put traditional heavy industry, light industry and agriculture under enormous pressure. Those in the more dynamic sectors benefited or did not lose as much from the transition, whereas those in the less dynamic sectors suffered considerably. This produced a significant shift in the pattern of inter-industry wage differentials. This is one of the reasons why Russia developed a huge number of working poor who suffered for being in the wrong industry in the wrong place at the wrong time (Sobeleva 2013). Most of the poor live in families in which at least one member is working. Around one third of Russian workers, even in 2007–2008, received less than two thirds of the median earnings and 12% less than one third (Simai 2006, 18).

The second element that caused significant movement within the widening inequality was the changing position of different groups of white collar workers and professionals in the state sector. While white collar workers and professionals in the private sector (especially in the bigger cities and close to the
globalising elements of the Russian economy) improved their relative position, the mass of teachers, doctors, nurses, many engineers and many minor civil servants saw their situation progressively worsen in the 1990s and although there was improvement in the 2000s many of these groups have still been relative losers. This means that the normal linear gradients that we associate with advanced western economies are only partially present in Russia and this confuses analysis in the middle.¹ At one point, for example, nearly 30% of those with university degrees and over 40% of those with non university tertiary education were earning less than the subsistence wage (Sobeleva 2013). But even within the state sector some were able to prosper. Those in public administration close to the levers of power and influence were able to improve their positions to such an extent that becoming part of the “state service” became a sought after career opportunity. These cross currents do not negate the argument about social gradients but show that using big aggregates can sometimes disguise contrasting experiences.

The Aggregate Mortality Pattern

Figure 5 shows the changing level of life expectancy in Russia and the crude and infant death rates for the last two decades. The infant mortality rate initially rose but then fell. It is the fate of working age adults that explains the negative trends in Russia and the increase and then slow fall in the death rate (Bobak et al. 1998, 2003; Brainerd and Cutler 2005; Tomkins, Shkolnikov, et al. 2007; Denisova 2010).

In 2005, Eberstadt described the increase in the death rate in Russia as “utterly breathtaking” (2005, 12). The pattern can be seen in Figure 5 but it is better tracked with age standardised mortality data. This shows four phases:

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¹ The citation for this footnote is not provided in the document.
(4) 2002 to date slow improvement. Age SDR falling.

But how many additional deaths did this produce? Kubischchina and Dolmatova suggest that if we project forward the 1991 death rates for those of working age then the cumulative excess working age mortality by 2008 amounted to 3.4 million (Kubischchina and Dolmatova 2011). (It would be greater if we assume that a normal pattern would have been for the death rate to continue to decline.) We are looking therefore at a huge problem. It is also clear from Figure 5 that the greatest problem is for adult men. A Russian male now has a ±40% probability of dying between the ages of 15 and 60 — much higher than in most other countries in the world. (A Russian woman has a ±15% chance of dying between 15 and 60 — much less than the male but still high in comparative terms, especially given the availability of medical care in pregnancy). A similar pattern is also evident in terms of ill health and disability with a much higher likelihood of both Russian men and women who survive having long-term disabilities.

We now have a very good understanding of this gender variation and also the variation in mortality between regions and town and country (Men et al. 2003). We also have a high degree of confidence about the immediate causes of adult death. Adult Russians and especially Russian males have died and are dying in large numbers because of ischemic heart disease and cerebro-vascular diseases — crudely heart attacks and strokes (and some other degenerative diseases) and deaths from external causes including violence — poisonings (alcoholic), accidents, suicide, murder, etc. Infectious diseases have had a minor

![Figure 6. Major immediate risk factors with negative health/mortality effects](image-url)
effect on the overall level and although cancer rates in Russia are high they
cannot explain shorter term variations. ²

Russia’s rates of cardiovascular disease and mortality are several times
those found in most other countries in the world and these are the biggest
cause of death. (Dennis et al. 1993) So far as violent death is concerned, Rus-
sia too is “practically in a category of its own” (Eberstadt 2005, 12). Deaths
from external causes became the second largest cause of male deaths in 1994
and the third for females, although the gender gap remains large. At the start
of the transition the official suicide rate jumped to a peak in 1994 when for
males it was 76.9 per 100,000. It has since fallen but remains high in compara-
tive terms. The murder rate also rose sharply so that by the start of the new
century Russia was running second only to countries like Columbia and South
Africa. Spousal murder rates are high but there appears to have been a sharper
rise in non-family murders, especially amongst the young. The average age of
both victims and perpetrators fell sharply (Chervyakov et al. 2002). Traffic
accidents run at a much higher level than many countries with an obvious con-
nection to alcohol consumption. For reasons explored elsewhere accidents and
disease at work are under-recorded in the official statistics. An alternative ILO
estimate suggests that workplace deaths may run at around 6000 a year with
as many as 130,000 disease related work deaths (Haynes and Husan 2006).

But identifying the immediate cause of death is only the starting point.
Social epidemiology involves a succession of searches for “the cause of the
cause”. Figure 6 shows some of the first determinants of the immediate cause
of death. These have been widely discussed. For example, there is clearly a
close connection to patterns of alcohol consumption both directly in terms of
alcohol poisoning and indirectly in terms of the link to suicide, murder,
accidents, etc. ³ (Chenet et al. 1998; Nicholson et al. 2005a; Pridemore 2002;
Stickley et al. 2007, 2009; Zaidze et al. 2009). But the analysis then moves to
the question of what causes this cause and so on?

The most obvious explanation is that the process of causation is rooted in
the transition as set out in Figure 6. The only way that this conclusion can be
avoided is by positing individual failure as an explanation or locating the expla-
nation in something detached from the socio-economic situation. In analysing
alcohol consumption, for example, few “Russianists” have resisted referring to
cultural tradition but this is rarely well specified and in any case culture is not
a very good explanation for a trend shift.

At the most general level few would dispute the transition linkage and in
the epidemiological literature a focus on this is a commonplace. But in the
transition literature this focus still poses a considerable challenge. In discuss-
ing overall “progress” bringing several million excess deaths to the centre of
attention is clearly problematic. It also becomes a problem when more
detailed issues are discussed. Consider, for example, how little discussion
there is of the social impact of the loss of savings, painfully accumulated
under the Soviet regime, something which is often pictured at the macro-
economic level as the elimination of a monetary overhang. Similarly, the
weakening of collective responses and collective organisations, sometimes seen as marginal or even beneficial in terms of "labour market competitiveness", takes on a different aspect if collective organisation and action have a positive health effect (Javeline 2003a, 2003b). Most challenging of all for the conventional transitology (and those who have advised on the transition) are the suggestions of very direct linkages to between specific transition polices and mortality outcomes. The linkage between unemployment and longer term mortality and other negative outcomes is too well established to deny (see Haynes 2009 for a general review and Perlman and Bobak 2009 on Russia). But there is an ongoing and sharp debate about the issue of economic reform, crises and mortality (for example, Stuckler, Basu, et al. 2009) and especially attempts to make a direct connection to privatisation (King and Stuckler 2007; King et al. 2009; Stuckler, King, et al. 2009; The Economist 2009; Gerry, Mickiewicz, and Nilososki 2010; Sachs 2009a, 2009b through to Earle and Gehlbach 2011; Gentile 2012; Gerry 2012; Stuckler et al. 2012).

But our aim in this paper is to suggest that these arguments can be given an even sharper focus still if we go beyond aggregate analysis for the "adult population" and look at how the weight of the mortality crisis has fallen on some social groups rather than others.

Social Inequalities in Death in Russia Since 1989

Some momentum is now developing in the analysis of mortality gradients in Russia largely as a result of the work of western investigators or western investigators working with local Russian ones. To analyse the social pattern of mortality, we need to measure deaths and their causes (or sometimes illness [morbidity] and self rated health as these, apart from being of interest in their own right, are also predictors of future mortality). The pattern of deaths then needs to be related to the social characteristics of those dying and their relative weight in the population. There are problems with recording and categorising deaths, their causes and the social backgrounds of the deceased so researchers have to deal with what is called possible numerator and denominator bias. This is accentuated in the case of Russia because, from 1999, the social status of the deceased was again not recorded on death certificates — a decision which is in itself telling about the priority with which the issue of mortality inequality is viewed by the state.

The consequence of this is that although we have some national data for the 1990s much of the discussion is based on samples.4 Such studies tend to understate social inequalities because it is harder to keep track of those at the bottom and reporting bias is not equally distributed. Both these factors would lead to an understatement of the problem rather than an overstatement. What information then do we have?

One way of approaching the problem is to use educational level as a crude proxy of social position. We have seen that this can be used for the late Soviet
period and analysis has been carried thorough to the end of the 1990s. The population is divided into three groups – highly educated (university level), medium (upper secondary) and low (secondary and incomplete) (Shkolnikov and Andreev 2000). These categories are huge and that, in terms of the processes that we talked of earlier, they may lump together groups moving in different directions in the high and middle categories, but even with these qualifications the gaps revealed are striking.

Plavinsky, Plavinskaya, and Klimov (2003) tracked a large increase in mortality differentials in Saint Petersburg for two male cohorts followed up for ten years, one from the late 1970s and the other in the 1990s. Whereas, mortality rates declined in the top groups for all the main causes of death, the jumps in the number of cardiovascular and violent deaths for that other two groups were dramatic and especially so for those “with less than high school education”. This is consistent with other analyses from the late Soviet period (Shkolnikov, Leon, et al. 1998; Shkolnikov et al. 2003). Table 2 shows the changing life expectancies at age 30 from another study using data from 1988/1989 and 1998/1999 for both males and females. The increase in life expectancy of the top group is again evident as is the significant deterioration of the bottom groups (Shkolnikov et al. 2006).

Murphy et al. (2006) also replicated this for approximately the same period using a convenience sample. By 2001, the life expectancy gap between the top and the bottom by educational status was 11 years for men and 8–9 years for women. Perlman and Bobak (2008) also found widening and large educational gaps in mortality using data from the Russian Longitudinal Monitoring Survey.

The problem is now to go beyond education as a crude social marker. Fortunately, a significant start has been made by Bessudnov, McKee, and Stuckler (2012) (see also Nazarova 2000). They also use RLMS data over a longer period (1994–2006) to explore the link between occupational class (based on the European Socio-Economic Classification), status and male mortality in the 21–70 age group. Unlike the three group educational division, this gives them a 10 group “class” analysis. At the extremes, they find that the standardised age mortality ratio is nearly three times more for the middle groups compared to the top and six times worse for the group that had fallen out of the labour force (disabled and permanently unemployed). The life expectancy aged 21 for the group fallen out of the labour force was only 25 years; service and lower

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<td>Total</td>
<td>37.86</td>
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<td>43.36</td>
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<td>Medium</td>
<td>38.78</td>
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<td>Low</td>
<td>35.52</td>
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Source: Shkolnikov et al. 2006
sales workers might hope for 38 years; the lower skilled and skilled manual workers for 40 additional years; the higher professional 48 years and managers 50 years. The lack of a significant difference between skilled workers suggests that if the unskilled were hit hard by material losses, the more skilled workers were hit hard by the reduction in status and the disappointment of any hopes for change. Another interesting quirk in this data which is not discussed is the heavy mortality of lower supervisors. This may be an artefact of the data but this has also been noticed elsewhere. Muntaner et al. (2003) have argued, following on from the analysis of Eric Ohlin Wright, that lower supervisory grades are caught in a trap — neither being “one of us” (i.e. the groups below them) or “one of them” (the groups above them), and therefore carry a very damaging psycho-social burden as a buffer group with a contradictory class location.

In addition to the analysis of mortality itself, there have also been related attempts to link some of the immediate risk factors noted in Figure 6 to the inequalities in the socio-economic determinants of susceptibility. We have suggested that inequality is both multi-dimensional and cumulative over time. The penalties of inequality can be tracked in terms of inequalities at birth — with for example significant variations shown in birth weight using educational level again as a crude indicator of social difference (see, for example, Grjibovski et al. 2003) through the life course to eventual death (Nicholson et al. 2005b). In respect of heart disease, for example,

If the accumulated experience of economic hardship over the life course can increase heart disease risk, this is certainly relevant for Russia. The unusually large fluctuations and steep rise in cardio-vascular mortality in Russia over the past twenty years suggest that we are looking at both a vulnerable population and a strong immediate set of risk factors. (Malyutina et al. 2004; Vågerö and Kisliatsyna 2005, 422)

In thinking about how disadvantage accumulates, we also need to have regard to the possibility of inter and intra generational social mobility. Despite the turnover at the top and some “rags to riches” stories social mobility (which was declining before the transition began) seems also to have diminished (Gerber and Hout 2004). Billingsley (2012) has again used RLMS data, this time for the years 1994–2010, to analyse the impact of changing household income and subjective social ranking of men aged 18–65 on mortality. The longer time period allows an incorporation of both the down phase of the 1990s and the improvement phase of the 2000s. Overall, whereas upward intra-generational mobility lowered the mortality rate by 17%, subjective downward mobility increased it by 24% and financial downward mobility increased it by 24%.

These mortality effects arise because of the ways in which inequalities impact directly on both the material position of a person and their sense of their self and their health behaviour. The most obvious possible linkage is material. Many accounts dismiss factors like material impoverishment on the grounds that consumption levels, although falling, did not fall to such an
extent as to suggest serious direct health effects. But this is too crude. We cannot tell a great deal about material need on the basis of an average analysis, especially if mortality is more concentrated amongst those who live "below average".

Vågerö and Kislitsyna (2005) looked at poverty in their study of Taganrog in 1998 and were able to show links between the poverty of the poorest fifth and self-reported symptoms. In explaining this, they looked both at material problems and psychological changes — mental health (sleep loss, anxiety and depression); family changes; and behavioural changes — especially alcohol. These were clearly related but netting out the non-material factors still left a significant direct role for material need. Perlman and Bobak (2009) have similarly shown that unstable employment has a significant impact on mortality. Manual workers and the less educated have been much worse affected here whether in terms of unstable employment, compulsory leave, wage arrears or payment in kind. To show this, they use both the cruder educational and a five fold educational scale.

As gaps have widened and pressure been felt more below, so stress indicators have also risen unequally across social groups. Stress rises if a person’s sense of themselves and their role within, and ability to support, their family is undermined. Job losses, the threat of job losses, income loss, positional loss as well as feelings of helplessness in the face of wider social problems all feed into this. One widely used indicator of this is self rated health. Here again the evidence of widening social divisions is clear and this can then help to predict subsequent mortality patterns. Self rated health has again been analysed using education but also with more direct regard to occupational differences (Perlman and Bobak 2008b; Rusinova, Panova, and Safroniv 2008; Denisova 2010).

The issue of negative health behaviours in Russia — from diet to drinking, smoking and violence has attracted huge attention. The forms of coping available to people are socially determined, (for the debate on this in the UK see Marmot 2003). The critical role of alcohol in deaths reflects the high level of alcohol consumption; the dominance of spirits with vodka around 75% of the 15 litres of alcohol consumed per capita; the tendency to drink privately and semi privately and the tendency to binge drink (Nicholson et al. 2005b; Stickley et al. 2007). On the supply side, we can note that in the transition, the availability of alcohol increased massively as sales were deregulated with the 1992 abandonment of the state alcohol monopoly; international companies joined local suppliers; advertising grew; and relative prices fell. But this makes alcohol more available to all. On the demand side chronic stress and uncertainty and dislocation have also been used to explain why alcohol has been used as a form of stress control (Perlman and Bobak 2008a). Not everybody uses alcohol “to drown their sorrows” or to the same dangerous extent. What needs to be investigated, therefore, is also the social pattern of recourse to harmful drinking.

Tomkins, Saburova et al. (2007) attempted a slightly more rigorous analysis of alcohol consumption and the socio-economic characteristics of drinkers based on an analysis of data from Izhevsk. They found, using proxy informants,
high levels of harmful alcohol consumption with 21% consuming spirits on a daily basis; 12.5% suffering from frequent hangovers; 10.6% going on Russian "benders" (zapoi) – drinking sessions extending to two days or more; and 7.2% drinking alcohol surrogates. But they were then able to show significant (albeit varying) links to employment status with such behaviour especially prevalent amongst those unemployed for non-health reasons; those lacking of possessions and those with a lower education level. The very high levels of surrogate consumption (despite the relatively low price of alcohol) also possibly reflected the culmination of a downward cycle.\textsuperscript{5}

The same applies no less to violence. For all the emphasis on high profile murders for example, the everyday pattern of violent death is more mundane. Writing of the UK, Danny Dorling makes a point that can no less be applied to Russia,

There is no natural level of murder ... for murder rates to rise in particular places ... people have to be made to feel worthless, Then there are more fights, more brawls, more scuffles, more bottles and more knives and more young men die. (Quoted Wilkinson and Pickett 2009, 142)

Finally, we should also note the relationship between inequality and health care. It is important to stress again that the major issue is not health care but ill health in the first place but unequal access to health care will reduce possible recovery. The fall in military expenditure enabled an increase in the share of GDP going to health and education but levels of expenditure are still relatively low. One estimate is that health care deficiencies (compared to what is available in comparator countries) may account for up to one fifth of mortality differences (Andreev, McKee et al. 2003). But such a health care deficit is again socially structured. Financial, informational and social means to access health care vary socially (Rusinova and Brown 2003; Dubikaytis et al. 2010). Treating the major causes of ill health in Russia, once they occur, is expensive. The World Bank has estimated that four conditions, circulatory disorders, respiratory disease, digestive disease and external causes account for more than 50% of health care spending in Russia. But not only does this impose high costs on the system, it imposes high costs on those who suffer from the problems. Health care reform, however, has pushed marketization and commercialization, which are known to structure access along class lines (Mackintosh and Sergey 2006). There is ethnographic evidence that medical professionals have quickly accommodated to this despite higher aspirations and public health concerns (Rivkin-Fish 2005). Indeed the "inverse care law" where resources follow means and are inversely allocated to need seems to be apparent in Russia too.
Conclusions: Unequal in Life, Unequal in Death?

This paper has argued that the continuing mortality crisis in Russia should be at the centre of attention of analysis of that society. To this end, it has reviewed the socio-epidemiological literature to show the depth and complexity of the work being done in a field to which social scientists and area studies specialists pay insufficient attention. It has also gone beyond the conventional accounts by stressing the centrality of social inequalities in the mortality crisis. There is not so much a “general crisis” but one rooted in the social divisions of Russian society. In 1991, Russia was already a divided society but these divisions have grown enormously so that the mortality crisis is really that of the middle and the bottom. Those at the top suffer a higher comparative mortality than might perhaps exist in a more equal society but their absolute and relative position within Russia improved. The approach drawn on here rejects both individualistic explanations and accounts which rely on disembodied factors like “culture” in favour of a stress on socio-economic and socio-psychological determinants. The mortality crisis and its inequalities is not marginal to or at a tangent from the transition but arises directly from the way that it has partly re-enforced and partly recast the socio-economic differences within Russia.

To take this argument further, three things are necessary, the analysis of social gradients in Russia is only just beginning and although the evidence for them is clear, we need more detailed and refined studies. We also need to continue to refine the analysis of causes to see the ways in which both life and death are shaped by material and non-material factors including an intuitive awareness of inequality and injustice. But there is a third issue too. Observant readers will have noticed that we have more often than not referred to social inequalities rather than “class inequalities”. This is not because we think that class is unimportant but because the movement from social inequality to class takes us to two intersecting debates that need to be readdressed in terms of the social causation of disease and death. Much of the socio-epidemiological approach focuses on social inequalities and relative and absolute deprivation at the expense of arguments about wider class relationships. This “class denial” can be impoverishing in the sense that it does not explain how these divisions arise in the first place and it neglects the political processes by which social inequalities might be overcome. As Muntaner and Lynch(1999) put it in an earlier sympathetic critique of Wilkinson’s work, “class-based explanations are preferable because they expose the social mechanisms of exploitation on a way that income distribution models cannot”. In these terms, we should prefer Marx to Weber and Durkheim. A full account therefore would have to draw more on this approach and to operationalize it as some have begun to attempt to do in the West (Muntaner et al. 2003). But “class denial” has an additional aspect in the Russian context. Everyone recognises that Russia today is a divided society. So was the USSR. But there was and is a reluctance to see this in terms of classical class terms. Even today on the left, some argue that
contemporary Russia is not a full class society in the traditional sense. This paper has shown the scale of the social divisions and their impact on mortality. The empirical challenge is to track them further; the theoretical challenge is to explore the extent to which here too they also may be related "to the social mechanisms of exploitation".

Notes

1. Survey analysis shows that in the midst of the transition household income and expenditure did not correlate well with education (Perlman and Bobak 2008).
2. The key cancer remains lung cancer. In Russia, smoking levels are high and during the transition the tobacco market was opened up with western firms making large investments, widespread lifestyle marketing, etc., and falling relative cigarette prices. The long-term prediction is therefore for cancer deaths to remain at a high level. Men smoke much more than women but female smoking rates in Russia have risen while, more recently, there has been some slight fall in male rates which are still over 60%.
3. Alcohol poisoning is normally defined as drinking half a litre of 40% alcohol without food in less than an hour.
4. There several types of sample study. A cross-sectional study looks at a group at one point in time. A prospective cohort identifies a group at an earlier point and traces its subsequent history. A key example for the Soviet/Russia era is the LIPID cardiovascular study. A retrospective sample takes an existing group and works backwards asking about past deaths and illness. Given the problems with accessing Russian data many of the studies noted here use the Russian Longitudinal Monitoring Survey started in 1992.
5. Alcohol surrogates may be classified as primarily technical-industrial, medicinal and cosmetic.

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