Part One
Theories
Bridging the Science–Policy and Policy–Implementation Gaps

A Crucial Challenge

Lennart Levi

“More, and better jobs.” This is a cornerstone of the European Union’s strategy for sustainable development for its 508 million inhabitants, and rightly so. But my own 60 years of active research and teaching and experience from my four years in the Swedish Parliament in this area, through countless conferences, speeches, publications, and discussions with fellow researchers, parliamentarians and cabinet ministers, have taught me that there is a rather long and deep gap between scientific knowledge on the one hand, and its translation into political decisions on the other. And between such policies and their successful implementation (cf. Levi, 2016).

These “science–policy and policy–implementation gaps” refer to the unnecessary delays and difficulties in turning scientific knowledge into policy and decision-making, and equally important, in implementing the decisions (and, eventually, in evaluating them).

It is widely accepted that a broad range of physical, biological, and chemical exposures can damage health and well-being – for example, bacteria, viruses, ionizing radiation, short asbestos fibers, lead, mercury, and organic solvents. It is harder but fully possible to demonstrate, and even find acceptance for, the notion that psychosocial influences brought about by social and economic conditions and conveyed by processes within the central nervous system or human behavior can have corresponding effects (Karasek and Theorell, 1990; Kompier and Levi, 1994; Levi, 1971; 1972; 1979; 1981; 2000a; 2000b; Levi and Andersson, 1974; Shimomitsu, 2000; Black, 2008; Government Office for Science, 2008).

Every day, everywhere, decisions are made concerning matters big and small, with direct or indirect effects on health and well-being. The decisions, or their absence, may concern...
“diagnostic” procedures and/or various “therapeutic,” “preventive,” “promotive,” and “palliative” ones. A universal challenge is to conduct them in a humane, sustainable, integrated and evidence-based manner, in government as well as in management, on all levels. This can be very far from being the case, as illustrated by the following – historic – examples.

**Famous Examples of Costly Gaps**

Nearly two and a half millennia ago, Socrates came back from army service to report to his Greek countrymen that in one respect the Thracians were ahead of Greek civilization: They knew that the body could not be cured without the mind. “This,” he continued, “is the reason why the cure of many diseases is unknown to the physicians of Hellas, because they are ignorant of the whole” (quoted by Dunbar, 1954, p. 3). About two millennia later Paracelsus emphasized that “true medicine only arises from the creative knowledge of the last and deepest powers of the whole universe” (1954, p. 3). Perhaps these assertions represent an early, intuitive understanding of what we today refer to as ecological, cybernetic, and systems approaches, and the idea of “health in all policies.”

One of the well-documented examples of a very long and winding way to bridge a science–policy gap is given by Baron (2009) in his fascinating discussion of sailors’ scurvy and options for its successful treatment and prevention, primarily by citrus fruits. For centuries, many sailors, some ships’ doctors but few university-trained physicians cured and prevented scurvy with oranges and lemons. In 1753, James Lind described his prospective controlled therapeutic trial of 1747. Although not entirely reliable, his report stimulated Thomas Trotter and Gilbert Blane to persuade the British Navy in 1793 to abolish scurvy by compulsory lemon juice, only for it to reappear after 1860, when lime juice was substituted for lemon juice. This lack of awareness caused the unnecessary deaths of countless sailors during the centuries when long sea travels became both possible and common.

Additional examples are provided by the controversies between scientists (e.g., Galileo, Darwin) and the clergy, where the discoveries of the former were deemed heretical and were forbidden and even punished by the latter.

The very considerable difficulties in implementing existing evidence, even in more recent times, are provided by two examples (Schmitt, 1988). In 1929, Werner Forssmann, 25 years old, successfully applied heart catheterization – on himself. Encouraged by his success, he approached a world-famous surgeon, Professor Ferdinand Sauerbruch, proposing expanded research based on his discovery. To which the professor responded: “With such tricks you qualify yourself for a circus – not for a decent clinic.” But Forssmann persisted and became one of the founders of modern cardiovascular diagnostics. He received the Nobel Prize in Physiology or Medicine in 1956.

In 1892, Carl Ludwig Schleich, 33 years old, presented his revolutionary discovery of local anesthesia at a surgical congress in Berlin, arguing: “So that I, with this harmless means at hand, for ideological, moral and legal reasons, can replace dangerous general anesthesia, whenever the former is sufficient.” His modest intervention triggered a storm of indignation from his audience. The chairman of his session turned to the audience: “Is anyone here convinced of the truth of what has just been hurled at us? If so, please raise your hand.” No one reacted. Many years followed before Schleich’s discovery was confirmed, appreciated – and implemented worldwide, to the great benefit of countless patients.
Obstacles

During the past century and the present one, we have relin¬quished as an ideal the mastery of the whole realm of human knowledge by one person, and replaced it by our training as specialists. This training has tended to keep each of us so closely limited by our own field that we have remained ignorant even of the fundamental principles in the fields outside our own, and of the total complex picture.

Superspecialization and fragmentation are becoming increasingly problematic against a background of ongoing rapid changes in public health conditions worldwide. Many of the major killers are now chronic, degenerative diseases. They are highly complex in their etiology, pathogenesis, manifestations, and effects. And they are not easily accessible to purely medical interventions (cf. Levi, 2009). At the same time, it seems likely that much of the morbidity and premature mortality is preventable. This, however, requires action beyond the health and health-care sector and may involve the empowerment of the grassroots. Sectors outside the traditional health and health-care field, but still of major importance for our health and well-being, include education, employment, work environment, economic resources, housing, transportation and communication, leisure and recreation, social relations, political resources, safety and security, and equality (“health in all policies”).

What Was Known Regarding “Stress and Health” Half a Century Ago?

The author of the present chapter started working as a researcher in this field some 60 years ago. Already at that time, in the mid-1950s, there was much evidence for the health effects of social structures and processes (cf. Selye, 1950; Dunbar, 1954; Wolf and Goodell, 1968; Henry and Stephens, 1977). Some 15 years later, in order to summarize and promote implementation of what was known, I organized a series of five international, interdisciplinary one-week symposia for the World Health Organization and the University of Uppsala under the joint title “Society, Stress and Disease,” bringing together leading scientists and some policy makers from all over the world. The focus was on social determinants of human health and disease, from the cradle to the grave. The symposia proceedings were published in five volumes (Levi, 1971; 1975; 1978; 1981; 1987), but also as five popular booklets (in Swedish), and further disseminated through daily, well-attended press conferences.

Subsequently, such issues were discussed, again, by the 27th World Health Assembly in Geneva in 1974, and by the European Union in Brussels in 1993 and in Helsinki in 2008 (European Pact for Mental Health and Well-Being, see below).

Invited by David A. Hamburg, President of the Institute of Medicine of the US National Academy of Sciences, I further prepared a chapter on “Psychosocial factors in preventive medicine” for the US Surgeon General’s Report on Health Promotion and Disease Prevention, Healthy People (see Levi, 1979). Again at David A. Hamburg’s invitation, Bertil Gardell, Marianne Frankenhaeuser and I prepared a chapter on “Work stress related to social structures and processes,” for the volume Stress and Human Health (Elliot and Eisdorfer, 1982).

More than three decades ago, and following a series of preparatory meetings, the World Health Organization (WHO) and the International Labor Office (ILO) invited their joint ILO/WHO Committee on Occupational Health to prepare a report on “Identification and
control of adverse psychosocial factors at work,” meeting in Geneva on September 18–24, 1984. Dr. Alexander Cohen, Chief, Applied Psychology and Ergonomics Branch of the US National Institute for Occupational Safety and Health, was Chair and I was Vice-Chair of a group of 15 international experts, plus in-house experts from both organizations. Rapporteurs were Dr. Raija Kalimo of Finland and Dr. Noel Pardon of France. We all worked very hard for one full week, produced a report, signed it very solemnly, and submitted it to the Governing Body of the ILO and the Executive Board of the WHO. Both organizations endorsed the text, made it a joint, official document of both United Nations organizations, and distributed it to all member states around the world (Joint ILO/WHO Committee on Occupational Health, 1986).

Now, in 2016, we find that work-related stress, its causes and consequences, are still very common in the 28 European Union member states. Around half of EU workers consider stress to be common in their workplace, and it contributes to around half of all lost working days. Psychosocial risks arise from poor work design, organization and management, as well as a poor social context for work, and they may result in negative psychological, physical and social outcomes, such as work-related stress, burnout, depression, and cardiovascular and skeletal muscular morbidity. Common stressors include having excessive workloads, conflicting demands, job insecurity, psychological and sexual harassment, and low reward for invested effort (Eurofound and European Agency for Safety and Health at Work, 2014).

True, such a “causality” may imply a range of relationships. It can mean that a certain exposure is necessary—enough for a certain disease to develop (such as the exposure to lead causing lead poisoning). An exposure may also be sufficient—no additional influences or vulnerabilities are necessary. Or exposure may be contributory and neither necessary nor sufficient. The question also remains about whether an exposure really causes a specific disease or if it “just” aggravates it, accelerates its course, or triggers its symptoms. If we keep all these options in mind, it becomes clear that work-related exposures may very often be a prerequisite for the development of specific occupational diseases, as a sine qua non. On the other hand, it becomes equally clear that they may contribute to a wide variety of morbidity and mortality, a much wider spectrum than is usually realized.

Prevention

How, then, can such processes be prevented, and health and well-being promoted, at work and elsewhere? This could and should be achieved in accordance with principles spelled out in the EU Framework Directive on Safety and Health at Work (89/391/EEC), according to which employers have a “duty to ensure the safety and health of workers in every aspect related to the work” (emphasis added), on the basis of the following general principles of prevention:

- avoiding risks;
- evaluating the risks which cannot be avoided;
- combating the risks at source;
- adapting the work to the individual.

To implement this, strategies need to address the root causes (primary prevention), to reduce their effects on health (secondary prevention), and also to treat the resulting ill-health (tertiary prevention) (Quick, Quick, Nelson, and Hurrell, 1997). Accordingly, Article 152 of the
European Treaty of Amsterdam states that “a high level of human health protection shall be ensured in the definition and implementation of all Community policies and activities” (emphasis added).

As pointed out in the European Commission’s Guidance on Work-Related Stress (Levi, 2000a), work-related disease prevention programs can aim at a variety of targets and be based on various philosophies. If the conditions at work – the “shoe” – do not “fit” the worker – the “foot” – one approach may be to urge the “shoe factories” to manufacture a wider variety of shoes in different sizes and configurations to fit every, or almost every, conceivable foot. Whenever possible, such instructions to the “shoe factories” should be evidence-based – in other words, based on measurements of a representative, random sample of all feet, all shoes, and of the existing fit. This is a first – diagnostic – step in a primary prevention approach on a population level.

Another approach, again based on primary prevention, aims at finding the right “shoe” for each individual “foot” – promoting “the right person in the right place.”

A third, complementary approach is that the owner of each foot should have access to, and be encouraged to use, a “lasting device” to adjust available shoes to fit his or her feet. The emphasis here is on empowerment of active, responsible workers, able, willing, and encouraged to make adjustments to their working conditions, to improve the work–worker fit; and, of course, on a working life that allows such adjustments.

A fourth, very important approach can address the inequity of various feet in various shoes (cf. Marmot, 2004; 2015) – an impressive example of a successful bridging of the gap between knowledge and policy but unfortunately somewhat less so between policy and implementation. Marmot’s research has been devoted to establishing the chain of disease causation from the social environment, through psychosocial influences, biological and behavioral pathways, to morbidity and mortality in a variety of physical and mental diseases. He had almost unbelievable success, convincing the leadership of the United Kingdom, the European Union and the WHO of the need to declare their support for his ideas and actual findings. Initiated by the WHO, a great number of heads of government, ministers and government representatives came together in Rio de Janeiro in 2011 and expressed – in the Rio Political Declaration on Social Determinants of Health – their determination to achieve social and health equity through action on social determinants of health and well-being by a comprehensive intersectoral approach (World Conference on Social Determinants of Health, 2011). The following year, the Sixty-Fifth World Health Assembly endorsed the Declaration and its many elaborate recommendations (WHO, 2012), predicting increased collaboration for this end with the United Nations and partner agencies and more support for member states to adopt an inclusive “health-for-all” approach.

Much Cry and Little Wool?

So far, in the EU and elsewhere, there is much talk about primary prevention and occupational health promotion, while most work-stress prevention approaches remain oriented toward secondary or tertiary prevention (Malzon and Lindsay, 1992). Most of the latter approaches involve, for example, the provision of on-site fitness facilities, smoking cessation programs, dietary control, relaxation and exercise classes, health screening, psychological counseling, or sometimes some combination of these packaged as a multimodular program available to
employees (Cartwright, Cooper, and Murphy, 1995; Kompier and Cooper, 1999). This “band-aid” approach corresponds to just offering “corn plasters” to the owners of sore feet – or
painkillers, tranquilizers, or psychotherapy to deal with the outcomes of the lack of fit between
the worker and his or her conditions of work (cf. Levi, 2009).

This in no way implies a criticism against secondary and tertiary prevention approaches,
particularly not as long as the latter constitute a part of a larger package that also includes
primary prevention.

An obvious difficulty with primary prevention lies in the fact that “one size does not fit
all.” It follows that we need a multifaceted approach to stress prevention and to the promotion
of healthy working in healthy companies. An attempt to design such an approach has been
made by the US National Institute for Occupational Safety and Health (NIOSH) in its National
Strategy for the Prevention of Work-Related Psychological Disorders (Sauter, Murphy, and
Hurrell, 1990). It addresses:

- **Workload and work pace** Avoiding both under- and overload, allowing recovery from
demanding tasks and increasing control by workers over various work characteristics;
- **Work schedule** Designing schedules to be compatible with demands and responsibilities
outside the job and addressing flextime, job sharing, and rotating shifts;
- **Job future** Avoiding ambiguity in opportunities for promotion and career or skill develop-
ment and in matters pertaining to job security;
- **Social environment** Providing opportunities for employee interaction and support; and
- **Job content** Designing job tasks to have meaning, to provide stimulation, and to provide
an opportunity to use existing skills and develop new ones.

All this was published 25 years ago. It was followed up by three additional publications
from the US Department of Health and Human Services: *Stress … at Work* (NIOSH, 1999),
*The Changing Organization of Work* (NIOSH, 2002), and *Worker Health Chartbook*
(NIOSH, 2004). These were important texts but had only rather limited impact on the desired
outcomes.

A key question, of course, concerns what is, indeed, preventable in terms of exposures and
inequities in exposures to occupational stressors. Many tasks are intrinsically stressful but
still need to be performed for the public good – for example, night work in an emergency
ward. It can also be debated how much of the reaction to these stressors depends on excessive
occupational demands and how much on individual vulnerabilities of the worker. In practice,
however, there is an abundance of occupational exposure that the great majority of the labor
force would experience as noxious and pathogenic. It is in the interest of all parties on the
labor market to prevent, as far as possible, workers from being exposed to them. If, for one
reason or another, this turns out not to be feasible, a complementary approach is to try to reduce
exposure time or to buffer or otherwise decrease the noxious effects (cf. Levi, 2009).

Secondary or tertiary prevention can also involve improving the worker’s *coping* repertoire.
If “deep and troubled waters” cannot be eliminated, the attempt is to teach people to “swim” –
that is, to cope. Coping is a cognitive and behavioral process of mastering, tolerating, or reduc-
ing internal and external demands (Lazarus and Folkman, 1984). It can be problem focused
(trying to change the actual exposure), emotion focused (trying to modify the resulting emo-
tions), or both.
European Union Initiatives

In 1993, the Belgian EU Presidency, the European Commission, and the European Foundation for the Improvement of Living and Working Conditions jointly organized a high-level conference on “Stress at work – a call for action.” The conference highlighted the increasing impact of stress on the quality of working life, employees’ health, and company performance (Eurofound, 1993). Special attention was devoted to stress monitoring and prevention at company, national, and European level. Instruments and policies for better stress prevention were presented and discussed. Finally, a roundtable on “Future perspectives on stress at work in the European Community” brought together representatives from national governments, the European Commission, the Union of Industrial and Employers’ Confederations of Europe (UNICE, now BusinessEurope), the European Centre of Enterprises with Public Participation and of Enterprises of General Economic Interest (CEEP), the European Trade Union Confederation, and the European Foundation. Based on these deliberations, the European Commission created an ad hoc group to the Advisory Committee on Health and Safety on “Stress at work.” The ad hoc group proposed and the Advisory Committee (1997) endorsed the preparation by the Commission of a “Guidance” in this field.

This Guidance (Levi, 2000a) reemphasizes that according to the EU Framework Directive, employers have a “duty to ensure the safety and health of workers in every aspect related to the work” (emphasis added). In addition, the Directive makes clear the employers’ duty to develop “a coherent overall prevention policy.” The Commission’s Guidance provides a basis for such endeavors. Based on surveillance at individual workplaces and monitoring at national and regional levels, work-related stress should be prevented or counteracted by job redesign (e.g., by empowering the employees, and avoiding both over- and underload), by improving social support, and by providing reasonable reward for the effort invested by workers, as integral parts of the overall management system, also for small and medium-sized enterprises. And, of course, by adjusting occupational physical settings to the workers’ abilities, needs, and reasonable expectations – all in line with the requirements of the EU Framework Directive and Article 152 of the Treaty of Amsterdam.

Supporting actions should include not only research but also adjustments of curricula in business schools, in schools of technology, medicine and behavioral and social sciences, and in the training and retraining of labor inspectors, occupational health officers, managers and supervisors, in line with such goals. This overall approach was further endorsed in the Swedish EU Presidency conclusions (European Council of Ministers, 2001) according to which employment not only involves focusing on more jobs, but also on better jobs. Increased efforts should be made to promote a good working environment for all, including equal opportunities for those with disabilities, gender equality, good and flexible work organization permitting better reconciliation of working and personal life, lifelong learning, health and safety at work, employee involvement and diversity in working life.

In 2004, a Framework Agreement on Work-Related Stress was signed by the four central partners on the EU labor market, with the aim of preventing, eliminating or reducing problems of work-related stress in the 160 million European workers covered by this agreement (ETUC, 2004).

Again, there remains long and deep gaps between the knowledge summarized above, and corresponding policies, actual implementations, and desired outcomes (European Social Partners, 2008).
The European Pact

In 2008, a European Pact for Mental Health and Well-Being was endorsed by a large number of high-ranking European decision-makers and scientists. With regard to occupational health, the Pact states:

Employment is beneficial to physical and mental health. The mental health and well-being of the workforce is a key resource for productivity and innovation in the EU. The pace and nature of work is changing, leading to pressures on mental health and well-being. Action is needed to tackle the steady increase in work absenteeism and incapacity, and to utilize the unused potential for improving productivity that is linked to stress and mental disorders. The workplace plays a central role in the social inclusion of people with mental health problems.

Policy makers, social partners and further stakeholders are invited to take action on mental health at the workplace including the following:

- Improve work organisation, organisational cultures and leadership practices to promote mental well-being at work, including the reconciliation of work and family life;
- Implement mental health and well-being programmes with risk assessment and prevention programmes for situations that can cause adverse effects on the mental health of workers (stress, abusive behaviour such as violence or harassment at work, alcohol, drugs) and early intervention schemes at workplaces;
- Provide measures to support the recruitment, retention or rehabilitation and return to work of people with mental health problems or disorders. (European Union, 2008)

Norms for Optimal Living and Working Conditions

But what level-of-living and quality of life levels should we aim at? According to UNICEF (2007), “the true measure of a nation’s standing is how well it attends to its children – their health and safety, their material security, their education and socialization, and their sense of being loved, valued and included in the families and societies into which they are born.” In its Declaration on Social Justice for a Fair Globalization, the International Labour Organization demanded “full and productive employment, and decent work for all” (ILO, 2008). With a focus on the other end of the life cycle, in 2014 the EuroHealthNet website set out impressive formulations about “healthy ageing,” which means “optimizing opportunities for physical, social and mental health to enable older people to take an active part in society without discrimination, and to enjoy an independent and good quality of life. It means taking a holistic approach, taking into consideration the many different aspects of life which play a role.” (See now EuroHealthNet, 2016.) The latter are reflected in nine points:

- Social inclusion and participation
- Physical activity
- Diet and nutrition
- Access to services
- Education and lifelong learning
- New technologies
- Employment and volunteering
- Environment and accessibility
- Long-term care
Briefly, then, responsible international stakeholders have, indeed, tried to bridge the science–policy gap by proposing the general content and goals of health and welfare policies, from the cradle to the grave. And these proposals and guidelines are generally based on reasonably solid scientific evidence.

It follows that a comprehensive approach is necessary in dealing with complex social and/or occupational environmental challenges. Such approaches meet obstacles in the form of routines regarding the design of parliamentary motions restricting their scope, and the mandate of the parliamentary committee or ministry dealing with it. Many rules and regulations remain based on a silo mentality, tunnel vision or tribalism. A comprehensive approach to complex issues is necessary because we may need packages of coordinated actions to deal with complex problems, across sectors and disciplines.

Factors Affecting Health

This is admirably envisaged in the British Government’s summary of factors affecting health. It presents them in five categories:

1. The fixed factors, such as genes, sex and ageing
2. The social and economic ones, such as poverty, unemployment, and social exclusion
3. The environmental ones, such as air and water quality, housing, and the social environment
4. Next come lifestyle factors, such as physical activity, diet, smoking, alcohol and other “substances,” sexual behavior
5. Fifth come access to services, such as the National Health Service, social services, education, transport and leisure. (Department of Health, 1998)

As repeatedly emphasized above, complex societal problems usually require a systems approach, a “whole-of-government” approach, in the analysis of etiology, pathogenesis, diagnosis, therapy, and prevention. Tunnel vision and silo approaches are very costly – and very inefficient.

Foresight Projects in the United Kingdom

An impressive example of such systems approaches to the compilation of knowledge concerning complex problems is provided by the British Government’s “collection of foresight projects” (Government Office for Science, 2013). These projects are in-depth two-year studies which build a comprehensive evidence base on major issues, looking 20–80 years into the future. One of the crucially important projects concerned “Mental health and wellbeing: making the most of ourselves in the 21st century,” with a final report based on more than 80 studies, involving some 400 scientists (Government Office for Science, 2008). Its key messages include: “If we are to prosper and thrive in our changing society and in an increasingly interconnected and competitive world, both our mental and material resources will be vital. Encouraging and enabling everyone to realise their potential through their lives will be crucial for our future prosperity and wellbeing.”

An individual’s mental capital and mental wellbeing crucially affect their path through life. Moreover, they are vitally important for the healthy functioning of families, communities and society. Together, they fundamentally affect behaviour, social cohesion, social inclusion, and
our prosperity. A key conclusion of the Project is that mental capital and mental wellbeing are intimately linked: measures to address one will often affect the other. This argues for them to be considered together when developing policies and designing interventions.

The report comprises an impressive number of such proposals, covering the entire life span and taking into account a number of major challenges:

- The demographic age-shift;
- Changes in global economy and the world of work;
- The changing nature of UK society;
- Changing attitudes, new values and expectations of society;
- The changing nature of public services; and
- New science and technology.

Science and Government

One of the difficulties to overcome is that science and government usually have rather different priorities. Whereas science accepts probability, government usually expects certainty. Science is anticipatory, whereas government may think that time ends at the next election. Further, science is flexible and problem and discovery oriented, whereas government tends to be more rigid, and service and mission oriented. Failure and risk are accepted by science and often seen as intolerable by government. For science, innovation is prized, replication essential and the clientele diffuse, diverse, or not present, whereas for government, innovation is suspect, beliefs are situational, and the clientele is specific, immediate and insistent (Bradshaw and Borchers, 2000).

Which, then, is our situation in terms of psychosocially caused or triggered health problems in Europe (Eurofound and European Agency for Safety and Health at Work, 2014)?

According to the European Foundation’s third European Quality of Life Survey (Eurofound, 2012b), unemployment, particularly if long-term, has a huge impact on subjective well-being. Women working full-time are more likely than men to report problems with work–life balance. Countries that report a better quality of life are those in the northern and western parts of the EU. Optimism about the future was expressed by fewer than 30 percent of people in Greece, Slovakia and Portugal, and by over 80 percent in Denmark and Sweden. The most vulnerable groups – the lowest income quartile, the unemployed, older people in central and eastern Europe – show the greatest decline in subjective well-being between Eurofound’s surveys.

There is a declining trust in public institutions, specifically in governments and parliaments at national level. There is an increased perception of rifts between racial and ethnic groups, and a growing proportion of people identify tensions between the rich and the poor. An increasing number of births occur outside marriage, and single parent households are shown to be disadvantaged in most domains of quality of life.

These findings indicate the very considerable gap between European goals, and recent outcomes.

Bridging the Gap

Logically, actions should be inclusive (e.g., work for all), sustainable (e.g., not pathogenic or only short-term), and life-friendly (salutogenic). Why so? Because in all democratic politics, it is desirable to give rational reasons for any given action likely to lead to a desired goal.
How can this be achieved? By (a) increasing the pull for evidence for outcomes as related to clearly formulated goals, and (b) by facilitating better evidence use (Sutcliffe and Court, 2005). Such evidence could carry different degrees of strength, such as case studies, expert statements, comparative studies, matched control groups, cohort and panel studies, randomized controlled studies, and systematic reviews (cf. Campbell Collaboration, 2016; Danish National Centre for Social Research, 2016). And evaluation of implemented policy results could include (a) effectiveness (did the intervention work as intended?), (b) appropriateness (was it acceptable to the consumers?), and (c) feasibility (cost, side effects, practice change?).

Any bridging of the science–policy gap should ideally involve

- Perception of a problem or a desired development;
- Search for and evaluation of the best available evidence and identification of knowledge gaps;
- Supplementary research to fill such gaps, identification of clear goals with a policy context;
- Forming the policy, finding funds and human resources;
- Realization of the policy;
- Evaluation of goal fulfillment and administrative procedures.

It is equally important to consider the values on which preventive and/or promotive action is based, such a democracy, equality, legality, objectivity, integrity, and freedom of opinion and information (Poznan Declaration, 2014).

Common obstacles to effective implementation of improvement policies are:

- Knowledge gaps
- Political considerations
- Lack of resources
- Effects of media intervention
- A nonlinear process, adjusted to a continuous modification of goals, different training and reward systems
- Communication problems
- Risk of oversimplification, different scale

### Time to Implement

The conclusions concerning future action in the field of working conditions and environment, adopted by the International Labour Conference in June 1984, and several World Health Assembly resolutions recall that the improvement of working conditions and environment and the promotion of workers’ health and well-being represent a positive contribution to national development and are part of the criteria for success of any economic and social policy. The conclusions from the report of the Joint ILO/WHO Committee on Occupational Health (1986) indicate that the following principles are fundamental in pursuing this objective:

- Work should take place in a safe and healthy working environment;
- Conditions of work should be consistent with workers’ well-being and human dignity;
- Work should offer real possibilities for personal achievement, self-fulfillment and service to society;
The improvement of working conditions and environment should be considered a global issue in which the many factors affecting the physical and mental well-being of the worker are closely interrelated;

A global and multidisciplinary approach is therefore essential to the effective improvement of working conditions and environment, and to promoting workers’ health and well-being.

As already mentioned, our report was submitted to both the Executive Board of the World Health Organization and the Governing Body of the International Labour Office. On behalf of both organizations our report was endorsed and distributed as their joint document to all governments of the world.

There it was probably placed on a bookshelf and later probably moved to an archive where it still remains. Instead, the wheel is reinvented, again and again, whereas implementation remains sluggish, insufficient and fragmented.

An example of this is provided by the Swedish Agency for Health Technology Assessment and Assessment of Social Services (2015), which recently reviewed all governmental attempts to improve national mental health during the period 1995–2015. It concludes that large challenges remain and new ones have appeared, in spite of all these attempts over a period of 20 years, and by a number of politically different governments. The agency further concludes that in order to cope with this, the entire society needs to become involved, including municipalities, counties, authorities, schools, employers, and civil society.

Bradshaw and Borchers (2000) observe that conflict and indecision are hallmarks of … policy formulation. Some argue that the requisite information and certainty fall short of scientific standards for decision making; others argue that science is not the issue, and that indecisiveness reflects a lack of political willpower. One of the most difficult aspects of translating science into policy is scientific uncertainty. Whereas scientists are familiar with uncertainty and complexity, the public and policy makers often seek certainty and deterministic solutions … The policies that best utilize scientific findings are defined here as those that accommodate the full scope of scientifically based predictions.

In an overview of the European Working Conditions Survey (Eurofound, 2012a), the authors conclude that

- Work intensity (tight deadlines at least a quarter of the time) varies widely, with Turkey, Cyprus and Germany ranking highest, with more than 70 percent of the labor force) and Portugal, Lithuania and Bulgaria being lowest (less than 50 percent).
- Ability to choose or change methods of work (“autonomy”) is highest in Malta, Denmark, Norway and Sweden (>80 percent), and lowest in Bulgaria, Cyprus and Croatia (<60 percent).
- Work intensity is high and work autonomy low for plant and machine operators, and for transport and craft and trade workers, whereas managers, financial services and technicians rate high in both respects.
- Most frequent physical risks comprise repetitive hand or arm movements (>60 percent, increasing trend), heavy loads (>30 percent, decreasing trend), and tiring or painful positions (>40 percent, increasing trend).
- The percentage of workers thinking their health or safety is at risk because of their work is lowest in Denmark, the Netherlands, Ireland and Italy (<20 percent), and highest in Latvia, and Greece (>40 per cent).
Among those working 48 hours or more per week, 38 percent reported problems with work–life balance, compared with 16 percent of those who worked less than 48 hours.

Standard working time is the norm for the majority of workers, but 16 percent work long days (>5 times/month), 10 percent do night work (>3 times/month), 17 percent do shift work, 20 percent work on call.

According to the Sixth European Working Conditions Survey (Eurofound, 2015), more than 40 percent of all employees report working in painful or tiring positions more than a quarter of the time. One in three is working at high speed more than three-quarters of the time. About one in four is not learning new things. One in five do shift work, and 20 percent work on call. A majority have poor prospects for career advancement. One in six fears losing their job in the next six months. True, it has been worse and could be worse, but it is hardly something devoutly to be wished in view of the level of ambition of the stakeholders.

In their recent review of 94 psychosocial risks and mental health policies in the workplace in the European Union, Leka, Jain, Iavicoli, and Di Tecco (2015) reveal impact gaps between binding and nonbinding policies. In 2005 and again in 2010, every fourth worker believed that their health was at risk due to work-related stress. This is seen as a response people may have when presented with work demands and pressures that are not matched to their knowledge and abilities and which challenge their ability to cope. Even from early 2000, studies suggest that between 50 and 60 percent of all lost working days have some link to work-related stress, leading to significant financial costs to companies as well as society in terms of both human distress and impaired economic performance. The authors conclude that even though mental health and psychosocial risks in the workplace have been recognized as priorities in the European Union for at least two decades, and many policies have been introduced to this end, it is uncertain whether desired outcomes have been achieved in practice, since awareness in relation to mental health in the workplace and the importance of preventive action still seems to be lacking.

In their report on the implementation of the Framework Directive and other legally binding EU documents, Leka and Jain (2014) emphasize that workplace related mental health problems are currently one of the most serious workplace related health concerns, as reflected by an abundance of data (e.g., on absenteeism, long-term sick leave, work-related suicides), due to, inter alia, stress at work (itself the consequence of, e.g., new forms of work organisation, harassment and violence in the workplace, insecurity of tenure, exposure to a poor physical work environment) and depression.

In an evaluation report on policy and practice to promote mental health in the workplace in Europe, Leka et al. (2014) conclude that mental health has a profound impact on individuals, organizations and society, but awareness of the positive impact of good mental health also needs to be raised. They further conclude that the prevalence of mental ill-health in the workplace, including poor psychological well-being, is widespread across all countries in the European Union and the European Free Trade Association, and there are indications that this will only increase due to exposure to risk factors such as job insecurity, work intensification, and organizational restructuring. This is very likely to affect business performance as well, and also be costly at the society level. And these trends are projected to continue in the future, with most stakeholders turning a blind eye to the “significant and undisputed cost of inaction,” which by far outweighs the cost of action.
Based on their thorough review of the European history of policy evolution in this field, the authors propose a series of actions, inter alia:

- Revisit the content of the Framework Directive to include clear reference to psychosocial risks and mental health in the workplace;
- Promote the interpretative document of the Directive to clarify legal requirements for employers and other key stakeholders in Europe;
- Promote the guidance document on how to implement a comprehensive approach for the promotion of mental health in the workplace.

Can Work-Related Stress Be Prevented?

Work-related stress can be approached on four levels – those of the individual worker, the work organization, the nation, and the European Union. Whatever the target(s), conditions are man-made and open to interventions by all relevant stakeholders. In all cases, there is a need to identify work-related stressors, stress reactions, and stress-related ill-health. As already emphasized, there are several reasons for doing this: stress is a problem for both the worker and his or her work organization, and for society; work stress problems are on the increase; it is a legal obligation under the EU Framework Directive on Safety and Health at Work; and many of the stressors and consequences are avoidable and can be adjusted by all three parties on the labor market if they act together in their own and mutual interests.

Thus, work-related stress may be prevented or counteracted by job redesign (e.g., by empowering the employees, and avoiding both over- and underload), by improving social support, and by promoting reasonable reward for the effort invested. And, of course, by adjusting occupational physical settings to the workers’ abilities, needs, and reasonable expectations.

Approaches to be considered include participative management, flexible work schedules, and career development – all in line with the requirements of the EU Framework Directive and of Article 152 of the Treaty of Amsterdam.

Start Now

Does all this sound complicated or even utopian? It is not. It has been done in many enterprises, and with considerable success. The principles mentioned above are incorporated in the EU Framework Directive and in the Work Environment Acts of a number of European countries. True, it may take time and effort, but it can be done. And it is likely to be highly cost-effective.

Your first step? Consider the ILO’s statement: “the future of work is what we will make it. The challenge is to make it the one we want” (ILO, 2015). The “right time” is now. It is likely to improve both working conditions and health, as well as your own, your company’s and your country’s output, creativity and competitiveness.

References


Bridging the Science–Policy and Policy–Implementation Gaps


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