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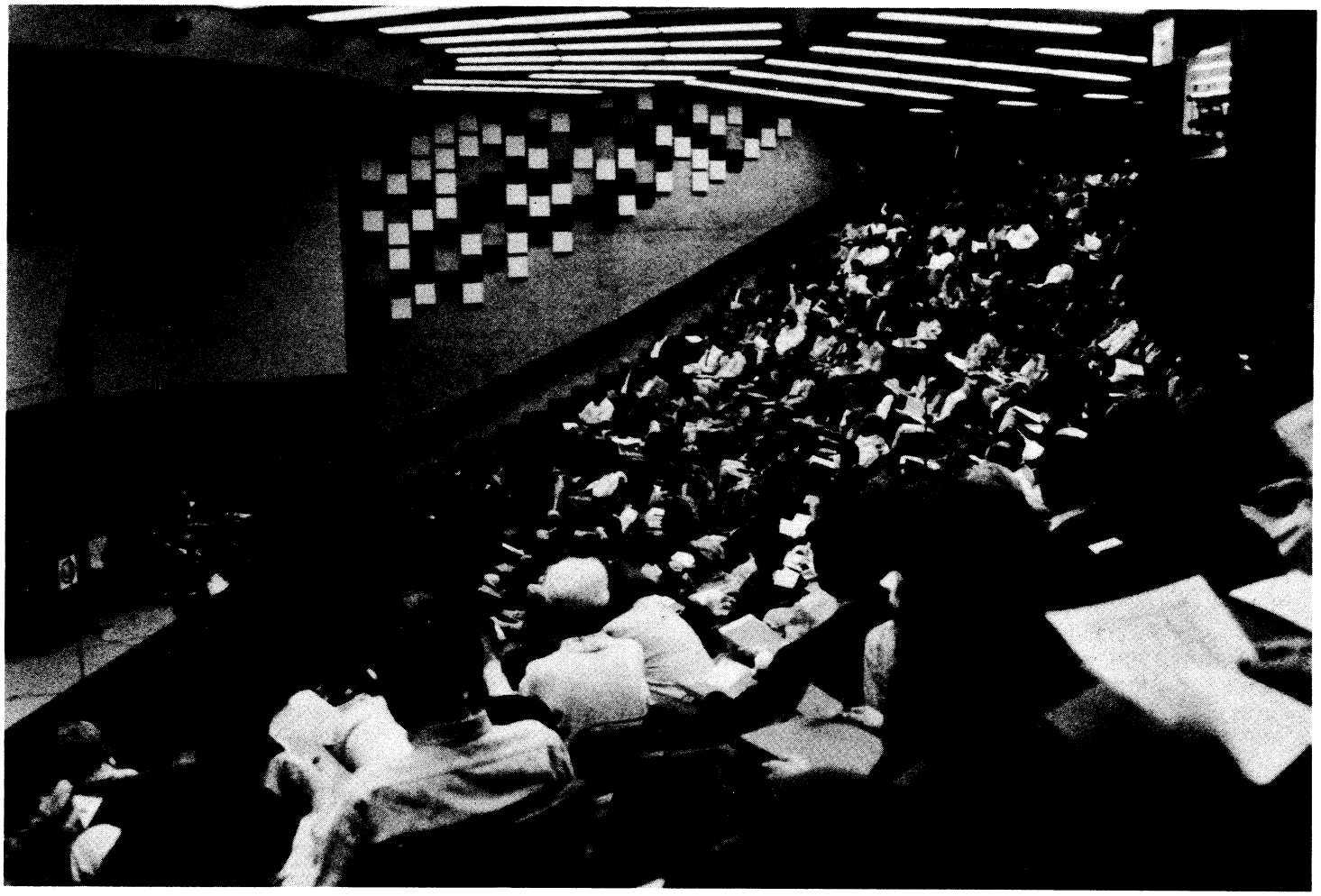

Plenary Session at the Interdisciplinary Conference on Managing the Disabled Back Calgary, May 1, 1992

Prepared in the Department of Community Health Sciences, Faculty of Medicine The University of Calgary, through funding by The Workers' Compensation Board - Alberta

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Report on an Interdisciplinary Conference
- MANAGING THE DISABLED BACK -

Calgary, May 1, 1992

Introduction

For the first time in Alberta, physicians, surgeons, chiropractors, physiotherapists, and nurses met together to share information on back problems. This conference was held in Calgary under the title "Roles and Responsibilities in Managing the Disabled Back" and was sponsored by the Alberta Workers' Compensation Board and the University of Calgary. More than 300 attendees attested to the concern about back pain, the second most common cause of absenteeism in the work place. An innovative program was designed to reduce communication difficulties between professionals, promote a better understanding of different techniques and treatments, and facilitate collaboration among professionals.

The conference presented challenges in planning and organization. It required close cooperation and discussion amongst various specialities: family physicians, chiropractors, physiotherapists, occupational physicians, orthopaedic surgeons, neurosurgeons, and rehabilitation specialists. Everyone wanted an opportunity to present their point of view and after a great deal of compromise, it was agreed that the medical, chiropractic and physiotherapy examinations would be the focus of the plenary sessions. These presentations included examination of live subjects affording many in the audience their first chance to see examinations by professionals from different disciplines.

After the plenary sessions, a number of workshops were held covering a range of topics with presentations handled by a multidisciplinary group of professionals (see the listing of speakers at the end of this report).

A Course Overview

Primary care providers (family physicians, chiropractors, and physiotherapists) are usually responsible for the initial care of patients with a back disorder. They are successful in most of these cases, using relatively simple, inexpensive, and conservative therapies. These patients recover quickly (in a few weeks) without residual permanent disabilities.

The initial assessment of a back disorder consists of a good history and a thorough clinical examination including a lower body neurological investigation. There is very little to be gained by doing a plain X-ray. Only 1 in 2500 films show any unexpected clinical abnormality. Only fractures and congenital defects can be visualized, otherwise, X-ray films do not define clinical complaints. The inclinometer seems to be the best tool for measuring the back's range of movement. The double inclinometer technique is a very precise technique with a high degree of validity and reliability.

An interdisciplinary or team approach, including physiotherapy and/or chiropractic manipulation, possibly with a family physician coordinating treatment, seems to be the most rational approach at the present time. Only a few treatment modalities have any consistent proven benefits in the treatment of back cases: e.g. exercises, including a variety of physiotherapy mobilization and chiropractic manipulation techniques, short courses of analgesics (preferably NSAIDS), anti-depressants, and an early return to work.

Exercises for the back can be introduced by a variety of physiotherapy techniques and/or chiropractic manipulation or exercises. Manual **mobilization** techniques are performed within joint physiological ranges. These techniques are graded, low amplitude, passive movements.

A variety of **manipulation** techniques are available: e.g. Cyriax, Mckenzie, Maitland, Kaltenborn, Stoddard, to name a few. Manipulation techniques are high velocity, highly specific, low amplitude thrusts, performed at the paraphysiological limits of the joint motion. There are many different chiropractic techniques.

Treatment modalities of uncertain value include: passive physiotherapy, TENS, magnetic fields, prolonged rest, prolonged use of analgesics and relaxants. Further research is necessary to evaluate cost efficiency ratios of various modalities and programs to find those which are most useful, and to discard the less effective ones.

What are the traps and pitfalls in primary care therapy? They are: possible surgical emergency (very rare) - cauda equina syndrome, disc protrusions, also prevention of chronicity and permanent disability. Cauda equina syndrome can be recognized by bowel and bladder dysfunction and a characteristic sensory deficit ("saddle type" sensory loss) which requires immediate referral to a specialist.

Prevention of a chronic disability syndrome is also a main goal of primary care providers. A small group of back patients (approximately 5%) become 'chronic'. These back cases are very expensive (up to 75% of the total costs of back cases) and require an extensive specialized investigation and treatment, often with poor results. Many of these patients become permanently disabled and cost dearly in human suffering. They are a heavy financial burden to society and the family. Prolonged disability is best understood as an illness with psychological changes independent of the initial patho-physiologic process.

Early intervention is believed to be the most important factor affecting the outcome of rehabilitation. Prevention of chronicity can be accomplished by early identification of these cases and by an early, aggressive treatment protocol. An early referral for specialized assessment and treatment is necessary if a complete recovery cannot be achieved within three to four weeks of appropriate treatment.

What are the negative predictive factors and warning signs for a poor progress in a back treatment program? Generally they are psycho-social and not medical. Older age, dissatisfaction with a job, and poor education (lack of transferable skills) predict delayed recovery. A formal foreman's assessment of a patient's job performance before an injury can also predict poor outcome. Special high-risk groups include those individuals involved in litigation,

appeals, and those who refuse to consent to clinical management.

A clinical examination may reveal responses out of proportion to the injury, e.g. a neurological examination may reveal inconsistencies (non-organic signs in the lower back, skin tenderness, over reaction., etc.) Other signs of a possible chronic disability syndrome are: increased drug use, dependency on others, disequilibrium in the family, anxiety and/or depression, and a deconditioning syndrome.

The primary goal of an assessment by a clinical specialist (orthopaedic surgeon, neurosurgeon, or radiologist) is to rule-out indications for surgery. This involves a specialist clinical examination and probably referral for back imaging.

There are many spinal imaging modalities available now: Magnetic Resonance Imaging (MRI) will eventually become a primary method of investigation of spinal disorders. This technique is non-invasive, with no ionizing radiation and offers a superb soft tissue contrast, high spatial resolution and multiplanar imaging capabilities. Depiction of disc disease is excellent, e.g. MRI with gadolinium enhancement is useful for distinguishing recurrent disc herniation from post operative scar tissues.

A second good technique for non-invasive screening of disc disease is CT scanning. Depiction of bony disease is excellent, particularly vertebral osteophytes, facet degenerative changes, and lateral recessed stenosis.

Myelography is an invasive technique and a significant proportion of patients suffer from post procedure headaches. Chiropractic film interpretation can measure angles, curvatures, and appreciate positional relationships. Motion studies can detect abnormal biomechanics.

Approximately 2% of total back cases qualify for surgical intervention, e.g. disectomies, decompression (laminectomy) and fusion procedures. A major concern is the results of repeated surgical procedures: there is only a 30% success rate in re-operations.

If there is no indication for back surgery, the patient should be referred immediately for an aggressive and structured rehabilitation program. There are a variety of rehabilitation programs available for the disabled back, e.g. physiotherapy community clinics, work conditioning and/or hardening programs, industrial rehabilitation programs, multidisciplinary rehabilitation clinics, pain clinics and psychological services. They may take from six to fourteen weeks and are expensive. The rate of success varies from 30% - 80%. There are ongoing discussions as to which treatment modalities are better. In the end, the practitioner has to use his or her own experience in choosing such referrals.

A small percentage of patients will develop a chronic disability syndrome. 6 months after a back injury, 95% of patients are recovered but approximately 5% are still incapacitated, developing a chronic disability syndrome. Two percent are able to recover with up to one year of treatment but another 2.5% will be incapacitated permanently. After two years of disability, all efforts towards treatment and rehabilitation seem to be useless; the chances of recovery are almost nil. Such patients with a chronic long term back disability need supportive treatment and pension support.

Psychological factors and psychosocial help are important in many cases. Appropriate counselling, support from the family, and employment agencies can be important tools enabling recovery. Activities of daily living and recreational pursuits should be encouraged. Negative iatrogenic effects (any reference to a poor prognosis, possible restrictions, and/or an inability to return to work) should be avoided.

Conclusions

The whole rehabilitation treatment process for back problems can be divided into four levels:

1. Primary care treatment (3 - 4 weeks). If the patient has not recovered in three to four weeks, the patient should be referred for urgent consultation by a specialist;
2. If the patient is not a candidate for surgery, then a course of specialized physiotherapy and/or chiropractic treatment in community clinics for four to six weeks is appropriate;
3. If the patient has still not recovered, then a referral to a multidisciplinary treatment/rehabilitation centre for a six to fourteen week program (including psycho-social support, psychological counselling, vocational employment and rehabilitation) is worthwhile;
4. If the patient hasn't recovered after one year they should be assessed for a permanent disability award.

Treatment of the 'chronic back' is sufficiently complex that no one can say that they have all the answers. Nonetheless, there are similarities in the way the various disciplines approach assessments and treatments of back pain. A consensus is needed on the best treatment modalities and a critical assessment of uncertain or unproven techniques is needed. Further research is necessary to evaluate cost efficiency ratios for various programs and techniques in order to promote the best and discard the worst.

A better examination technique and neurological evaluation will help back care professionals to distinguish the true symptoms and signs caused by organic lesions, from those caused by psychological distress, illness behavior, and social interactions.

The dialogue begun in Calgary will continue in Northern Alberta. This spirit of cooperation and better communication between medical doctors, chiropractors and physiotherapists will result in an improved care of the back patient.

Conference Speakers

Debbie Atherton, Hercules Grant, Marcel Lussier, Murray Schneider
"Case Management of the Chronically Disabled Back Patient" (workshop)

Ken Boake, Alan Chong, Siobhan Duggan
"Mobilization and Manipulation" (workshop)

Jack Casey, Murray McEwen
"Negative Predictive Factors and Warning Signs for Back Rehabilitation in WCB Claims" (workshop)

Robert Clark, Denise Hill, Anne Mackay, Deann Marsh, Paolo Naccarato, Conne Robertshaw, Melanie Wasylik, Liza Woolnough
"Work Hardening" (workshop)

Wendy Colgate, Vic Grossi
"Clinical Management of Ongoing Disability: Psychological Issues" (workshop)

Ken Corbet, Bruce Miller
"Strategies for Successful Return to Work" (workshop)

John Cowell, John Parboosingh
"Welcoming Remarks" (plenary session)

Les Davidson, Jim Meadows, Steve Miller
"Examination of the Back" (plenary session)

Les Davidson, Preston Wiley
"Sport Medicine: Return to Cardiovascular Activity" (workshop)

Tim Hall, Don Smith, Ron Wardell
"Job Design: A Practical Approach to Human Factors" (workshop)

Ross McArthur, Robert Sevick
"Investigation of the Back" (plenary session)

Jim Meadows, Michael Rocheleau, Don Smith
"Functional Anatomy of the Back" (plenary session)

Jim Meadows, Michael Rocheleau, Don Smith
"Non Surgical Treatment of the Back" (plenary session)

Ian Sinclair
"A message from WCB" (plenary session)

Harvey Thomas
"Surgical Care for the Back" (plenary session)

Derrick Thompson
"Uncommon Cases of Back Pain" (workshop)

What's Next . . . .

After the success of this conference planning is already underway for an Edmonton Back Conference and another Calgary conference in 1993. The participants have given us excellent feedback and one of the changes we will make is to allow more discussion time for all.

OCCUPATIONAL MULTICULTURALISM AND NEW PARADIGMS IN WORKPLACE HEALTH AND SAFETY

R. Douglas Hamm, M.D. and Marilyn Segall, B.A.

Our Canadian workplaces reflect the growing multiculturalism of our society. How does this cultural diversity impact occupational health and safety? Are we recognizing these health and safety issues among our workers? How should we address occupational multiculturalism in terms of safe and healthy work for all? These questions largely remain unanswered. This article offers a framework for approaching the multicultural aspects of occupational health and safety. These concepts are being developed through our work at the Southern Occupational Health Resource Service (SOHRS) in the Department of Community Health Sciences at the University of Calgary in collaboration with multicultural agencies and individuals.

Current paradigms of occupational health and safety are based on medical models of "health" and hazard control models of "safety" which have played important roles in the development of workplace health and safety. However, these models may not be adequate for the challenges of occupational health and safety in the next century. Workplace health and safety for new immigrant workers provides a particular illustration of the need for a more encompassing "psychosocial-ecological" paradigm of occupational health and safety.

Canada is a nation built upon immigration. Our newcomers have always overcome obstacles in adapting to their new homeland. One of the first of these hurdles is employment and with it, the further challenge of health and safety at work. Immigrants have some unique psychosocial factors that may put them at risk in the workplace. If we were more aware of these issues, we could help our immigrant co-workers to achieve the safe and healthy workplaces all Canadians deserve.

Lost Supportive Networks

Some immigrants arrive in Canada with marketable skills and ample resources with which to make a smooth adjustment to a new way of Life. However, for most, the immigration process includes the loss of familiar patterns and supportive networks. In some cases, there may have been an escape from political upheaval or persecution, affording little preparation for a new life in Canada. Immigrants often experience isolation, nostalgia, a sense of helplessness, frustration, and fatigue as they encounter their new culture. Refugees are likely to have additional stressors due to the physical hardships, dangers, psychological trauma, and family disruptions preceding their move to Canada.

The immigrant worker may have skills which are not accredited in Canada and may have to accept work which is characterized by monotony, a sense of underachievement, and accompanying disillusionment. Immigrants have a strong desire to succeed and will often accept more hazardous work or take risks in order to keep their jobs. They may not even be aware of recommended work practices, safety regulations, personal protection, or their rights and responsibilities as workers.

More than other employees, the immigrant worker needs the help of his or her co-workers and supervisors to learn how the system works. Employers and unions should be aware of the vulnerability of immigrant workers and ensure that they are treated fairly, enabled to work safely, and adequately mentored. Immigrant workers should not be expected to bear a disproportionate burden of risks at work just because they are inexperienced, lack social power, or "don't know better".

Mistrust of Authorities

Immigrants may carry a mistrust of authorities or even other employees and may be unwilling to complain about unfair treatment for fear of reprisal or loss of work. They may also be unaware of the role or the existence of workers' compensation, government occupational health and safety agencies, and private or corporate occupational health services.

Almost all health and safety information is given only in official languages and immigrant workers may find this a major difficulty. Moreover, they may not ask for clarification, especially in group settings. It is important not to assume that immigrant workers understand the use and maintenance of safety and protective equipment just because they have received an English or French language pamphlet or verbal instruction.

Most workplace health promotion is geared to a white middle class culture and takes little account of the multicultural needs of immigrants. Immigrants are often unfamiliar with the Canadian health care system and local social and recreational services. At work, they need to learn how to access the occupational health and safety resources that Canadians are familiar with and readily use. In some cases this may involve special measures such as translated materials or interagency collaborative services.

Economic Hardships

The move to a new country may involve a major loss of income and social status. Immigrants may initially live in substandard or crowded living conditions with possible adverse physical and mental health effects. They may

resent being forced to accept work at a relatively low rate of pay in Canada while they learn new skills, a new language, and retrain. Immigrant workers may be also be supporting extended family members such as parents. In some cases they may be living away from their families in order to find work.

Immigrants may work at more than one job to make ends meet or may hold a job and attend evening classes, e.g. E.S.L. Economic constraints may require all members of the family to work and for some this introduces new issues in family dynamics. Immigrant women may often be disadvantaged in terms of employment due to their limited opportunities for education and language skills and they tend to be found in service and unskilled occupations where ergonomic and chemical hazards prevail.

Immigrant workers in unskilled jobs know that they can be readily dismissed and replaced. In their tenuous economic situations, such immigrant workers may be reluctant to question any unsafe work practices or occupational hazards for fear of being fired or demoted. They may also conceal their own health problems in order to keep their job. For example, repetitive strain injuries may be neglected until they become intolerable (and result in prolonged recoveries).

Immigrant workers are often willing to work in hazardous, underpaid, or monotonous conditions. They often work in part-time, seasonal, or temporary jobs with minimal employee benefits. Even where they have trained and worked in certain occupations in their countries or origin, immigrants often find that Canadian equipment and work practices differ significantly. Moreover, workplace expectations may be quite different from those they knew in a family business or farm. Immigrant workers may be unaware of their workplace rights and recourses in what seem to them to be impersonal organizations, and they may lack access to the informal "grapevines" that other employees use.

Risk Perception and Illness Behavior

As a result of the various factors already mentioned, immigrant workers have few points of entry into the formal and informal decision-making structures of their workplace. They lack the culturally conditioned clues to corporate behaviour that could simplify their lives on the job. As mentioned earlier, they may perceive workplace health risks differently than their co-workers. Health and safety professionals should be aware of these possibilities and their impact on health and safety.

There are also important ways in which people from other cultures view their own illnesses and treatment. A helpful handbook in this regard is *Cross Cultural Caring* by Nancy Waxler-Morrison, Joan Anderson, and Elizabeth Richardson (UBC Press, 1990).

Occupational health and safety personnel should become familiar with their local immigrant agencies and ethnic community associations. These groups have dedicated staff and volunteers who know immigrant needs and can be valuable resources.

New Paradigms in Occupational Health and Safety

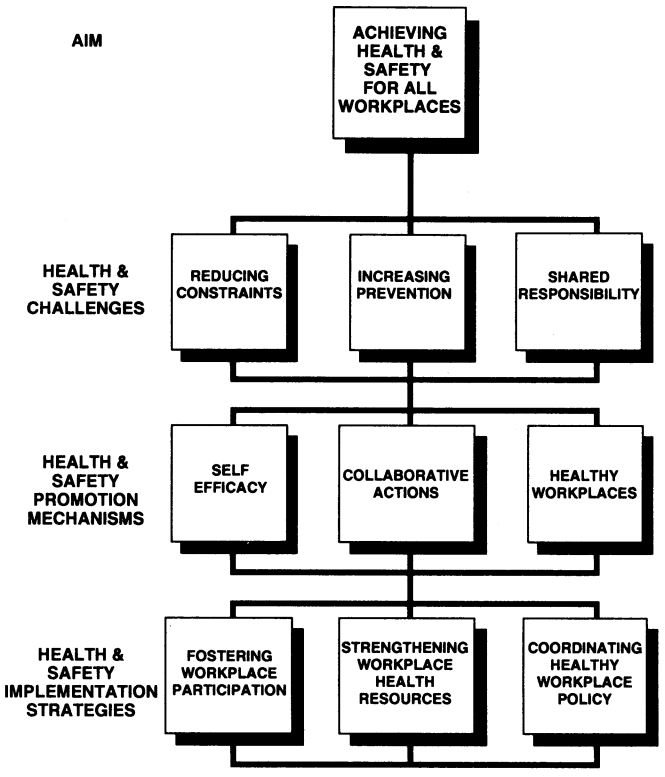
Traditional occupational health and safety disciplines must broaden their paradigm to include a psychosocial-ecological approach to the workplace. This need is especially pressing in occupational multiculturalism. While we are beginning to admit that psychosocial parameters can be determinative in occupational health and safety, there has been no consensus model equivalent to that of the medical model or the hazard control model as practised in occupational medicine/nursing and occupational hygiene/safety respectively.

Workplaces are intimately linked to their larger social and cultural environments and we must understand workplace health and safety within this larger psychosocial-ecological framework. This global approach to the workplace will require all the skills of our traditional health and safety professionals such as:

- occupational hygienists
- epidemiologists
- toxicologists
- safety engineers
- occupational physicians
- ergonomists
- occupational nurses
- basic scientists

The psychosocial-ecological approach to occupational health and safety will also call upon additional "basic sciences" such as:

- cross cultural psychology
- anthropology
- social psychology
- sociology
- behavioral medicine
- management sciences
- health promotion
- environmental design
- educational psychology



A PSYCHOSOCIAL-ECOLOGICAL FRAMEWORK FOR WORKPLACE HEALTH AND SAFETY
(Adapted From Epp 1986)

It is important that an abundant cross disciplinary interchange of ideas and concepts be brought to bear on the multifaceted issues of the workplace, e.g. in occupational multiculturalism.

In developing a psychosocial-ecological model for workplace health and safety at SOHRS, we have adapted the model that was first presented in "Achieving health for all: A framework for health promotion" (1986), better known as the "Epp Report". We have redefined some of the components of this framework as shown in the figure. The multicultural aspects of workplace health and safety provide a particular testing ground for this model and we are currently developing a community based application of it in Calgary. The modified Epp model enables us to address occupational health and safety issues wholistically and in keeping with the current paradigm of health promotion. It also provides the framework for a community development approach to occupational health and safety issues.

There are many generic issues in occupational health and safety which may be magnified by the multicultural psychosocial factors noted earlier. A possible psychosocial-ecological approach to these issues using the paradigm given in the figure would encompass three interactive strategies:

1. **"Health and Safety Challenges"**
   - Reducing constraints to healthy work
   - Increasing prevention of workplace injury and disease
   - Shared responsibility for healthy work
2. **"Health and Safety Promotion Mechanisms"**
   - Self efficacy in the workplace
   - Collaborative actions in the social context of the worker
   - Healthy workplaces as a corporate and personal priority
3. **"Health and Safety Implementation Strategies"**
   - Fostering workplace participation in health and safety
   - Strengthening workplace health resources
   - Coordinating healthy workplace policy

Some implications of these strategic modules can be briefly illustrated.

1) "Health and Safety Challenges"

"Reducing constraints" to workplace health and safety can involve the provision of understandable information to all workers either in plain English or French or by translation into other languages that are more readily understood by the workers. Even pictorial signs may need to be translated. "Increasing prevention" in the workplace may mean mentoring, special training programs, opportunities for workers to indicate their health and safety needs, etc. More effort should be made to evaluate health and safety training and to make such training ongoing rather than "one shot" projects. "Shared responsibility" could involve establishing fully representative occupational health and safety committees or other organizational structures that are culturally sensitive.

2) "Health and Safety Promotion Mechanisms"

"Self efficacy" involves personal responsibility at all levels throughout the workplace for prioritizing healthy work within a supportive organizational context. It also includes awareness of rights and responsibilities in the workplace. Self efficacy includes familiarity with the procedures required for safe work and understanding of the supportive and rehabilitative structures dealing with workplace health and safety. "Collaborative actions" include effective interagency health and safety advocacy and networking for constructive health and safety changes. Workers may also need to access interagency resources dealing with immigration, mental health, health and social services, etc. "Healthy workplaces" includes obtaining active management support for workplace health and safety at the highest level possible. It also involves adopting health and safety as a corporate "value" which is part of an overall strategy of quality control in the workplace.

3) "Implementation Strategies"

"Fostering workplace participation" involves recruiting the participation of all workers in implementing occupational health and safety strategies. It is also necessary to develop a shared health and safety attitude throughout the workplace rather than what some have called a "cowboy attitude". It will be necessary to ensure that employers, supervisors, and managers have adequate health and safety training and knowledge. "Strengthening workplace health resources" may mean providing practical support for occupational health and safety improvements. Some resources may be offered to small businesses who could otherwise not afford them by specialized centres such as SOHRS and others. "Coordinating healthy workplace policy" addresses the integrated management of occupational health and safety issues as part of the "corporate culture". All activities of the workplace should be given adequate consideration as to their health and safety impact (on both workers and the public). Healthy workplaces do not arise spontaneously, they are the result of intentional and continuous effort.

Conclusion

Occupational multiculturalism is a growing fact of life in our Canadian workplaces but its implications for occupational health and safety have largely been neglected. This is in part because the traditional disciplines addressing occupational health and safety have lacked the training, orientation, and conceptual models with which to approach such issues. The hazard control model and medical model have tended to "bracket out" multiculturalism and have often not considered occupational multiculturalism as a legitimate field of enquiry.

With increasing attention to the psychosocial aspects of work we are now beginning to address important determinants of workers' health that were previously undefined. The health promotion paradigm has also taken us toward a new understanding of health in the workplace. At the same time, we are also confronting new diseases and dysfunctions that tax the limits of our conventional approaches to occupational health and safety. However, as we conclude the Twentieth Century, we are seeing the rising contribution of the social sciences to the analysis of these multifaceted problems. A new paradigm of occupational health and safety will arise from such interdisciplinary collaboration and we will aquire the tools with which to adequately meet the challenges of future occupational health and safety needs.