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## Systematic Review of Workplace HIV/AIDS Programs in Asian Societies

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The objective of this study is to identify and examine studies of corporate responses to HIV/AIDS in Asian societies. The data source is published literature and two electronic databases which were systematically searched for worldwide reports written in English from 1996 to 2006. All papers describing workplace HIV/AIDS situations and the effects of workplace HIV/AIDS programs in the formal business sector were considered. Fifty-nine studies were initially identified, of which eight papers satisfied inclusion criteria. These were categorized as follows: four survey results, three commentaries and one descriptive analysis of company reports. In addition, 13 case studies and one report were identified through internet searches. All of them were documents compiled by the World Economic Forum-Global Health Initiative. Key lessons from the main regions of the world referring to the World Economic Forum's report on a global review of the business responses to HIV/AIDS 2005-2006 were also reviewed for a comparative purpose. There is evidence that workplace HIV/AIDS programs have not been well developed in Asian societies. A comprehensive approach to workplace programs that encompass both prevention and treatment is now required. In addition, the current workplace HIV/AIDS programs need to be monitored, evaluated and refined.

Key Words : Systematic Review, Workplace HIV/AIDS Programs, Asia

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### アジア社会における職場のHIV/AIDS対策に関するシステマティック・レビュー

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本研究の目的は、アジア社会におけるHIV/AIDSに対する企業の対応に関する論文を選別し考察することである。資料は公表されている文献であり、二つのデータベースを用いて、1996年から2006年に公表された英語論文を系統的に検索した。職場におけるHIV/AIDSの現状および職場のHIV/AIDS対策がフォーマル・ビジネスセクター全体に与える影響について述べられている論文を検索の対象とした。その結果、59本の論文が選別され、そのうち採用基準を満たした8本の論文がレビューの対象となった。そのうち4本はサーベイ調査、3本は論評、1本は企業報告書の内容分析である。このほかに、13本の事例研究と1本の報告書がインターネットの検索を用いて選別され、これらはすべて世界経済フォーラム世界保健イニシアティブ(WEF/GHI)が行った調査である。比較のために、同機関の「2005-2006年版HIV/AIDSに対する企業の対応に関するグローバル・レビュー」を参照し世界の主要な地域における教訓も吟味した。これらのレビューの結果、アジア社会において職場のHIV/AIDS対策はあまり発達していないことが明らかになった。今後、予防と治療を対象とする包括的なHIV/AIDS対策を推進していくことや現在行われている対策のモニタリング、評価、改善が求められている。

<キーワード> システマティック・レビュー、HIV/AIDS、職場、アジア

## Introduction

### Background

Growing private sectors and the expansion of multinationals in developing countries have many public health implications, including increasing prevalence and visibility of employees' occupational and reproductive health problems. Factors that contribute to the problems include a weak monitoring system of employees' health, inadequate health care facilities, few health resources and services at the companies as well as lack of demand for better health services on the part of workers. A systematic baseline assessment of occupational health services in multinationals was not done until 2000<sup>1</sup>. On the other hand, growing private sectors and the expansion of multinationals have opened up a new public health arena where the private sectors act out corporate social responsibility<sup>2</sup>. A good example is the increasing significance of multinationals in global health initiatives for HIV prevention, AIDS care and treatment<sup>3</sup>.

A considerable amount of literature on the issues and management of HIV/AIDS at the workplace has been conducted largely in North America and Europe<sup>4</sup>. Thus far, research on HIV/AIDS at the workplace has been relatively limited in Asian societies. Given that there are regional variations in the business response to HIV/AIDS, research on the workplace HIV/AIDS issues in non-western societies needs to be conducted so as to provide a comprehensive view of the issues globally.

The present review is an attempt to contribute to the development of the comprehensive understanding of the workplace HIV/AIDS issues by examining corporate responses to HIV/AIDS in Asian societies. A basic question is how workplace HIV/AIDS activities can be effectively integrated into the existing health and welfare management in corporations operating in Asian societies.

### Objectives

This report describes a systematic review of studies which reports on 1) issues related to HIV/AIDS management in companies (e.g., stigma, discrimination, knowledge and behavior), 2) existing workplace HIV/AIDS programs (e.g., workplace policies, prevention, treatment and partnerships), and 3) the potential effects of the workplace HIV/AIDS programs on companies.

## Methods

### Searching

A systematic search for published materials written in English was performed for the period 1996-2006 in two electronic databases: The MEDLINE (1996-2006) and Web of Science (1996-2006). Keywords were identified by a preliminary search strategy using papers which were available from my personal collection. Medical subject headings for English materials were also identified from the MEDLINE abstracts. References of key background papers were also searched to identify additional published studies. It is important to note that two keywords, "private" and "business," were not employed for the current searches, because a preliminary search showed that the results mostly covered issues beyond the level of corporations.

In addition, other relevant materials were identified through the World Wide Web, and mostly through the web site of the Asian Business Coalition on AIDS (<http://www.abcon aids.org/>) and the World Economic Forum-Global Health Initiative (<http://www.weforum.org/>). The objective of the searches was to identify case studies that describe intervention in the private sector.

### Inclusion and exclusion criteria

The search was primarily done for English papers for the sake of transparency and reproducibility. The search was restricted to studies in Asian societies; however it covered such studies that were done in multiple geographical areas and hence addressed some relevant issues in Asian countries. The papers focusing on HIV/AIDS situations and workplace HIV/AIDS programs in the formal sector were included; those in the informal sector such as brothels were excluded. Studies that targeted doctors, nurses and other health professionals as well as truck drivers were also excluded. The papers that described special occupational settings—hospitals, clinics and dentists' offices—where workers are regularly exposed to human blood or blood products were excluded.

Technical reports, codes of practice and guidelines for workplace HIV/AIDS programs prepared and published by international organizations were excluded if the contents are mainly about the basic principles and universal action guides. Finally, since the studies on the workplace HIV/AIDS programs are relatively new in Asian societies, the search was focused on the period over the last 10 years.

## Results

Fifty-nine English articles (the search results of the MEDLINE and Web of Science, with duplication being excluded) were identified through searching the two databases. Nine out of the 59 studies satisfied the inclusion criteria. The main reasons for excluding studies are target groups; the majority of the identified studies focused on informal sectors (e.g., commercial sex) and health sectors (e.g., hospitals). Of the nine studies, five were the results of surveys, three were commentaries and one examined company reports. The survey results include a report of longitudinal surveys in which investigators examined the effects of workplace HIV/AIDS activities on managers' attitudes about HIV-positive employees. Studies that used comparative or experimental research methods were not identified in the present search.

Thirteen case studies and one survey report were identified through internet searches. All of them were documents compiled by the World Economic Forum-Global Health Initiative. The Global Health Initiative has profiled HIV/AIDS workplace project globally, compiled mostly in a period between 2002 and 2004, from a wide range of industries and geographies. The information has been collected based on in-person, telephone and email interviews, with field work assistance by the Asian Business Coalition on AIDS.

The results are summarized in Table 1. The main information of the English articles and case studies included in this review is described in Tables 2 and 3 respectively. It is important to note that the subject heading, Asia, was used for the search with a function of "explode," so that the search could cover all regions and countries of Asia; however, the results of the search were restricted to particular regions and countries due to the lack of papers or corporate activities in other regions and countries.

Table 1 The search results

Inclusion/exclusion criteria	Number of papers
<b>Included papers</b>	<b>9</b>
Surveys	5
Content analysis	1
Commentaries	3
<b>Excluded papers</b>	<b>51</b>
Informal sector	19
Health sector	11
Not set in the workplace	16
Unobtainable	5
<b>Case studies</b>	<b>13</b>

### Issues related to HIV/AIDS management in companies

The two survey studies<sup>4,5</sup> demonstrated that correct knowledge is associated with positive attitudes towards HIV-positive employees and good organizational management of HIV/AIDS cases. The other two surveys<sup>6,7</sup> found lack of congruence between managers' knowledge of HIV/AIDS and their attitudes towards HIV-positive employees and that this is partly due to the persistent fear of AIDS and the stigma associated with HIV/AIDS.

The surveys also identified managers' general perception that employing HIV-positive workers would have negative effects on companies. This perception stemmed from a belief that presence of HIV-positive employees would cause work disruptions and would incur revenue loss and insurance costs. The survey results also illustrated that managers' attitudes towards HIV-positive employees were influenced by opinions of others such as supervisors, co-workers and customers.

### Existing HIV/AIDS-related activities in companies

A study in Singapore<sup>6</sup> demonstrated that 70% of the survey respondent companies did not have organizational health care programs for employees, and the rest had some form of health care program periodically regardless of whether they were local or foreign companies. The same study also found that only 4% had some form of HIV/AIDS activities. Another study, conducted in Japan on the issue of occupational safety and health and corporate social responsibility (CSR), illustrated that Japanese companies had more concern about the environment than about social activities<sup>8</sup>. This study also found that in the items included in the guidelines in CSR-related reports, many matters about occupational accidents were mentioned but statements regarding HIV/AIDS were few.

### Case studies

The 13 case studies compiled by the World Economic Forum-Global Health Initiative provided in-depth descriptions of successful workplace HIV/AIDS policies, activities and outcomes. The majority (11 cases) were multinational and leading companies in their particular industries. The majority of the workplace programs started relatively recently with nine out of the 13 cases initiating relevant activities after 2000 (See Table 3).

### Motivations for initiation

All of the 13 cases of the workplace HIV/AIDS program were aided or cosponsored by international and local NGOs. This suggests that there is a strong possibility that NGOs'

Table 2 Characteristics of included articles

Study	Country	Study design	Participants or materials investigated	Intervention	Outcomes	Main results
Kawashita et al.	Japan	Content analysis of published materials	CSR-related reports	n.a.	n.a.	More concern about environment than social activities in the contents of the reports. Few statements regarding HIV/AIDS, and more concern about occupational accidents in the guidelines.
Kimball and Thant	Asia (all regions)	Commentary		n.a.	n.a.	Robust public-private partnering in controlling AIDS is urgently needed.
Lim	Singapore	Descriptive study (Survey) : Test a model of examining the predictors of AIDS fear and its organizational outcomes	160 human resource managers	n.a.	n.a.	Individual differences (in knowledge, level of homophobia and concern for face) are predictors of fear of AIDS, which in turn influence organizational responses. <ul style="list-style-type: none"> <li>• Knowledge of AIDS is negatively associated with fear of AIDS.</li> <li>• Level of homophobia and concern for face are positively associated with fear of AIDS.</li> <li>• Fear of AIDS is significantly associated with perceived organizational consequences of hiring PLWHA.</li> </ul>
Lau and Wong	Hong Kong	Evaluative (longitudinal) surveys in 1996 and 1998: Evaluate the effectiveness of social interventions against discrimination towards HIV-positive employees.	299 companies (1996) and 212 companies (1998)	Social interventions tackling AIDS-related discrimination <ul style="list-style-type: none"> <li>• A series of education program at the workplace</li> <li>• Implementation of the Disability Discrimination Ordinance in which AIDS is covered as a form of disability</li> <li>• Community-based AIDS campaign</li> </ul>	HIV/AIDS policy HIV screening Awareness of the Disability Discrimination Ordinance Disclosure of HIV status of employees Dismissal/job transfer of HIV-positive employees Counselling and support to HIV-positive employees Perception of responses from employees when HIV-positive persons identified	The result showed inadequacy to suggest that the current social intervention is successful, public education necessary to eliminate discriminatory attitudes. <ul style="list-style-type: none"> <li>• No significant increase of HIV/AIDS policy.</li> <li>• Substantial increase in awareness of the Disability Discrimination Ordinance.</li> <li>• The same percentages (5.2% and 6%) in disclosure of information of HIV-positive employees.</li> <li>• The decrease in dismissal/job transfer of HIV-positive employees.</li> <li>• The decrease in providing counseling and support of HIV-positive employees.</li> <li>• The same percentage (90%) in perception that their staff to be in panic when HIV-positive persons identified.</li> </ul>
Wasatcheong and Wong	Singapore	Descriptive study (Survey) : Assess educational needs of human resource managers	236 companies (with more than 100 employees)	n.a.	n.a.	Educational intervention is needed to facilitate rational HIV management policy by local managers. <ul style="list-style-type: none"> <li>• Respondents had correct knowledge about HIV/AIDS.</li> <li>• Respondents' attitudes and practice towards HIV-positive employees were unfavorable on such issues as HIV screening, medical coverage and termination of employment.</li> <li>• Reasons for disparity between knowledge and attitudes and practices: inadequate information specific to workplace needs.</li> <li>• The opinions of supervisors, co-workers and customers can exert profound influences upon respondents' attitudes.</li> <li>• Management policies appear linked to insurance policies regarding HIV and AIDS.</li> </ul>
Kimball and Thant	Asia (all regions)	Commentary	n.a.	n.a.	n.a.	Workplace HIV and AIDS programs, government incentives to corporations, and international organizational supports are necessary. Multinationals should engage the community members and policy makers in Asia where they are operating.
Rosen et al.	South Africa, India, China	Commentary	n.a.	n.a.	n.a.	The only cost-effective way to respond the staggering costs of HIV/AIDS in the company is to implement anti-AIDS strategy (Potential net returns on treatment program is higher than the total annual cost of AIDS). Investment in HIV prevention (education, condoms, STD treatment, VCT) and AIDS treatment (HAART) is important.
Lim and Loo	Singapore	Descriptive study (Survey and focus group interviews) : Examine human resource managers' knowledge of HIV and attitudes towards HIV-positive employees and disclosure of HIV information	161 human resource managers (survey), 21 human resource managers (focus G)	n.a.	n.a.	Human resource managers had correct knowledge of HIV/AIDS. <ul style="list-style-type: none"> <li>• Some remained unconvinced or worry about HIV transmission through casual contact.</li> <li>• Generally human resource managers felt that employment of PLWHA would entail considerable costs for the organization.</li> <li>• They believed that having PLWHA and disclosure of such a status will lead to work disruptions that can be avoided.</li> <li>• 70% of the respondent companies did not have organizational health care program for employees, only 4 percent had some form of AIDS educational program. Of those which had health care system, a half was multinational organization.</li> </ul>

Table 2 Characteristics of included articles

Study	Country	Study design	Participants or materials investigated	Intervention	Outcomes	Main results
Bloom et al.	Global (all regions, 117 countries)	Review (An overview of business perceptions and responses to HIV/AIDS, based on the 2005-2006 Executive Opinion Survey conducted by the World Economic Forum as part of its annual Global Competitiveness Report, case studies of business action on HIV/AIDS developed by the World Economic Forum's Global Health Initiative, and a survey of US business leaders commissioned by the Foundation for AIDS Research.	n.a.	n.a.	n.a.	<p><b>Current Situation:</b></p> <ul style="list-style-type: none"> <li>• Nearly half of the respondents to the Executive Opinion Survey expect HIV/AIDS to have impacts on their business in the next five years, but few respondents have attempted to quantify the business risks due to HIV/AIDS.</li> <li>• Outside the hardest hit countries, few firms have developed HIV/AIDS related policies.</li> <li>• Those firms that have policies are much more confident in their ability to withstand the impacts of AIDS than firms without policies.</li> </ul> <p><b>Asia's Situation:</b></p> <ul style="list-style-type: none"> <li>• Respondents firms in East Asia (China, Hong Kong, Japan, Mongolia, South Korea, Taiwan) are particularly unlikely to put policies into action.</li> <li>• In East Asia, information provision and condom distribution are main activities.</li> <li>• In South and South East Asia, there is a growing tendency towards informal rather than formal policies and activities.</li> </ul> <p><b>Actions and Interventions:</b></p> <ul style="list-style-type: none"> <li>• The effect of HIV/AIDS on company operations is the main motivation for business action among case study firms.</li> <li>• One-third of case study firms cite corporate social responsibility as a motivation.</li> <li>• Most case study firms include both prevention and treatment.</li> <li>• Most case study firms have developed their programs in conjunction with other organizations such as NGOs, governments and business associations.</li> <li>• All case study firms regularly evaluate the effectiveness of their programs (mainly by KAP survey).</li> </ul>

support motivated the companies to initiate the programs. Active NGOs in the countries where the 13 cases were recognized include the Malaysian AIDS Foundation, Verite, the Asian Business Coalition on HIV/AIDS, the Thailand Business Coalition on HIV/AIDS, the Population Council and the Family Health International.

International guidelines and insurance policies also had impacts on the companies' decision to initiate the workplace programs. For companies with active workplace HIV/AIDS policies, for instance, the formation of the policies followed the International Labour Organization's (ILO) Code of Practice on HIV/AIDS and/or policies of social and private insurance relevant to the companies. In such cases, the formation of policies often preceded implementation of particular activities.

In Thailand, for instance, a particular corporate action of American International Group (AIG) has promoted HIV/AIDS policy and activity development among companies. Specifically, with the aim of encouraging companies to promote HIV/AIDS-friendly workplaces, AIG has provided life insurance premium bonuses of 5-10% to companies which have initiated workplace HIV/AIDS programs.

Case studies also illustrated that the current corporate interest in workplace HIV/AIDS programs emerged from and was justified by the idea of corporate social responsibility. It includes ethical consideration for HIV-positive employees and social contribution to the community where they operate. On the other hand, there were rare arguments about cost-effectiveness, except in a case of PT Bank Tabungan Negara in Indonesia. According to the report, the workplace project generates benefits in excess of the investment required. Specifically, an 18-month basic prevention project costs approximately US\$ 13,000, which is less than the cost of managing two therapy-related AIDS cases for one year.

**Main activities**

The main workplace activities employed in the 13 cases were awareness raising and prevention activities often done in the form of annual HIV/AIDS education for employees. In addition, some companies provided some forms of care, treatment and support of STD and AIDS, while others worked more on community capacity building. Over all, policy formulation and awareness/prevention activities were relatively well done in comparison to care, treatment and support and also in comparison to community capacity building. In terms of policies, companies without workplace HIV/AIDS policies applied their existing occupational safety and health policies to the management of HIV/AIDS and

Table 3 Characteristics of included case studies

Case study #	Country	Company	Industry	Characteristics	Number of employees	Intervention	Financing	Main results
1	Malaysia	Standard Chartered Bank	Banking & financial services	<ul style="list-style-type: none"> <li>Multinational corporation.</li> <li>A leading markets consumer and wholesale bank.</li> <li>An internationally led companies operating in more than 50 countries in the Asia Pacific, South Asia, the Middle East, Africa, UK and USA.</li> <li>SCB Malaysia Berhad operates 33 locations in Malaysia.</li> </ul>	1600 employees	<ul style="list-style-type: none"> <li>HIV/AIDS policy</li> <li>Peer educator training</li> <li>Staff training</li> <li>Community capacity building</li> </ul>	US\$ 300,000 (US\$ 10 per employee per year) (SCB's 2003 global budget)	<ul style="list-style-type: none"> <li>A group-wide HIV/AIDS policy was developed in 1999.</li> <li>A peer-education prevention campaign through HIV Champions, launched in October 2002.</li> <li>13 HIV/AIDS Champions were selected and 80% of the staff was trained through a peer-education, as of June 2003.</li> <li>SCB Malaysia Berhad shared its experience with 200 public sector companies, contributed a case study of its program to the British Malaysia Chamber of Commerce's magazine, in May 2003.</li> </ul>
2	India	Medicare	Consumer	<ul style="list-style-type: none"> <li>A direct selling company and part of the K.K.Modi Group of Industries.</li> <li>It offers consumer products for colour cosmetics and skin care, personal care, laundry care and so on.</li> </ul>	250 staffs and 950,000 consultants who distribute Medicare products.	<ul style="list-style-type: none"> <li>HIV/AIDS policy</li> <li>Peer educator training</li> <li>Staff training</li> <li>Condom distribution</li> <li>VCT</li> <li>Treatment</li> <li>Community capacity building</li> </ul>	US\$ 160,000 (US\$ 0.17 per employee per year) (2003 budget)	<ul style="list-style-type: none"> <li>HIV/AIDS specific workplace policy was established in 2001.</li> <li>10,000 peer educators were trained (a ratio of 95 consultants per peer educator).</li> <li>70% of staff was trained in 2002 (induction training and continued education for staff).</li> <li>100,000 condoms (0.1 condom per staff/consultants per year) were distributed in 2003.</li> <li>A VCT center and a referral system were established at Lok Nayak Jai Prakash Hospital.</li> <li>5 HIV-positive staff and consultants have successfully petitioned management for coverage of anti-retroviral treatment (Access to treatment for opportunistic infections through standard medical coverage).</li> <li>Worked with business chambers and solicited donations to expand the treatment sponsorship program in Delhi.</li> </ul>
3	China	The Timberland Company	Retail & consumer	<ul style="list-style-type: none"> <li>Multinational corporation.</li> <li>A leading footwear company with suppliers in Asia, including China.</li> </ul>	5,400 staffs and 33,000 workers in supplier factories.	<ul style="list-style-type: none"> <li>Staff training</li> <li>Community capacity building</li> </ul>	US\$ 5 per worker per visit by Verite (an independent, non-profit social auditing, training and research organization and Timberland's partner for its HIV/AIDS work in China).	<ul style="list-style-type: none"> <li>9,000 workers over 20 supplier factories (45% of suppliers' workers) trained in two factory-based worker education initiatives in the Guangdong provinces: the Mobile Training Program and the Life Skills Training Program (since 2000).</li> <li>Partnership with a NGO, Verite, developed.</li> </ul>
4	Thailand	Nike	Retail & consumer	<ul style="list-style-type: none"> <li>Multinational corporation.</li> <li>A leading shoe company with substantive operations in Thailand.</li> </ul>	230 staffs and 50,000 workers in 70 suppliers and factories.	<ul style="list-style-type: none"> <li>HIV/AIDS policy</li> <li>Peer educator training</li> <li>Staff training</li> <li>VCT</li> </ul>	US\$ 1,600 (US\$ 7 per employee per year, or less than 1% of payroll).	<ul style="list-style-type: none"> <li>HIV/AIDS policy launched in 2000.</li> <li>10 peer educators (23:1 ratio) trained.</li> <li>200 employees trained (87% of employees).</li> <li>VCT program introduced through the annual medical exam at an external hospital.</li> <li>10 employees (5% of employees) tested.</li> </ul>
5	Thailand	Sony Device Technology (Thailand) Co.,Ltd.	Electronics	<ul style="list-style-type: none"> <li>Multinational corporation.</li> <li>A leading global consumer electronics company.</li> </ul>	2,233 employees and 800 contract or temporary workers	<ul style="list-style-type: none"> <li>HIV/AIDS policy</li> <li>Staff training</li> <li>Condom distribution</li> </ul>	No explicit budget	<ul style="list-style-type: none"> <li>A written policy on HIV/AIDS established in 1998.</li> <li>Awareness event held one to two times per year.</li> <li>Condom distributed during the awareness event.</li> <li>335 workers (11% of all workers) trained. Worker training offered several times per year, training 30 workers each.</li> </ul>
6	Thailand	Property Care Services (Thailand) Ltd.	Property support services	<ul style="list-style-type: none"> <li>Multinational corporation.</li> <li>A leading property support services company in Thailand.</li> <li>An associate company of OCS Group Ltd in UK.</li> </ul>	15,000 employees.	<ul style="list-style-type: none"> <li>HIV/AIDS policy</li> <li>Staff training</li> <li>Health communication</li> <li>Condom distribution</li> </ul>	No explicit budget	<ul style="list-style-type: none"> <li>HIV/AIDS policy launched in 1994.</li> <li>90% of new employees in Bangkok and North, and 50% of those in other regions gone through induction training.</li> <li>Shorter training session provided for new employees who miss induction training.</li> <li>Company newsletters disseminated at the office and 4,000 clients sites 3 to 4 times per year.</li> <li>HIV/AIDS prevention booths and posters distributed.</li> <li>Award ceremonies conducted.</li> <li>Free male condoms distributed several times a year.</li> </ul>
7	Thailand	JW Marriott Hotel Bangkok	Travel & tourism	<ul style="list-style-type: none"> <li>Multinational corporation.</li> <li>A leading global hospitality company.</li> </ul>	720 workers and 20 temporary workers.	<ul style="list-style-type: none"> <li>HIV/AIDS policy</li> <li>Staff training</li> <li>Community capacity building</li> </ul>	No explicit budget	<ul style="list-style-type: none"> <li>A global policy for associates living with life threatening illnesses, including HIV/AIDS, existed and last revised in 2000.</li> <li>Workplace prevention program launched in 2001 (integrating HIV/AIDS awareness and prevention messages into the health promotion program)</li> <li>15% of staff trained.</li> <li>HIV/AIDS prevention program integrated into the company's health promotion program.</li> <li>Support activities and donations made for HIV-positive children in 2003.</li> </ul>

Table 3 Characteristics of included case studies

Case study #	Country	Company	Industry	Characteristics	Number of employees	Intervention	Financing	Main results
8	Thailand	General Motors (GM)	Automobile	<ul style="list-style-type: none"> <li>• Multinational corporation.</li> <li>• A global automotive company with substantial operations and markets in the Asia-Pacific region.</li> <li>• It has a manufacturing operation in 32 countries including Thailand.</li> </ul>	2,500 employees in Thailand.	<ul style="list-style-type: none"> <li>• HIV/AIDS policy</li> <li>• Peer educator training</li> <li>• VCT</li> <li>• Steering committees</li> </ul>	US\$ 50,000 (US\$ 8 per employee per year) for 2 years starting 2002 US\$1,350 to community HIV/AIDS project in 2004	<ul style="list-style-type: none"> <li>• At least one management peer educator and at least one team member peer educator per main shop is trained (a total of 6 peer educators or a ratio of 417 employees per peer educator.)</li> <li>• Training sessions are conducted by peer educators in groups of 25 to 30 people.</li> <li>• HIV/AIDS education integrated into the new employee orientation program.</li> <li>• 2,000 family members educated in Family Day activities</li> <li>• 1,000 condom key-chains distributed in 2003 Family Day activities.</li> <li>• On-site VCT resources for free distributed, and 375 (15%) of employees accessed this service.</li> <li>• Two medical staff received 40 hours of training from TECA and the local hospital about counselling.</li> <li>• The Western blot test introduced.</li> <li>• Counselling and treatment to HIV-positive employees.</li> <li>• Funding support to HIV/AIDS hotline.</li> <li>• Provide funding to local Buddhist temple that operates orphanage service for children with parents with HIV/AIDS.</li> <li>• Co-sponsoring the showing of the educational film at the international conference in 2004.</li> </ul>
9	Thailand	American International Group	Insurance	<ul style="list-style-type: none"> <li>• Multinational corporation.</li> <li>• One of the world's largest insurance firms. AIA (American International Assurance) Thailand is a subsidiary of AIG.</li> <li>• Covering half of the market share of insurance premiums in Thailand.</li> </ul>	1,400 employees, 48,000 agencies, 5,500 agency leaders in AIA Thailand.	<ul style="list-style-type: none"> <li>• HIV/AIDS information dissemination</li> <li>• Condom distribution</li> <li>• KAP assessment of the program</li> <li>• Community capacity building</li> </ul>	US\$ 56,179 from 1999 to 2002.	<ul style="list-style-type: none"> <li>• 125 out of 657 companies joined the ASO project in 2001. ASO project: AIDS-Response Standard Organization project, developed in collaboration with Thailand Business Coalition on AIDS. AIA cosponsored ASO project, encouraging companies to conduct HIV/AIDS prevention activities by providing life insurance premium bonuses of 5-10% to such companies.</li> <li>• HIV/AIDS information materials distributed to employees through regular newsletters and company promotions.</li> <li>• Condoms distributed.</li> <li>• KAP assessment results: 37/100 in the first round and 62/100 in the second round.</li> </ul>
10	Indonesia	Gajih Tunggal Group	Conglomerate	<ul style="list-style-type: none"> <li>• Multinational corporation.</li> <li>• A large Indonesian conglomerate and a leading tyre manufacturer in Southeast Asia.</li> </ul>	55,000 employees	<ul style="list-style-type: none"> <li>• Management training</li> <li>• Staff training</li> <li>• Peer educator training</li> </ul>	No explicit budget	<ul style="list-style-type: none"> <li>• Two hours executive management briefings on HIV/AIDS in 2003.</li> <li>• 3 separate training sessions for GTG Polytechnic's 22 person teaching staff, 15 person administrative staff and 30 students in 2003.</li> <li>• A half-day management briefing for 15 members of GTI's top management team.</li> <li>• 28 people to serve as peer educators to deliver HIV prevention education to the 7500 employees at the company's five plants.</li> <li>• 28 peer educators participated in GTI Tires Train-the-trainers.</li> <li>• 60% of GT Tires 7500 factory staff trained.</li> <li>• 3,000 HIV/AIDS awareness leaflets were distributed to workers.</li> </ul>
11	Indonesia	BP	Oil & Gas	<ul style="list-style-type: none"> <li>• Multinational corporation.</li> <li>• A leading global integrated oil company.</li> <li>• Currently developing an offshore gas extraction and on-shore liquefied natural gas production facility in Papua, Indonesia.</li> </ul>	5,000 to 6,000 workers during the construction phase in a area of the Papua province of Indonesia.	<ul style="list-style-type: none"> <li>• HIV/AIDS policy</li> <li>• Staff training</li> <li>• Condom distribution</li> <li>• Treatment of STIs</li> <li>• Promotion of VCT</li> <li>• Community capacity building</li> </ul>	US\$ 50,000 in 2004 US\$ 60,500 in 2005	<ul style="list-style-type: none"> <li>• A global HIV/AIDS policy established in 2002.</li> <li>• A five-year HIV prevention strategy launched (2002-2006).</li> <li>• Management briefing conducted in 2004.</li> <li>• Advocacy conducted with all medical providers and subcontractors to further socialize the BP subcontractor requirements.</li> <li>• Awareness activities (photo exhibitions, video nights, brochures, pamphlets), reaching 75% of workers at the project site.</li> <li>• Free male condoms distributed to workers through medical clinics, awareness and education activities.</li> <li>• STI screening, surveillance, counselling and treatment provided and a laboratory capable of undertaking STI microscopy and standardized treatment guidelines for health staffs established.</li> <li>• Provincial AIDS prevention committee is formed at a HIV prevention commit workshop supported by BP.</li> <li>• Local laboratory and counselling capacity to provide VCT services to worker at the worker health facilities being developed (available in late 2004).</li> <li>• Health staff trained for VCT.</li> </ul>
12	Indonesia	PT Bank Tabungan Negara	Financial services	<ul style="list-style-type: none"> <li>• An Indonesian state-owned bank.</li> </ul>	2,725 employees.	<ul style="list-style-type: none"> <li>• Staff training</li> <li>• VCT</li> <li>• AIDS treatment</li> <li>• Community capacity building</li> </ul>	US\$ 13,372 in 2003-2004 (US\$ 3.27 per employee per year)	<ul style="list-style-type: none"> <li>• A workplace narcotics and HIV/AIDS prevention program launched.</li> <li>• 600 employees trained.</li> <li>• An executive briefing conducted in 2003.</li> <li>• A core team of 33 senior, mid level managers and branch managers formed in 2003.</li> <li>• Training materials and technical assistance to branch managers provided in 2003.</li> <li>• Capacity building workshop for 27 community and religious leaders run.</li> <li>• Materials provided to all workers to encourage them to access VCT in the community.</li> </ul>



Table 3 Characteristics of included case studies

Case study #	Country	Company	Industry	Characteristics	Number of employees	Intervention	Financing	Main results
13	India	Tata Tea Limited (TTL)	The largest integrated tea company in the world	<ul style="list-style-type: none"> <li>Multinational corporation.</li> <li>A global tea company.</li> <li>Active organization to promote workplace interventions on HIV/AIDS (starting the Indian Business Council of AIDS).</li> </ul>	59,000 employees (27,000 employees in the area where workplace HIV/AIDS program currently covered)	<ul style="list-style-type: none"> <li>Staff training</li> <li>VCT</li> <li>TB treatment</li> <li>Community capacity building</li> </ul>	US\$ 10,000 (US\$ 0.40 per employee per year)	<ul style="list-style-type: none"> <li>HIV/AIDS workplace policies codified in 1999.</li> <li>Sensitization program targeting 100 managers, local leaders, medical officers and medical welfare officers in 2001.</li> <li>Community outreach to more than 20,000 people in 2001.</li> <li>450 peer educators, 3 specially trained commercial sex workers and day care attendants trained in 2001.</li> <li>Outreach covered 10 new CSWs, 50 clients and 750 high risk tea estate inhabitants in 2001.</li> <li>43,818 condoms distributed at workplace dispensers since 2000 (one condom per employee per year).</li> <li>654 Condom demonstrations were conducted.</li> <li>Free VCT program launched in 1999.</li> <li>43 people (of which 27 were employees &lt;1% of the employees) covered by the VCT program.</li> <li>STI care provided to 108 employees (&lt;1% of the employees).</li> <li>TB test positive HIV positive employees treated under the National TB control program.</li> <li>Investment in medical infrastructure in India.</li> <li>Trained 30 doctors and medical practitioners in HIV/AIDS issues.</li> </ul>

often adhered to the principles of the ILO code of practice. Financing HIV/AIDS programs varies among companies, ranging from US\$ 0 to 10 per employee per year.

**The potential effects of HIV/AIDS-related activities on companies**

Three survey studies indicated that some form of educational intervention potentially improved managers' knowledge and awareness of HIV/AIDS and also change their attitudes towards HIV-positive employees<sup>4,6,7</sup>. On the other hand, a longitudinal survey demonstrated that social intervention, including a series of workplace education programs, would not substantially change managerial attitudes towards HIV-positive employees<sup>5</sup>. The authors pointed out a significant effect of social relational dynamics on the managerial perceptions and behavior towards HIV-positive employees.

Rosen et al. argued that effective workplace HIV/AIDS programs require a wide range of investment in both HIV prevention (e.g. staff education, condom distribution, STI treatment and VCT) and AIDS treatment (e.g. HAART)<sup>9</sup>. Three commentaries<sup>9-11</sup> supported stronger commitment and contributions of business sectors to the national and regional effort to control HIV/AIDS. Suggested business action by the commentaries includes establishing workplace policies, raising worker awareness and prevention, and developing partnerships with governmental, non-governmental and community-based organizations.

**Summary of key lessons from the main regions of the world**  
 This section summarizes key lessons from the main regions of the world referring to the World Economic Forum's report on a global review of the business responses to HIV/AIDS 2005-2006<sup>12</sup>.

**Asia**

East Asian firms are particularly unlikely to put policies into action, while concern over the future impacts of HIV/AIDS on business has increased since 2004. Confidence in the ability to fend off the impact of HIV/AIDS is nevertheless high, with the major policy measures being information provision and condom distribution. South and Southeast Asian firms have increasing concern over the effects of HIV/AIDS on business and a relatively high proportion of firms have implemented policies. There is nonetheless a growing tendency towards informal policies and activities.

**Sub-Saharan Africa**

In sub-Saharan Africa, HIV/AIDS is perceived to be

affecting businesses harder, while the prevalence of policies is lower, relative to levels of concern, than those in any other region. HIV/AIDS programs in business in this region are more comprehensive than those in other regions; firms include information provision, condom distribution and antiretroviral drug provision in their policies. Confidence in the ability to fight off the effects of HIV/AIDS is higher among firms with policies than those without.

#### **North Africa and the Middle East**

North African and Middle Eastern firms recognize the impact of HIV/AIDS less than those in other regions. As a consequence, policies are less comprehensive than those in other regions. They are nevertheless confident of their policies and ability to tackle the disease in the next five years. Eastern Europe and Central Asian firms have a similar tendency.

#### **Latin America**

Firms' concern over the future impacts of HIV/AIDS has increased in the past year. Despite the intensified fears over the future, firms have increased their confidence in policies. The policies focus on information provision with the share of firms providing voluntary HIV testing, but not so much on condom distribution.

#### **The Caribbean**

The Caribbean firms have a relatively high expectation of the incoming impact of HIV/AIDS in the next five years: but policies in the firms are less comprehensive and the least confident of the ability to fend off the effect of HIV/AIDS compared to those in most other regions. Comprehensive business policies are likely to be needed if the firms in this region are to successfully tackle the future impact.

### **Discussion**

This review has shown some evidence that in companies in Asian societies, social relational consideration such as the reaction of HIV-negative employees towards HIV-positive employees outweighs the ethical consideration of protecting the right to work of HIV-positive employees. The managers' concern about disruption of social relations among employees stems from the persistent stigma and the discriminatory attitudes towards HIV-positive people in Asian society, which in turn results in incongruence among knowledge, attitudes and practice. There is some evidence that education alone does not yield clear benefits and this is partly due to the persistent stigma and discrimination. Nonetheless, the

majority of the current workplace activities focus on educational intervention.

There is a general lack of workplace HIV/AIDS programs in Asian societies as well as research and intervention into the workplace HIV/AIDS issues. If any, the current workplace activities are not so much based on evidence as on moral argument largely in the framework of corporate social responsibility. This is partly due to the fact that formal evaluation of workplace activities has been rarely conducted in companies. Many companies also simply follow guidelines and recommendations formulated by international organizations and disseminated by NGOs. A positive aspect of this is that the presence of active NGOs in the region facilitates the corporate actions.

A summary of the regional comparison of key lessons showed that sub-Saharan African workplace programs are more comprehensive than those in other regions where HIV prevalence rates of most of the countries remain lower than 1%. In such regions with low HIV prevalence rates, HIV/AIDS is less likely to be perceived as causing serious damage to business, and, as a consequence HIV/AIDS programs are less developed. Confidence among firms in fending off the effect of HIV/AIDS on business is nonetheless higher in such regions than that in sub-Saharan Africa. East Asia is a typical example of such a region although concern over the future impacts has been rapidly increasing.

This regional comparison will generate the following hypotheses: 1) business leaders perceive a more severe impact of HIV/AIDS on their business when they operate in countries with higher prevalence rates of HIV; 2) business leaders are more confident in fending off the effect of HIV/AIDS when they operate in a country equipped with better organized governmental policies and management of HIV/AIDS.

#### **Limitations of review**

This systematic review has shown a paucity of articles on the issues of workplace HIV/AIDS activities as well as relevant research and intervention. The implications of this review are therefore limited. Case studies complemented this review as they represented a wide range of countries in Asia and they also showed that replicable good practices had emerged over the past decade. However, each case study stands on its own and the duration of activities and completion of the program differ from one to the other, so that we cannot make any generalization regarding the nature and impacts of the workplace activities. Moreover, these case study reports are less likely to report weaknesses and challenges of the project, so that objective evaluation of

these studies is not feasible.

#### Implications for HIV prevention, AIDS treatment and future research

1. Workplace HIV/AIDS programs need to be monitored, evaluated and refined according to the companies' stated health objectives. Such evaluations are important in measuring the impact of the HIV/AIDS programs.
2. Understanding of the corporate culture in Asian societies is essential for refining the current workplace HIV/AIDS programs and addressing specific cultural issues at the workplace such as social relational dynamics specific to Asian societies.
3. Workplace HIV/AIDS programs need to go beyond actions predicated on moral argument (e.g. corporate social responsibility) to those based on evidence. Of particular importance is to assess whether the current workplace HIV/AIDS programs are cost-effective for the companies in their response to the staggering costs of HIV/AIDS. Thus far, such economic impact has not been thoroughly investigated. Assessing corporate actions and commitment to promoting equity, such as measures of reducing stigma and discriminatory attitudes towards HIV positive employees and ensuring equal treatment of both HIV positive and non-positive employees, is equally important.

#### Conclusion

There is evidence that workplace HIV/AIDS programs have not been well developed in Asian societies. A comprehensive approach to workplace programs that encompass both prevention and treatment is now required. The current workplace HIV/AIDS programs need to be monitored, evaluated and refined. Of particular importance is to assess whether increased corporate response to HIV/AIDS can be translated into meaningful improvement in the health of workers as well as in corporate productivity, profitability and sustainability in Asian societies.

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