

**Report on the International Workshop on Secure
Access to Pesticides in Conjunction with the
Annual Congress of the International Association
for Suicide Prevention, Durban, South Africa,
Monday, September 12, 2005 (sponsored by
Syngenta Crop Protection)**

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Objectives and context

This workshop builds upon the workshop on designing a secure access framework for crop products that was held in 2004 in Sri-Lanka. The Sri-Lanka workshop, although focusing upon local projects, explored and defined the role that improving secure access to pesticides can have in preventing suicide. The 2005 workshop examined pilot programmes that were implemented and evaluated in Sri-Lanka. In addition they defined behavioural, cultural, and socioeconomic changes required from farmers and distribution channels to implement secure access working practices. At the conclusion of that workshop, the International Association for Suicide Prevention, represented by Vanda Scott and members from Sri-Lanka, agreed on the importance of extending the discussion at an international level as part of the 2005 Congress of the IASP. With the support from Syngenta Crop Protection, a one day workshop was held on Monday, September 12, 2005 in Durban, South Africa in conjunction with the IASP Biannual Congress.

In addition to this workshop at the IASP Congress, an international symposium on secure access to pesticides was held on Tuesday, September 13, 2005 with presentations from Dr. Jose Bertolote, who presented the World Health Organisation perspective, Professor Keith Hawton, who discussed challenges in

applying restriction of access to means of suicide with pesticides, as well as presentations of challenges in prevention of pesticide suicides in India, presented by Dr. Lakshmi Vijayakumar and in Malaysia, presented by Professor Thambu Maniam. This report summarizes the discussion and conclusions of the international workshop held on September 12, 2005.

The overall aim of the workshop was to develop a collaborative model in which the issues surrounding use of pesticides as a means of suicide is addressed, actioned and publicized with the ultimate objective of reducing deaths to suicides by ingesting pesticides. Four specific goals of the workshop were identified:

- Goal 1: To review the background of the constructive use of pesticides as an essential economic and agricultural necessity versus their use as a means for suicide in developing countries;
- Goal 2: To explore the notion of improving secure access as an effective measure in reducing suicide;
- Goal 3: To develop a framework in which securing access to the means of suicide (using the “pesticide” model) can be replicated and evaluated in relevant communities;
- Goal 4: To deliver a proposal to secure core donor funding for country projects.

The first goal, which was essentially a review of the background, consisted of input to help the workshop participants work on the second and third goals. The fourth goal was left to be completed after the workshop in partnership with the International Association for Suicide Prevention, World Health Organization and interested countries.

A list of workshop participants is included in Appendix A. There were 24 participants from 14 different countries representing researchers, practitioners in suicide prevention and 6 representatives from the pesticide industry. The format of the workshop was to first have several background presentations and discussions, then small groups worked on developing specific recommendations, including elaboration of models and methods for improving a secure access as an effective means in reducing suicide and developing specific frameworks in which secure access to pesticides can be replicated and evaluated in relevant communities.

Background

A large body of knowledge has shown that the availability of methods for suicide affect suicide rates. One of the earliest demonstrations was when the percentage of carbon monoxide in domestic gas used in the United Kingdom decreased from 1955 to 1974 from about 13% to 0%. During that same period of time, suicide rates for both men and women using carbon monoxide declined from approximately 6 per 100 000 in men to less than 1 per 100 000 and in women from 4 per 100 000 to less than 1 per 100 000. Kreitman (1976) observed that suicide rates by all other methods remained relatively stable during this period for men and increased slightly for women. Therefore the overall effect of rendering domestic gas less toxic was that both the male and female suicide rates declined during this period of time.

Keith Hawton, in his presentation during the symposium, pointed out that there are periods of acute risk, and even among persons who are chronically at suicide risk, there are periods of extra risk. There are several correlational studies which indicate that greater availability of a handgun is associated with greater risk of a suicide in the household and when access to specific suicide sites is restricted lives appear to be saved. Recently, research by Hawton and colleagues in the UK found that when the quantity of acetaminophen available for purchase in a single package was restricted, poisonings, including intentional poisonings, decreased. Furthermore, people hospitalized for acetaminophen poisoning had on the average taken less of the medication, and thus suffered less negative medical consequences.

It is estimated that there are 3 million cases of pesticides poisoning each year which result in between 200 000 and 300 000 deaths per year. The main countries involved have large numbers of small farms which rely on herbicides and pesticides. In China alone, there are more than 100 000 deaths from pesticide and herbicide poisonings. Developing countries use 25% of the world's production of pesticides but have 99% of pesticide-related deaths. In rural areas, the percentage of suicides which involve pesticides are: 60% in China, 71% in Sri-Lanka, more than 90% in Malaysia, 68% in Trinidad and 30% in India.

Although there are variations depending upon which pesticides are used, the case fatality rate is relatively high; between 5% and 35% of persons who intentionally ingest pesticides die from pesticide poisoning. Even those who are

hospitalized have a high fatality index. For example, it is estimated that 59% of people who die from pesticide poisoning in China die in hospital. Pesticide poisoning victims tend to come from rural areas, and a high proportion are female.

Preventing self-poisoning by pesticides may take different forms. Suggestions have included restricted sales to “safer products,” public health education campaigns, improved labelling of products, reducing the toxicity of pesticides by either developing safer products or adding emetics or antidotes, and improving the management of pesticide poisoning by providing first aid kits in villages for immediate management, faster transfer to hospital and improved hospital management. Recently, experience has shown that providing for safer storage of pesticides may be a particularly effective method. However, efforts to prevent pesticide poisoning death by safer storage must be adapted to the rural cultures in the countries where this is a problem. Therefore, in order to be effective, safer storage of pesticides must involve relatively simple but flexible interventions that are acceptable within the cultural context, are fairly cheap and can be maintained over time. Within this context, workshop participants examined the issue of pesticide poisoning in several countries and experiences in providing safer storage of pesticides.

The World Health Organization Pesticides and Health Project

The World Health Organization is in the process of reviewing pesticides policies, including policies regarding the regulation for pesticide licensing, access

and availability, distribution, storage, labelling, use of pesticides and disposal of pesticide containers. They are concerned with surveillance of pesticide poisoning around the world and how to improve the medical management and mental health care of people with pesticide poisoning. They are currently in the process of exploring with Syngenta the development of training possibilities at various levels. They are examining programmes on the judicious use of pesticides for agriculture managers and workers as well as the promotion of safe storage initiatives at the community level that may minimize the risk of intentional and unintentional pesticide poisoning.

Overview on Pesticide Suicide in China

Michael Phillips, from the Beijing Suicide Research and Prevention Centre at Beijing Hui Long Ghuan Hospital presented an overview of pesticide use and suicides by pesticide ingestion in China. Suicide is the 6th most important cause of death in China, after cerebral-vascular disease, bronchitis and chronic emphysema, liver cancer and pneumonia, for people of all ages and the number one cause of death for persons age 15 to 34. Pesticides are used in 58% of suicides in China. The estimated 166 000 suicides by pesticide ingestion each year in China account for one fifth of all suicides in the world. Overall, 75% of pesticides used in suicide are stored in the home, 59% use category 1 organophosphates and 62% of victims received medical resuscitation that failed.

Pesticides are used in 540 000 of the medically treated attempted suicides in China each year and constitute 27% of all attempts. In attempted suicides,

84% of the pesticides used are stored in the home and 78% are category 1 organophosphates. The vast majority of the deaths by pesticide poisoning and injuries from suicide attempts with pesticides occur in rural areas, and the primary victims are young rural women.

Study by Phillips in 2000 showed that more than 50% of all attempted suicides are in rural women under age 40. A psychological autopsy study at 23 sites in China, involving 896 suicides, compared suicides in which pesticides were used (519 cases) with suicides using other methods (376 cases). He found that persons who committed suicide using pesticides had significantly higher levels of acute stress, a generally better quality of life, and fewer depressive symptoms, scored lower on suicide intent scales, but much more frequently had experienced an acute life event before their suicide. This suggests that pesticide suicides may more often be reactions to acute crises where easy availability to means greatly increases the risk of a suicide.

In another study he compared 2 034 suicides treated in emergency rooms in 20 hospitals in China (from 1998 to 2004) to 2,260 suicides using other methods. Phillips found that those treated in hospitals for pesticide poisoning were more likely to be married, an agricultural labourer, and more likely to die in hospital than persons treated in emergency rooms who used other suicide methods. In this study, 5.9% of those treated for pesticide poisoning died while in hospital compared to 1.2% of those using other methods. Those who were treated for suicide attempts using pesticides had half the likelihood of having previously attempted suicide than those using other methods (5.8% compared to

12.2%). The cost of treatment in a hospital for pesticide poisoning was 5 times greater than the cost of treatment for other methods. Those treated for pesticide poisonings spent a median of 120 hours in hospital compared to a median of only 10 hours for other methods. He found that the time between the suicide victim's first considering suicide and the suicide attempt in the 451 individuals who made serious suicide attempts with pesticides was generally fairly brief. 44% reported that they had thought about suicide five minutes or less before their attempt, 51% first considered suicide ten minutes or less before their attempt and 64%, two hours or less. This supports the hypothesis that suicides using pesticides are very often impulsive reactions to acute life difficulties.

China has a unique pattern of suicides that Phillips interpretes in term of the lack of strong religious or legal prohibitions against suicide. Thus, persons with serious mental disorders or life difficulties may consider suicide an acceptable method of relieving their misery or reducing the financial and emotional burden they cause their family. In such a generally permissive environment, acute stressors, such as family conflicts, with persons who do not have an underlying mental illness, can result in impulsive suicidal behaviour, particularly among young rural women who have very limited social support networks.

In China, as in most countries, suicide attempts with a low intent to who do not die are more common in women than men; the ratio of female to male suicide attempters is 2.9/1. However, particularly in rural areas, a much higher proportion of suicide attempters use methods that are quite lethal, primarily

pesticides, and the rural health care system is not able to resuscitate a great many of these patients. A study of resuscitation failure rates indicated that although 61.5% of people who used pesticides and rat poisoning and were treated by a doctor in the community died, the resuscitation failure rate for those treated for self-destructive behaviour involving pesticides and rat poison in emergency rooms was only 6.2%. He concluded that it is more likely that suicide attempters die in China than in countries in which less lethal methods are used or where resuscitation services are better. This results in an overall increase in suicide rates and a relative increase in female suicide rates, particularly in rural areas.

China is now in the process of developing a national suicide prevention plan which focuses on both promoting psychological well being, resiliency and community-connectedness, as well as a variety of specific suicide prevention activities that range from decreasing access to and the lethality of means for suicide, changing attitudes, improving mental health services and the development of suicide research. In the context of this workshop, Phillips proposed that the agricultural chemical industry can help by increasing the safety of its products, promoting replacement of category 1 organophosphates with less toxic compounds, supporting suicide prevention research and prevention programmes, and assessing the effectiveness of various methods of limiting access to pesticides for preventing suicide.

Pesticide Suicides in South Africa

Professor M.H. Cassimjee presented an overview of pesticide suicides in South Africa. He emphasized that pesticide poisoning is a major health problem in developing countries, particularly in settings with lower education and where there is a poor regulatory framework. Pesticide used in South Africa, both agricultural and non-agricultural, has increased substantially in the past 15 years and South Africa is the largest market for pesticides in Sub-Saharan Africa. He reported on the Hazardous Substance Act of 1973 which concerns licensing of hazardous substances and inspection of the premises for environmental impact assessment. He also presented the Fertilizer Farm Feeds and Agricultural Remedies Act of 1947, which calls for the registration of pesticides, toxicological classification, rules concerning labelling and advertising as well as disposal and importation of pesticides. He lamented the fact that the Act is quite outdated and there is not systematic notification of hazardous conditions and it is not clear who is responsible for enforcing the Act. He reported on many problems in obtaining accurate data on pesticide poisonings. Poisoning occurrences are under-reported, particularly those managed at home and at clinics. Also it is difficult to determine if “poisoning death” refers to an accident or suicide.

He also reported on a number of specific substances, including insecticides, rodenticides and pesticides. Most insecticides (90%) are in aerosol format and thus are not easy to use in a suicide attempt. Furthermore, aerosols usually contain less than 1% of the active ingredient so they are infrequently

used in suicides. He discussed rodenticides which are developed to kill mammals, and industry attempts to educate people about responsible use of these products. Also, there is illegal trade in extremely toxic compounds, such as Aldicarb, which has been implicated in some murders and suicides. Concerning pesticides, organophosphates pose the greatest risk for suicides. He reported that the risk factors for suicide are complex, ranging from poverty, unemployment, loss of a loved one, arguments, breakdown in relationships and other personal and family problems, to child abuse, alcohol abuse, physical illness, social isolation and mental disorders. He recommended use of safer pesticides as a means of decreasing pesticide related deaths as well as encouraging reduction of access to pesticides, particularly those that are highly toxic. He also discussed a series of government actions in suicide prevention in general, including decriminalization of suicide, community education and youth empowerment and improved mental health management by setting up specialized centers and encouraging research. He felt that prevention programmes should draw on international benchmark best practices, especially those shown to be effective in low to middle income countries. He concluded that attention must be focused on encouraging the reduction of access to pesticides and encouraging enhanced surveillance, training and community action, including safer storage and information on proper dilution of pesticides. He also expressed the need for greater availability of help from organizations such as The Samaritans, as well as psychosocial interventions and better training. He concluded that the surveillance of pesticide poisoning in South

Africa is highly ineffective and may contribute to misinformed policy choices regarding pesticide use. He expressed the hope that the workshop would challenge local governments and NGOs to discuss ways by which the information in the workshop can be translated into the creation of concrete injury prevention policies and practices.

Sri Lankan Pilot Study of Safer Storage of Pesticides in Homes

Ms. Lakshmi Ratnayake presented the results of the Sumithrayo Rural Programme which was set up in 1996 to prevent suicides in an area which covers over 80 suicide prone villages in the North Western, North Central and Southern provinces of Sri Lanka. In these areas very few villages have electricity, there are no telephones, little or no public transportation and no hospitals in villages. Because of bad road conditions and lack of suitable transportation, there is a sense of isolation, remoteness and often helplessness. When there is a suicide attempt, it can take several hours before the person receives adequate medical attention. The majority of the villagers are poor farmers living in circumstances of abject poverty. Drastic changes in weather patterns can result in crop failures and grave economic hardship. The high levels of alcoholism and suicide, high illiteracy rate and lack of employment results in frustration and loss of hope.

The Sumithrayo intervention programme uses volunteers to build trust and relationships with families in crisis. Villagers are all agriculturally based, raising rain fed cashed crops on small plots of land. Use of agro-chemicals is common and all farmers and their family have access to pesticides. Pesticides are used in

a majority of suicides and suicide attempts. Most suicidal behaviours are triggered by conflict with family members. The conflict usually occurs in the family home or compound and the suicidal behaviours occur in the same location.

Agro-chemicals are stored in the home or sometimes buried or hidden in a field. When the chemicals are in a field, the containers are exposed to the elements and they may be damaged.

In late 2004, with the support of Syngenta, a pilot study was launched to evaluate the feasibility of using locked boxes to store poisons. This pilot programme was evaluated with the goals of determining whether farming families will find such a locking system acceptable and practical. Specifically, the study examined who can hold the key or keys and if they can keep the location a secret, if all poisons are locked in the box, if other items are stored in the box, if the box is consistently used over a period of two years, if the presence of the box heightens awareness of the risk of misuse and in families that have not received a box, whether they request one or construct one themselves.

The pilot programme was conducted in two locations, the North Western Province and the Southern Province. In this area, where rates of suicidal behaviour are high, most people are dependant on agriculture. The pilot study involved giving 50 families in each area a lockable metal box. These families had a majority of family members between age 15 and 35 years. Half of each samples (25 families in each area) received 2 locks for their boxes and the other 25 families received one lock each. The keys were either held by the farmer or,

when there were two keys (two different locks), one was held by the farmer and the other by his wife.

The boxes also had a message printed on them: "Poison is not the answer for anger, pain of mind or despair. Talk to a trusted friend about your feelings of anger and sadness. Remember to keep all remnants of agro-chemical poisons out of reach, safely locked in this box."

The study found that boxes were well accepted by the families and were generally used appropriately. Their use was supported by input by Sumithrayo workers who counselled the families.

In order to evaluate if the lock boxes had a significant effect on suicidal behaviour, two villages in the Southern Provinces and two villages in the North Western Provinces, where locked boxes were provided, were compared. with similar villages where no locked boxes were provided. This is an ongoing study and it is too early to reach firm conclusions. However, statistics collected so far from the study villages are encouraging. A long-term evaluation of community acceptance and the effectiveness of locking up poisons to discourage misuse is ongoing.

Keith Hawton was enthusiastic about this programme and proposed a large scale evaluation of a safer storage initiative. He proposed that such a study should involve between 40 and 50 villages which receive lockable pesticide containers compared to an equal number of villages without that intervention. Rather than randomly assigning houses, cluster should be randomized and stratified by villages or areas, and stratified according to local rates of suicidal

behaviour. Evaluation would involve studies of suicide rates and methods used, hospital poisoning cases and methods used as well as substitution by methods other than pesticides. One of the dangers in many areas is substitution by the use of Yellow Oleander, a poisonous plant widely available in many areas.

Pesticides and Suicides in India

Dr. Lakshmi Vijayakumar reported on the situation of pesticide suicides in India. In India, poisonings account for 37% of deaths by suicide, of which pesticides account for over half the deaths, approximately 21,400 deaths per year. 93.2% of pesticide suicides occur in rural areas and 99.6% of all suicides occur in rural areas of India. Most suicides by pesticide in India involve men, and two-thirds of suicides are between age 15 and 44 years old. Overall suicide rates in India by region are related to the percentage of the area in which pesticides are used (the correlation between suicide rate and percentage of area under pesticides is .62).

In her conclusions, Dr. Vijayakumar emphasized the need for multiple approaches to preventing pesticide related suicides. It is necessary to reduce many of the underlying causes of suicide, including debt, economic difficulties in rural areas and the need for more self-help groups. In addition she suggested many possible ways to reduce pesticide related suicides. These include eliminating use of more highly toxic compounds by substituting them by less toxic, equally effective alternatives, better labelling and training in safe handling of pesticides, and isolating people from the hazard. She suggested that one

could restrict pesticide sales to licensed purchasers and that only designated persons could have access to pesticides. In this context, securing access to pesticides may be a promising alternative.

Feedback from an Industrial Perspective

Mr. David Scott from Syngenta presented a perspective on accidental and deliberate misuse of pesticides in which he began by indicating that this is a key issue for the crop protection industry. As indicated in the World Health Organization Report (1990), it is estimated that 3 million cases of pesticide poisonings occur every year worldwide, resulting in an excess of 250 000 deaths. Most of these are intentional and the rest result from unintentional poisoning. He indicated that deliberate self-harm, the major cause of serious and fatal incidents involving pesticides, can divert attention from the multiple benefits of pesticides to agriculture. In order to reduce pesticide related harm, Syngenta is involved in education and training, improving medical surveillance and intervention and promoting locked storage of pesticides. Recent pilot studies indicate encouraging results from locked storage programmes. After the positive experiences reported by Lakshmi Ratnayeke in Sri Lanka, more extensive pilot testing is being supported as well as activities to disseminate their findings. A workshop in 2004 was conducted in Sri Lanka and they are supporting this workshop in Durban, South Africa, in order to promote further roll out, along with increasing linkages with the World Health Organization Pesticide Programme.

In China, an evaluation study of a pesticide safe use programme a farmer training campaign was conducted by the South West Agricultural University supported by Syngenta (China). The training campaign focused on all aspects of safe and effective use and was evaluated by surveys before and after participation and behavioural changes were observed. Pesticide storage boxes with locks were provided. They found that pesticide poisoning cases decreased in Pengzhou after the pesticide safe use farmer training programme. Before the training programme in 2003, there were 199 pesticide poisoning cases, but 124 in 2004 after the training (a decrease of 37.7%). Of these poisonings, the suicides decreased from 192 in 2003 to 119 in 2004 (38% decrease).

Mr. Scott discussed a cooperative programme between various stakeholders in Western Samoa involving support for counselling programmes and outreach. Suicide in Western Samoa decreased in the two years after the Syngenta sponsored suicide prevention programme began in 2002.

Between 2002 and 2005, in Nicaragua, Syngenta conducted an education programme in occupational health and using pesticides. Between September 2002 and November 2004, they conducted 1408 workshops on the safe use of pesticides in Matagalpa and Jinotega. In the 3 years following introduction of the programme there were decreases in cases of intoxication involving pesticides in Matagalpa and Jinotega. This was observed in both cases where there were suicide intention, and in occupational and accidental intoxications. However the reductions were more pronounced in cases of occupational and accidental intoxications, which were the main focus of the educational programme. The

study indicates that education can have a significant impact on pesticide poisonings.

He concluded by emphasizing Syngenta's active way of addressing accidental and deliberate misuse of crop protection products by partnering with local and global NGOs, the World Health Organization and Croplife. Syngenta is hoping to develop best practices by supporting research on the effectiveness of several initiatives, including programmes testing locked boxes for safe storage of pesticides. Syngenta, while defending farmers ability to access crop protection products (pesticides), is committed to reducing accidental and deliberate of CPPs.

Work Group Discussions and Recommendations

During the workshop, participants were divided into 4 workgroups with each workgroup having a mix of researchers, practitioners and representatives from the pesticide industry. Two of the workgroups examined on the second goal: to explore the notion of improving secure access as an effective measure in reducing suicide. The other two workgroups worked on the third goal: to develop a framework in which securing access to the means of suicide (using the "pesticide" model) can be replicated and evaluated in relevant communities. The conclusions of the workgroup reports to the workshop participants are summarized below.

Framework for Secure Access

The first workgroup developed a model in which a framework for secure access was situated in terms of its larger context. They traced access to pesticides from its production facility, through transport mechanisms to a holding company, warehouse, and distributor, then to the farmer and from the farmer who purchases it from the distributor to the specific farm workers who are using the product. In this context, secure access to prevent suicide and poisoning concerns the farmer and the farmer worker in cases where the farmer who purchases the pesticide is not the person who needs to have access to it for its use. At the production level, there are potential changes that make pesticides safer, relating to the formulation of pesticides. For example, emetics could be added, agents that make the taste incredibly bitter can be included, and the percentage of active ingredients may be reduced.

They emphasized the fact that secure access programmes involve a paradigm shift. People need to be educated to treat pesticides differently in order to use secure storage facilities. They suggested that rewards for using safe practices must be identified and wondered if legislation or regulation about how pesticides should be stored may be effective. Regardless of the approach adopted, they emphasized the need for good scientific evaluation, which not only assesses outcomes, but also obtains a good description of the community as well as evaluation of the implementation of the programme, the extent to which the programme was used as planned.

The second workgroup examining frameworks for secure access emphasized that any model must be able to be replicated and evaluated. They questioned whether or not in some cultures a culturally specific model needs to be used or if a “generic” model may be applied in different countries, cultures and locations. They felt it is important to limit access to means because of the impulsive nature of suicide, as demonstrated in the presentation by Michael Phillips showing that the time between the first thoughts of killing oneself and action are a matter of hours in most circumstances. They expressed concern that there may be substitution of methods in some cases where secure access programmes are implemented, and this needs to be closely examined in any evaluation studies. Furthermore, one must take a long-term perspective to assure that any programme is sustained over time and integrated into more general prevention programmes.

They discussed how to share responsibility for safe access; should each farmer make their own decision of when to take pesticides out of the home and where to bring them? They were also concerned about the link between secure access and misuse. The dual messages to both keep it secure and protect children and others may be important. The idea of having double keys was appreciated. They also asked which agencies in which countries would be responsible for programmes. They pointed to the need for rigid evaluations using case-control studies comparing equivalent populations with and without safe access provided. They said that the best model would be one in which safe access was provided and then taken away in experimental communities and

compared to other communities where safe access was first not provided and then provided. However, this research design poses ethical and practical concerns.

Secure access as an Effective Means of Reducing Suicide

The first workgroup to explore how improving secure access can be an effective measure in reducing suicide first raised several questions: What types of suicidal behaviour may be affected? How will “secure access” be achieved? What is the relative importance (vis-à-vie other approaches) of secure access? They then focused on how to achieve secure access.

They felt that government policies providing that pesticides should be kept under lock and key and sold only in original child-proof containers are useful, although in many countries, for example in South Africa, there is much concern of “escape of pesticides into illegal channels.” There were some questions about whether regulations such as this can work with larger scale commercial farmers and how this could be translated at the community level.

Because of the cost involved in achieving secure access, they felt that donor aid may be needed to provide the means for realizing these projects. But equally important is the need for social marketing to highlight the importance of securing pesticides so that they may not be used for other purposes. This will involve major campaigns. Despite the problems with any regulations, they felt that having regulations is better than having none. They also examined the possibility of community approaches in which one person in the community controls the access to all pesticides, as opposed to the individual approach

where each farmer controls access to their own pesticides. They emphasized the importance of these persons understanding why the regulations are in place. It was pointed out that in Norway, reducing suicides by guns was achieved not only by legislation, but by intensive public education campaigns.

This workgroup also examined the relative importance of secure access as a manner of preventing suicides by pesticides. They examined other options, including banning of selected pesticides, decreasing their lethality and adding emetics. They also felt that mental health initiatives to prevent people from developing crises and effectively treating mental disorders such as depression and psychoses are important. They discussed the poor or impoverished farmers who have difficulty with their crops and wondered if the emphasis should be placed on initiatives to alleviate poverty. They concluded that secure access is most important in preventing “spontaneous” suicides. “Premeditated” suicides may be prevented best by other means such as providing counselling and helplines, although secure access will be of additional benefit with premeditated suicide as well. They emphasized the need for better management of post-ingestion of suicides in villages and rural communities.

The second workgroup to examine the notion of improving secure access as an effective measure in reducing suicide concluded that it is essential and listed a number of elements of a secure access programme, as well as complementary actions that may have the potential of increasing its impact. Overall, the objective is improving secure access is to delay immediate availability. They suggested that education campaigns among youth could be

extremely useful as well as having media campaigns to increase awareness. They also favoured statutory controls and talked about having stricter regulations on the sale of pesticides in retail outlets. Adding an emetic could be of use as well as educating specific individuals and communities on the immediate treatment of pesticide ingestion. They thought that it was important to identify who is responsible for implementing programmes and ensuring that programmes are followed.

Conclusions

There was general agreement among all participants that ensuring safer access to pesticides has a great potential to reduce suicides by pesticide ingestion and significantly decrease suicide rates in countries where this method of suicide is common. The participants recognized that controlling access to means does not solve the root problems that lead people to consider ending their lives. There is a need for greater effort to better understand and reduce problems associated with suicide in rural areas. It was suggested that programmes to provide secure access to pesticides should be linked to other initiatives which aim at helping people with problems and resolving the underlying risk factors, including poverty and mental health disorders. Initiatives in China, Sri Lanka and India, among others, appear promising. Providing locked boxes has been shown to be an acceptable means of increasing the security of pesticides and recent evaluation results suggest that they may have a significant effect on suicide rates. However, it is important to conduct larger scale

investigations that follow interventions for long periods of time, with particular attention to verifying that there is not substitution of methods.

Professor Brian Mishara

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3	Dr Lanny Berman	USA	Delegate	Psychologist
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9	Prof. Keith Hawton	United Kingdom	Presenter	Psychiatrist
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11	Dr Luis Miguel Sanchez Loyo	Mexico	Delegate	Psychiatrist
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15	Dr Carlos Felipe D'Oliveira	Brazil	Delegate	Psychiatrist
16	Mr Justin Perera	Sri Lanka	Delegate	Industry
17	Dr Michael Phillips	China	Presenter	Psychiatrist
18	Mrs Lakshmi Ratnayeke	Sri Lanka	Presenter	NGO director
19	Prof. Lourens Schlebusch	S.Africa	Delegate	Psychiatrist
20	Mr David Scott	Switzerland	Presenter	Industry
21	Mrs Vanda Scott	France	Coordinator	NGO consultants
22	Mr Tim Snow	S.Africa	Delegate	Industry
23	Dr Michael Strong	Australia	Delegate	NGO consultant
24	Prof Verdoorn	S.Africa	Delegate	AVCASA poison centre
25	Desiree van Heerden	S.Africa	Delegate	Industry
26	Prof Kees van Heeringen	Belgium	Delegate	Psychiatrist
27	Dr Myriam Vernaet	Belgium	Delegate	Psychologist
28	Dr Lakshmi Vijayakumar	India	Presenter	Psychiatrist
29	Professor Zhang Jie	USA	Delegate	Psychiatrist

Appendix 1: Programme

International Workshop on Secure Access-Pesticides September 2005, Durban, South Africa (Sponsored by Syngenta Crop Protection)

Aim:

The Aim of the workshop is to develop a collaborative model in which the issues surrounding the use of pesticides as a means of suicide is addressed, actioned and publicised with the ultimate target of reducing death through suicide by ingesting pesticides.

Four goals have been identified as:

Goal 1:

To review the background of the constructive use of pesticides as an essential economic and agricultural necessity versus their use as a means for suicide in developing countries.

Goal 2:

To explore the notion of improving secure access as an effective measure in reducing suicide.

Goal 3:

To develop a framework in which securing access to the means of suicide (using the “pesticide” model) can be replicated and evaluated in relevant communities.

Goal 4:

To deliver a proposal to secure core donor funding for country projects.