



WORLD HEALTH ORGANIZATION
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To Promote Sun Protection





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Designed by Con Stamatidis, The Cancer Council Victoria

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PREFACE

Overexposure to ultraviolet (UV) radiation from the sun and artificial sources is of considerable public health concern. It plays an important role in the development of skin cancer and eye damage (particularly cataracts), and suppresses the immune system.

Children are particularly at risk as (i) sun exposure during childhood and adolescence appears to set the stage for the development of both melanoma and non-melanoma skin cancers in later life, (ii) a significant part of a person's lifetime exposure occurs before age 18, and (iii) children have more time to develop diseases with long latency, more years of life to be lost, and more suffering to be endured as a result of impaired health.

Prevention efforts in schools to change children's knowledge, attitudes, and behaviour regarding sun protection can significantly decrease adverse health effects and health care costs.

Experts worldwide participated in the International Workshop on Children's Sun Protection Education, organized by the World Health Organization (WHO), held in Orvieto, Italy, on 4 October 2001. Based on the outcomes of this workshop, WHO has developed a comprehensive package of materials for children's sun protection education.

This includes:

- *Sun Protection and Schools: How to Make a Difference*, which describes the importance of sun protection in schools, and outlines necessary steps for establishing a school programme.
- *Sun Protection: A Primary Teaching Resource*, which is for primary school teachers and provides suggestions and ready-made teaching activities.
- *Evaluating School Programmes to Promote Sun Protection*, which is for schools, and educational and health authorities.

Evaluation is critical to assess effectiveness. Therefore, this resource has been developed to assist the implementation of school-based evaluation programmes relating to sun protection. It is intended to provide guidance, rather than be prescriptive, and to identify where further information can be found.

This document is intended primarily for teachers, school support staff, and allied health workers at the local or district level who have had limited evaluation experience but are required to oversee the implementation of health education and/or policy in schools.

The resource was prepared by Donna Cross, Curtin University of Technology, Australia, Stephanie Harper, The Cancer Council Victoria, Australia, Craig Sinclair, WHO, and Terry Slevin, Cancer Foundation of Western Australia.

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SUN PROTECTION PROGRAMMES IN SCHOOLS

A school programme to educate children about the dangers of sun exposure aims to increase knowledge of the link between sun exposure and health-related outcomes, and to improve knowledge, attitudes, and skills in relation to sun protection in order to reduce children's sun exposure. A sun protection programme can also improve shade provision, or ensure that less outdoor activity is scheduled in the middle of the day. These changes alone can significantly reduce student sun exposure.

However, behaviour changes or modifications to the school environment are more likely to occur when the rationale for these changes is understood by the whole school community, and plans are in place to monitor their effectiveness. When such changes occur, children are likely to reduce their risk of skin cancer and eye damage (particularly cataracts) later in their adult life.



WHAT IS EVALUATION?

To evaluate is to make a judgement about the “value” or worth of something. That judgement must be made against an expectation based on past experience and relate to what is important. Different people might evaluate the same things in different ways.

In evaluating school-based sun protection programmes, a teacher might evaluate a programme according to the degree to which the programme engaged and involved students, the level at which students contributed to the programme, and the amount students learned from the project. The health researcher might only measure the amount of time students spent in the sun before and after the programme, or the number of times the students were sunburnt before and after the programme. Each group must identify what is important and gather information that assists in making a judgement about the worth of the programme based on the group’s stated objectives.

The scope of any evaluation must be done with recognition of what is achievable by the intervention it assesses, and be in proportion with the resources and effort invested in the programme.

Why evaluate?

Evaluation is a powerful tool that can be used to inform and strengthen school health programmes. The essential purpose of evaluation is not about the “success” or “failure” of a programme, but rather to provide the information necessary to determine if a programme is effective, and, if not, to identify opportunities for improvement. However, an evaluation can also provide the information required to ensure continued support and investment in the programme.

Properly conducted evaluation helps policy-makers and planners to:

- keep participants informed about outcomes;
- provide feedback and make improvements or adjustments as necessary;
- provide information that can be shared in order to help others;
- value the efforts of schools and their communities.

Programme evaluation is an essential tool for:

- creating better information to judge the effect, or lack thereof, of a programme, not just relying on perception of success;
- ensuring the best use of scarce resources for health and education;
- maximizing the quality and sustainability of the programme (as we know long-term programmes are more likely to be effective).

Whether we are running a programme which we have run many times before, or running it for the first time, we can learn from those we aim to influence how to make the programme more effective or more efficient. Unless we assess or measure the processes and the results of our programmes, we cannot truly know if we are achieving our aims and objectives. Unless we conduct some evaluation, we may be either wasting time and resources or even making things worse than when we started.

By conducting evaluation, schools and health organizations can also demonstrate to potential funding agencies their commitment to quality and focus on results. This also builds confidence with the funding body to continue funding the programme over the longer term.

Provision for evaluation should be made at the outset and it should be an ongoing process. Once needs have been assessed and objectives developed, an evaluation and monitoring plan should be formulated to track progress in relation to those objectives. Evaluation is essential during the implementation phase to check that it is proceeding as planned. After a predetermined interval, the outcomes and impact of the interventions should be assessed, and decisions made regarding the need for further improvements. The cycle can then be repeated as the programme progresses.

Before investigating how to conduct an evaluation of sun protection programmes aimed at children, it is worth covering how, in theory, sun protection programmes operate. The model in Figure 1 (see below) illustrates where changes can be assessed through evaluation and research.

Who evaluates?

While having someone from outside the school evaluate its ultraviolet (UV) radiation programme is a good way to impartially assess progress, few schools have the opportunity to afford or access such a service. However, sometimes the best people to evaluate whether a programme is achieving its objectives are those who are directly involved in the programme's management and implementation. In this way, any changes can be made to the programme quickly and efficiently. When evaluation is done in these circumstances, you don't necessarily need prior evaluation experience to obtain a good assessment of your programme's progress.

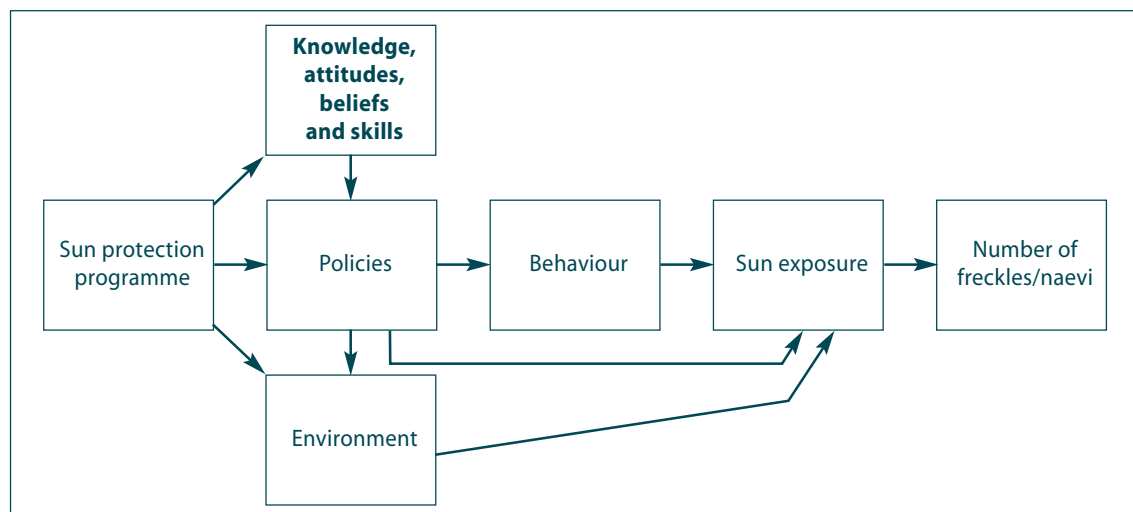


Figure 1: A model of sun protection programmes leading to a reduction in skin cancer. Adapted from Green L, Kreuter M. Health Promotion Planning: An educational & ecological approach. 1999

TYPES OF EVALUATION

There are two main types of evaluation that are most relevant for school health programmes: process and outcome evaluation.

Process evaluation

Process evaluation assesses what interventions have been implemented, with whom, and when. It is carried out during the delivery of the programme and provides information about progress towards objectives and the need for interim adjustments. Methods that can be used for process evaluation include record keeping by schools and interviews with teachers, school administrators, and others.

Process evaluation answers questions such as:

- To what extent are the programmes being implemented the way that they are intended?
- To what extent are the programmes reaching the individuals who may need them (e.g. students, parents, teachers, and community members)?
- How do participants feel about the programme? (Qualitative data can be used at this point to fine-tune the programme to better fit participants' needs.)

Outcome evaluation

Outcome evaluation measures whether and to what extent objectives have been achieved. Data that is collected before the programme (i.e. intervention) has started is considered baseline data. Collecting baseline data is an important component of the evaluation process as it makes it possible to assess whether change has occurred since the programme's commencement. Both qualitative and quantitative data can constitute baseline data, with relevant post-intervention data used to assess whether changes

have occurred according to the desired programme objectives.

Here are some examples of possible outcome evaluation data:

- Monitoring changes in the frequency of children getting sunburnt both during school-based activities and out of school hours;
- Monitoring whether there have been changes in knowledge of sun-protective methods, frequency of use of various sun protection strategies, or attitudes of parents and children towards sun protection;
- Monitoring the number of naevi (moles) children develop during the course of their school life.

Outcome evaluation answers questions such as:

- Are the interventions achieving what was expected, as expressed in the objectives?
- To what extent did students adopt healthy behaviours or create healthy conditions?
- To what extent did the programme increase students' knowledge, attitudes, and skills in relation to the harmful effects of UV radiation and how to prevent them?
- Which specific interventions worked best? Which did not work?
- How did students feel about the interventions?

HOW TO MEASURE CHANGE

There are many ways to ascertain whether changes are taking place in the school environment. The following is adapted with permission from *Health Promotion in Our Schools* (edited by Hugh Hawes, Child-to-Child Trust, London 1997). It provides some examples of school-based evaluation ideas relating to skin cancer prevention to help us understand how we can find out whether changes are taking place. Using a variety of methods to assess effectiveness ensures a balanced assessment.

Keep records and diaries

Both teachers and students could keep a health diary for a period of time. Depending upon how the diaries are developed, their content before and after any intervention could be compared. The records or diaries could measure:

- the amount of sun exposure and/or frequency of sunburn the students experience from day to day during school time and out of school hours;
- the proportion of school children, parents or other relevant groups influenced by sun-protective interventions;
- the use of sun-protective measures, including sunscreen and hats;
- the amount of sunburn students experience while they are on holiday.

Talk with people in the school community

Much of this activity is done as the programme develops. Good information can be obtained by talking individually or in groups to the children, their parents, and other teachers. Information can be collected informally or in a more structured manner with set questions.

Questions could include:

- Do families and the community see the school as a source of reliable and useful information in relation to sun protection?
- What do parents and/or community members think about the sun-protective interventions that have been implemented?
- Have parents changed sun-protective practices at home as a result of school programmes?
- Have parents noticed any changes to the sun-protective behaviour of their children?
- Are teachers finding the sun protection curriculum material satisfactory for their subject areas?

Test knowledge and skills

Correct knowledge and skills are essential in health education. Children can be assessed about their knowledge of and skills in sun protection through, e.g. formal tests, role plays, oral presentations, and creative expression. Techniques such as “talk and draw” are especially useful in assessing knowledge/skills in younger children.

Observe

By looking at the practices in the school routine or observing the school buildings and its surroundings, a lot can be learned about whether changes are taking place in relation to sun protection. For example:

- Changes in the *school environment* can be observed by assessing whether the amount of shade in the school grounds has increased;
- The manner in which the school has *changed its routine* can be seen by whether:
 - students/staff/parents are actively encouraged to wear sun-protective clothing;

- children are reminded regularly to put on sunscreen before they go outside;
- sun protection is taught by all relevant teachers;
- outdoor activities are scheduled to avoid midday sun exposure.
- Or changes can be observed by noting the way *children and teachers* act. For example:
 - Are students/staff/parents wearing sun-protective clothing and hats?
 - Are parents giving their children sunscreen to bring to school?
 - Are students raising the importance of sun protection in other areas of their work?
 - Are teachers, without being prompted regularly, reminding students about the importance of sun protection?

Measure changes in attitude

The aim of any skin cancer prevention activity is to help children develop positive attitudes that will stay with them after they have left school. It is also useful to measure the attitudes of teachers, as they are responsible for implementing any changes in sun protection programmes.

Attitudes can be measured by a questionnaire, by independent observers asking questions of students, teachers or parents (this is preferable), or by asking students to respond to a role-playing situation in the classroom. Some of the questions could include:

- What do students, teachers, and parents think of the sun protection curriculum and/or policy?
- Do teachers feel comfortable teaching about sun protection?
- What do students think about being asked to wear hats and/or sunscreen when they are playing outside?

- Do school staff and parents understand why having a sun protection programme is important?
- Have participants' attitudes to suntanning changed?

Measure policy and practice

For example:

- Does the school have a sun protection policy that covers the wearing of hats and/or protective clothing, shade in the school grounds, or the scheduling of outdoor events away from peak UV radiation times?
- Is sun protection taught across the curriculum in subjects such as science, health and arts/humanities?
- Is the sun protection policy enforced as written?
- Are sun protection curriculum programmes implemented as planned?
- Is in-service training provided, as planned, for educators responsible for implementing sun protection education?
- Is shade available in areas where students are likely to congregate?
- Are outdoor activities and events scheduled to occur outside peak UV radiation periods whenever possible?
- Are teachers, students, school health personnel, parents, and community representatives involved in the planning of the interventions directed towards them?
- Are resources and responsible people designated to support sun-protective interventions?

REPORTING PROGRESS AND ACHIEVEMENTS

It is essential that the outcomes of the evaluation process are communicated to programme participants and the school community as a whole. It should be possible to use the information effectively to form the basis for future planning so that the sun protection programme can continue to develop and improve.

Appropriate reporting of outcomes should recognize and acknowledge achievements and be a means of assisting others to implement sun-protective interventions.

CONCLUSION

Finding out whether we have been effective and what we can do better next time is the cornerstone of why evaluation is important. It allows us to reflect and develop, and informs decision-making. By doing evaluation we can influence others as to why sun protection programmes should be sustained, developed further, or even dropped. Evaluation can also provide information about the appropriateness of the programme objectives and whether they might need to be modified for future programmes.

Whether the requirement is to convince or inform other teachers, school administrators or funding bodies, evaluation provides the evidence. Without it, opinions can be formed or decisions made based on hearsay and anecdotes.

By starting with simple and achievable evaluation goals and processes, clearly linked to programme objectives, sun protection programmes in schools can become more effective, efficient, and sustainable.

FURTHER INFORMATION

This resource is designed to complement *Sun Protection and Schools: How to Make a Difference* and *Sun Protection: A Primary Teaching Resource*. These documents can be downloaded from the website of WHO's Intersun Programme:

Intersun, The Global UV Project

Protection of the Human Environment
World Health Organization
1211 Geneva 27
Switzerland
<http://www.who.int/phe/uv>

School programmes on sun protection

The following websites provide information about school programmes and teaching resources. For specific information about their evaluation, you are encouraged to contact the programmes directly.

Australia

SunSmart Campaign

The Cancer Council Victoria
1 Rathdowne Street
Carlton Vic 3053
<http://www.sunsmart.com.au/>

Cancer Foundation of Western Australia Inc.

46 Ventnor Ave
West Perth WA 6005
<http://www.cancerwa.asn.au>

Canada

Children's UV Index Sun Awareness Program

Meteorological Service of Canada
4905 Dufferin Street
Downsview
Ontario M3H 5T4
<http://www.msc-smc.ec.gc.ca/uvindex/>

France

Vivre avec le soleil

Sécurité Solaire
15 rue Manin
75019 Paris
www.infosoleil.com/vivreaveclesoleil.php

Northern Ireland

Care in the Sun

Ulster Cancer Foundation
40/42 Eglantine Avenue
Belfast
BT9 6DX
<http://www.careinthesun.org/>

United Kingdom

SunSafe

Department of Health
Richmond House
79 Whitehall
London SW1A 2NS
<http://www.doh.gov.uk/sunSAFE>

United States

The SunSafe Project

Norris Cotton Cancer Center, HB 7925
One Medical Center Drive
Lebanon, NH 03756
<http://www.dartmouth.edu/dms/sunSAFE/>

Click on medical publications to see some comprehensively evaluated school projects.

SunWise School Program

United States Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Mail Code 6205J
Washington, DC 20460
<http://www.epa.gov/sunwise/>

Recommended reading

Hawes H (ed). *Health Promotion in Our Schools*. Child-to-Child Trust in association with UNICEF, UK. 1997.

Hawe P, Degling D & Hall J. *Evaluating Health Promotion. A Health Workers Guide*. MacLennan & Petty, Sydney. 1990.

National Center for Chronic Disease Prevention and Health Promotion. *Guidelines to Prevent Skin Cancer among Young People*. See http://www.cdc.gov/nccdp/hdash/healthtopics/skin_cancer/guidelines/re_sources.htm

World Health Organization. *Evaluation in Health Promotion. Principles and Perspectives*. WHO Regional Publication, European Series No 92. 2001.

