

## 1: Strategies to Prevent Obesity | Overweight & Obesity | CDC

*This article provides an overview of prevention and control strategies. Role and necessity of prevention and control strategies The concepts of risk assessment and risk management are fundamental to prevention and control of risks to safety and health in the workplace.*

Occupational accidents and diseases cause great human suffering and loss and the economic cost is also high. In order to avoid accidents from happening and occupational diseases from occurring, EU wide minimum requirements for safety and health protection at the workplace have been adopted across the Member States. This article provides an overview of prevention and control strategies. Role and necessity of prevention and control strategies The concepts of risk assessment and risk management are fundamental to prevention and control of risks to safety and health in the workplace. The key aspects of risk assessment include making sure all relevant risks are taken into account, checking the efficiency of the safety measures adopted, documenting the outcomes of the assessment and reviewing the assessment regularly to keep it updated. Workers have a right to reduction in ill health and accidents given that these things can be prevented or reduced if risk assessment and risk management are done. The ILO strategy includes the background for the need for a preventative culture including that the magnitude of the global impact of occupational accidents and diseases , as well as major industrial disasters, in terms of human suffering and related economic costs, have been a long standing source of concern at workplace, national and international levels. Significant efforts have been made at all levels to come to terms with this problem, but nevertheless the ILO estimated in that over 2 million workers die each year from work related accidents and diseases and that globally, this figure is on the increase. It is difficult to get a more current overall statistical picture of ill health, injury and death caused by work as statistics are collected by individual countries or groups of countries and in different ways. In , the reported number of fatalities due to work place accidents in the EU was about 3, and some 2. In contrast to prevention, control is the term to describe mitigation activities where the risk cannot be prevented. The Framework Directive contains general principles concerning: Under article 16 of the Framework Directive other, more specific, directives are created. All the single Directives have in common that they share the principles and approaches of OSH risk management which are set out in the Framework Directive. Still they establish more detailed risk management measures with regard to certain hazards or risks at the workplace, e. Even outside specific regulation, the principles of the Framework Directive are still applicable. One example is an increasing number of workers exposed to psychosocial risks at work and affected by work-related stress. Also broader health issues are to be considered. Risk assessment is the cornerstone of the European approach to prevent occupational accidents and ill health. It is the start of the health and safety management approach. If it is not done well or not at all the appropriate preventative measures are unlikely to be identified or put in place. Risk assessment can be defined as "the process of evaluating the risk to health and safety of workers while at work arising from the circumstances of the occurrence of a hazard at the workplace". The fundamental steps in risk assessment are: Deciding on preventive action Step 4: Taking action Step 5: The assessment shall be kept up-to-date, particularly if there have been significant changes or if the results of health surveillance show it to be necessary. The specific protection, prevention and monitoring measures listed below must be applied if the assessment carried out by the employer reveals a risk to the safety and health of workers. The employer must ensure that the risk: Risk assessment requires a fundamental understanding of the terms hazard and risk. It also requires the person undertaking the risk assessment to be competent. Competence is particularly derived from appropriate training and experience. A hazard is something e. Water on a staircase is a hazard, because you could slip on it, fall and hurt yourself. Loud noise is a hazard because it can cause hearing loss. A risk is the likelihood that a hazard will actually cause its adverse effects, together with a measure of the effect. It is a two-part concept and you have to have both parts to make sense of it. Likelihoods can be expressed as probabilities e. The effect can be described in many different ways. The annual risk of a worker in Great Britain experiencing a fatal accident effect at work hazard is less than one in , likelihood ; About workers each year likelihood in Great Britain suffer a non-fatal major injury effect from contact with moving machinery

hazard ; or The lifetime risk of an employee developing asthma effect from exposure to substance X hazard is significant likelihood. Risk management Once the risk has been assessed a decision needs to be made on what new measures if any need to be introduced in order to reduce the residual risk, taking into account what is regarded as good practice as a guideline. The key point is that wherever preventative measures are to be taken they should improve the level of protection afforded to workers with regard to safety and health. Where possible it is particularly important that decisions of this type should be made at the design or purchasing stages of new processes, plants, products and procedures. Across Europe and in many other countries, demographic change means that employers are increasingly needing to accommodate older workers. This is an important factor to take into account, not only in risk assessment but also in managing those risks. A particular focus lies with those workers having some form of disability possibly just due to age-related degenerative change and the legal duties of employers extends to making suitable adjustments for such workers to enable them to remain in work. Safety and health management systems Commonly, risk assessment and all kind of prevention and control measures are embedded in the management process landscape or in management systems. The involvement of top management in all steps of the process is essential for an effective management system. Hierarchy of prevention and control measures Main article: The order of priority is also known as the hierarchy of control. There different hierarchies of prevention and control measures which have been developed by different institutions. The five steps are: Elimination of hazards refers to the total removal of the hazards and hence effectively making all the identified possible accidents and ill health impossible. Elimination is the ideal objective of any risk management. If the hazard is removed, all the other management controls, such as workplace monitoring and surveillance, training, safety auditing, and record keeping will no longer be required. Substitution means replacing the hazard by one that presents a lower risk. The elimination is immediately combined with a shift to another but much lower risk. With chemicals, substitution with a safer form of the same chemical, rather than replacing the chemical may offer a viable, safer option e. Step 3 Engineering Controls: Engineering controls are physical means that limit the hazard. These include structural changes to the work environment or work processes, erecting a barrier to interrupt the transmission path between the worker and the hazard. Priority should be given to measures which protect collectively over individual measures. Step 4 Administrative Controls: Also known as organisational measures administrative controls reduce or eliminate exposure to a hazard by adherence to procedures or instructions. Documentation should emphasise all the steps to be taken and the controls to be used in carrying out the activity safely. Particularly in respect of younger workers, social media is of growing importance as an avenue for disseminating safety messages and other information relating to occupational safety and health. Improving the resilience of workers through measures such as workplace health promotion can also be a useful aspect of a holistic approach to prevention and control. The success of this control is dependent on the protective equipment being chosen correctly, as well as fitted correctly, worn at all times and maintained properly. The reason that the use of PPE is at the bottom of the hierarchy of controls and is effectively a last resort is because of the higher likelihood compared to controls higher up the hierarchy of failing to danger because they place so much reliance for their success on the individual - be that in terms of them actually using the PPE or how well they use it or it actually fits them. Hierarchy of Controls Source: In the context of prevention and control measures , the legal framework prioritises avoidance and elimination of the risks at source clearly over reduction. Following the EU legislation, "reduce the hazards and the risk" also has a double implication, which is unfortunately not really apparent at first glance in the above mentioned OHSAS hierarchical system: In most situations, the actual method for controlling the risk is a combination of options in the hierarchy. Training of workers should be associated with all steps and is fundamental to prevention and control. Where a potential emergency scenario is identified as part of the risk assessment then appropriate drills and exercises are likely to be part of the training and familiarisation of workers to deal with any such situation arising. Assessment of effectiveness of prevention and control strategies Audit European directives or national legislation establish that the employers have a duty to ensure the safety and health of workers in every aspect related to the work. The employers have responsibilities not only to take the necessary measures, but also to assure an improvement in the level of protection afforded to workers. Guidelines issued by national OSH

authorities in OSH at workplace describe the elements of an OSH management system model, subjected to periodic audits that could conduct to success in implementation of legislation. An audit is defined as a systematic, independent and documented process for obtaining evidence and evaluating it objectively against standards to determine to what extent the defined audit criteria are fulfilled. It is essential that inspection or audit or other management systems are properly applied and maintained in order that risks are managed effectively. An example of a management systems approach is EU; BS Practical examples of assessment of effectiveness of prevention and control strategies Examples of assessment of effectiveness of control measures include the measurement of worker exposure to hazardous substances followed by appropriate comparison with relevant exposure standards. Where engineering controls such as local exhaust ventilation LEV are being used to manage the risk of worker exposure to hazardous substances the performance of the LEV can be assessed by quantitative measures such as measurement of velocity of airflow at the face of booths and in pipework and also use of qualitative measures e. When controlling the effectiveness, one should also check that risks are not only shifted from one work station, area or activity to another or replaced by another risk. The degree of risk reduction is not always quantifiable. However, when measuring OSH performance in an organisation, both leading and lagging indicators can be used. For example, a quantitative calculation of the impact of the risk reduction measure could be feasible in cases that apply to a large number of workplaces and where there is an easily quantifiable risk such as the number of accidents. Leading indicators can be percentage of OSH projects and activities that are finalised on time, percentage of management meetings wherein OSH is addressed, or percentage of managers and workers that received OSH training. Work away from an employers premises presents particular challenges in preventing and controlling risks. As an example, a guidance document published by UK universities provides a framework for establishing policies and procedures that enable staff, students and other participants in higher education institutions to undertake fieldwork safely. Conclusions Principles of prevention and control underpin management of risks to health and safety at the workplace. These are well established principles and widely applicable. The focus of action and consideration should be given to prevention of risk in the first place, particularly in terms of elimination at the source or substitution e. Psychosocial issues and general health issues should also be considered along with the safety risks and risks to health caused by physical, chemical, and biological agents. Retrieved 20 March from: Retrieved 9 July from: Machinery Safety , 28 Feb. Understanding the Hierarchy of Controls. Retrieved 20 March , from: Managing stress and psychosocial risks at work.

## 2: Prevention Strategies | National AIDS Control Organization | MoHFW | GoI

*According to the Centers for Disease Control and Prevention, one out of every 20 hospitalized patients will contract a healthcare-associated infection. The spread of these infections, however, can.*

The following guidance is current for the influenza season. Please see Recommendations of the Advisory Committee on Immunization Practices – United States, Season for the latest information regarding recommended influenza vaccines. Please see Antiviral Drugs: Information for Health Care Professionals for the current summary of recommendations for clinical practice regarding the use of influenza antiviral medications. This guidance supersedes previous CDC guidance for both seasonal influenza and the Interim Guidance on Infection Control Measures for H1N1 Influenza in Healthcare Settings, which was written to apply uniquely to the special circumstances of the H1N1 pandemic as they existed in October. As stated in that document, CDC planned to update the guidance as new information became available. In particular, one major change from the spring and fall of 2009 is the widespread availability of a safe and effective vaccine for the H1N1 influenza virus. Components of this vaccine have been included in the trivalent seasonal vaccine. Second, the overall risk of hospitalization and death among people infected with this strain was uncertain in spring and fall of 2009, but is now known to be substantially lower than pre-pandemic assumptions. In addition, more information has been recently published or presented indicating that face mask use and hand hygiene reduce the risk of influenza infection in health care and household settings. The current circumstances and new information justify an update of the recommendations. This updated guidance continues to emphasize the importance of a comprehensive influenza prevention strategy that can be applied across the entire spectrum of healthcare settings. CDC will continue to evaluate new information as it becomes available and will update or expand this guidance as needed. Additional information on influenza prevention, treatment, and control can be found on Seasonal Influenza Flu web site. This guidance is not intended to apply to other settings whose primary purpose is not healthcare, such as schools or worksites, because many of the aspects of the populations and feasible countermeasures will differ substantially across settings. However, elements of this guidance may be applicable to specific sites within non-healthcare settings where care is routinely delivered e. HCP include, but are not limited to, physicians, nurses, nursing assistants, therapists, technicians, emergency medical service personnel, dental personnel, pharmacists, laboratory personnel, autopsy personnel, students and trainees, contractual personnel, home healthcare personnel, and persons not directly involved in patient care e. This guidance is not intended to apply to persons outside of healthcare settings for reasons discussed in the previous section. Introduction Influenza is primarily a community-based infection that is transmitted in households and community settings. In addition, more than 10 million persons, on average, are hospitalized each year for influenza-related complications. Healthcare-associated influenza infections can occur in any healthcare setting and are most common when influenza is also circulating in the community. Therefore, the influenza prevention measures outlined in this guidance should be implemented in all healthcare settings. Supplemental measures may need to be implemented during influenza season if outbreaks of healthcare-associated influenza occur within certain facilities, such as long-term care facilities and hospitals [refs: Influenza Modes of Transmission Traditionally, influenza viruses have been thought to spread from person to person primarily through large-particle respiratory droplet transmission e. Transmission via large-particle droplets requires close contact between source and recipient persons, because droplets generally travel only short distances approximately 6 feet or less through the air. Indirect contact transmission via hand transfer of influenza virus from virus-contaminated surfaces or objects to mucosal surfaces of the face e. Airborne transmission via small particle aerosols in the vicinity of the infectious individual may also occur; however, the relative contribution of the different modes of influenza transmission is unclear. Airborne transmission over longer distances, such as from one patient room to another has not been documented and is thought not to occur. All respiratory secretions and bodily fluids, including diarrheal stools, of patients with influenza are considered to be potentially infectious; however, the risk may vary by strain. Detection of influenza virus in blood or stool in influenza infected patients is very uncommon. Fundamental Elements to Prevent Influenza Transmission

Preventing transmission of influenza virus and other infectious agents within healthcare settings requires a multi-faceted approach. Spread of influenza virus can occur among patients, HCP, and visitors; in addition, HCP may acquire influenza from persons in their household or community. The core prevention strategies include: Successful implementation of many, if not all, of these strategies is dependent on the presence of clear administrative policies and organizational leadership that promote and facilitate adherence to these recommendations among the various people within the healthcare setting, including patients, visitors, and HCP. These administrative measures are included within each recommendation where appropriate. Furthermore, this guidance should be implemented in the context of a comprehensive infection prevention program to prevent transmission of all infectious agents among patients and HCP. Promote and administer seasonal influenza vaccine Annual vaccination is the most important measure to prevent seasonal influenza infection. Achieving high influenza vaccination rates of HCP and patients is a critical step in preventing healthcare transmission of influenza from HCP to patients and from patients to HCP. According to current national guidelines, unless contraindicated, vaccinate all people aged 6 months and older, including HCP, patients and residents of long-term care facilities [refs: Systematic strategies employed by some institutions to improve HCP vaccination rates have included providing incentives, providing vaccine at no cost to HCP, improving access e. Many of these approaches have been shown to increase vaccination rates; tracking influenza vaccination coverage among HCP can be an important component of a systematic approach to protecting patients and HCP. Regardless of the strategy used, strong organizational leadership and an infrastructure for clear and timely communication and education, and for program implementation, have been common elements in successful programs. More information on different HCP vaccination strategies can be found in the Appendix: Take Steps to Minimize Potential Exposures A range of administrative policies and practices can be used to minimize influenza exposures before arrival, upon arrival, and throughout the duration of the visit to the healthcare setting. Measures include screening and triage of symptomatic patients and implementation of respiratory hygiene and cough etiquette. Respiratory hygiene and cough etiquette are measures designed to minimize potential exposures of all respiratory pathogens, including influenza virus, in healthcare settings and should be adhered to by everyone “ patients, visitors, and HCP ” upon entry and continued for the entire duration of stay in healthcare settings. Before Arrival to a Healthcare Setting When scheduling appointments, instruct patients and persons who accompany them to inform HCP upon arrival if they have symptoms of any respiratory infection e. During periods of increased influenza activity: Take steps to minimize elective visits by patients with suspected or confirmed influenza. For example, consider establishing procedures to minimize visits by patients seeking care for mild influenza-like illness who are not at increased risk for complications from influenza e. Upon Entry and During Visit to a Healthcare Setting Take steps to ensure all persons with symptoms of a respiratory infection adhere to respiratory hygiene, cough etiquette, hand hygiene, and triage procedures throughout the duration of the visit. Posting visual alerts e. How to use facemasks or tissues to cover nose and mouth when coughing or sneezing and to dispose of contaminated items in waste receptacles. How and when to perform hand hygiene. Implementing procedures during patient registration that facilitate adherence to appropriate precautions e. Provide facemasks See definition of facemask in Appendix to patients with signs and symptoms of respiratory infection. Provide supplies to perform hand hygiene to all patients upon arrival to facility e. Provide space and encourage persons with symptoms of respiratory infections to sit as far away from others as possible. If available, facilities may wish to place these patients in a separate area while waiting for care. During periods of increased community influenza activity, facilities should consider setting up triage stations that facilitate rapid screening of patients for symptoms of influenza and separation from other patients. Reminded that adherence to respiratory hygiene and cough etiquette after returning to work is always important. If symptoms such as cough and sneezing are still present, HCP should wear a facemask during patient-care activities. The importance of performing frequent hand hygiene especially before and after each patient contact and contact with respiratory secretions should be reinforced. Excluded from work until at least 24 hours after they no longer have a fever without the use of fever-reducing medicines such as acetaminophen. Those with ongoing respiratory symptoms should be considered for evaluation by occupational health to determine appropriateness of contact with patients.

Considered for temporary reassignment or exclusion from work for 7 days from symptom onset or until the resolution of symptoms, whichever is longer, if returning to care for patients in a Protective Environment PE [3. Patients in these environments are severely immunocompromised, and infection with influenza virus can lead to severe disease. Furthermore, once infected, these patients can have prolonged viral shedding despite antiviral treatment and expose other patients to influenza virus infection. Prolonged shedding also increases the chance of developing and spreading antiviral-resistant influenza strains; clusters of influenza antiviral resistance cases have been found among severely immunocompromised persons exposed to a common source or healthcare setting. HCP with influenza or many other infections may not have fever or may have fever alone as an initial symptom or sign. HCP with fever alone should follow workplace policy for HCP with fever until a more specific cause of fever is identified or until fever resolves. HCP who develop acute respiratory symptoms without fever may still have influenza infection and should be: Considered for evaluation by occupational health to determine appropriateness of contact with patients. HCP suspected of having influenza may benefit from influenza antiviral treatment. If symptoms such as cough and sneezing are still present, HCP should wear a facemask during patient care activities. The importance of performing frequent hand hygiene especially before and after each patient contact should be reinforced. Allowed to continue or return to work unless assigned to care for patients requiring a PE [3. Facilities and organizations providing healthcare services should: Develop sick leave policies for HCP that are non-punitive, flexible and consistent with public health guidance to allow and encourage HCP with suspected or confirmed influenza to stay home. Policies and procedures should enhance exclusion of HCPs who develop a fever and respiratory symptoms from work for at least 24 hours after they no longer have a fever, without the use of fever-reducing medicines. Ensure that all HCP, including staff who are not directly employed by the healthcare facility but provide essential daily services, are aware of the sick leave policies. Employee health services should establish procedures for tracking absences; reviewing job tasks and ensuring that personnel known to be at higher risk for exposure to those with suspected or confirmed influenza are given priority for vaccination; ensuring that employees have prompt access, including via telephone to medical consultation and, if necessary, early treatment; and promptly identifying individuals with possible influenza. HCP should self-assess for symptoms of febrile respiratory illness. In most cases, decisions about work restrictions and assignments for personnel with respiratory illness should be guided by clinical signs and symptoms rather than by laboratory testing for influenza because laboratory testing may result in delays in diagnosis, false negative test results, or both. Top of Page 4. Adhere to Standard Precautions During the care of any patient, all HCP in every healthcare setting should adhere to standard precautions, which are the foundation for preventing transmission of infectious agents in all healthcare settings. Standard precautions assume that every person is potentially infected or colonized with a pathogen that could be transmitted in the healthcare setting. Elements of standard precautions that apply to patients with respiratory infections, including those caused by the influenza virus, are summarized below. All aspects of standard precautions e. Hand Hygiene HCP should perform hand hygiene frequently, including before and after all patient contact, contact with potentially infectious material, and before putting on and upon removal of personal protective equipment, including gloves. Hand hygiene in healthcare settings can be performed by washing with soap and water or using alcohol-based hand rubs. If hands are visibly soiled, use soap and water, not alcohol-based hand rubs. Healthcare facilities should ensure that supplies for performing hand hygiene are available. Gloves Wear gloves for any contact with potentially infectious material. Remove gloves after contact, followed by hand hygiene. Do not wear the same pair of gloves for care of more than one patient. Do not wash gloves for the purpose of reuse. Gowns Wear gowns for any patient-care activity when contact with blood, body fluids, secretions including respiratory , or excretions is anticipated. Do not wear the same gown for care of more than one patient.

## 3: WHO | Prevention

*This education module focuses on influenza prevention and control strategies for staff and others who work in Head Start and other early education and child care programs.*

Consolidating the success gained, a focused HIV intervention has been developed to reduce HIV prevalence among the key population. The TI program has evolved over 4 Phases of the National AIDS Control Program NACP and this has been achieved through national, regional and state level consultations with multiple stakeholders including community members and civil society organizations. The approach for providing services to this population began by conducting various mapping exercises that helped in arriving at a specific denominator for service provision. FSWs have many sexual partners concurrently. Generally, full time FSWs have at least one client per day. Some FSWs have more clients than others. In addition to the number of clients their nature of work also increases their vulnerability to HIV. The higher risk of FSWs is reflected in a substantially higher prevalence of HIV among them than in the general population. However there has been a steady decline in the HIV prevalence among this population as a result of effective interventions over the years. It is important to know that not all MSM have many sexual partners however, there are MSM sub-populations which do have high rates of partner change as well as high number of concurrent sexual partners. These sub-groups of MSM who often engage in anal sex with multiple partners are at particularly high risk. In order to ensure standardization of program, feedback from stakeholders and communities, the typology wise Technical Resource Groups TRG formed and conducted, periodically. Quite often they are clients or partners of male and female sex workers. Truckers and Migrant workers are named as bridge population through close proximity to high risk groups and are at the risk of contracting HIV. Their living and working conditions, sexually active age and separation from regular partners for extended periods of time predispose them to paid sex or sex with non-regular partners. Further, inadequate access to treatment for sexually transmitted infections aggravates the risk of contracting and transmitting the virus. All interventions are aimed at promoting safe sex through use of condoms. They also facilitate easy access to condoms, treatment for STIs, counselling, testing and treatment services. How are Interventions reached to Truckers? For better recall and understanding information, education and communication materials are used in such community interactions. Peer educational activities are also undertaken for effective outreach of the messages. So far, all interventions were carried out by NGOs at locations where truck drivers halt for sufficient duration like along highway stretches, business activity areas, check posts or port areas. The ultimate aim is to harness the trucking community, associations, brokers and others in driving these interventions. Interventions aimed at Migrants The interventions for migrants are focused on 8. They are of special significance to the epidemic because of their frequent movement between source and destination areas. Therefore, to provide continuum of services to these migrants and their spouses, interventions are proposed at destination, source and transit areas. Industrial houses, factory owners, construction companies and other employers engaging these migrants are also being motivated to provide HIV prevention services to these migrants. For reaching to migrants, NGOs identify volunteers among the migrants community and train them in spreading preventive messages among their fellow workers. Owing to poor infrastructure, weak health care systems and poor connectivity with most facilities, large number of vulnerable population, HRGs, Bridge Population and PLHIVs needed to be provided services. For more details please click here for the operational guideline of LWS. The ELM is feasible in industrial sectors which have certain systems and structures such as company management, association, federation, society, contractor and subcontractor mechanisms that can be leveraged for implementation of the model. For more details please click here for the operational guideline of ELM. The key aspects of the strategy to provide services to FIDUs include: Comprehensive package of services including services specifically addressing needs of Female IDUs Female friendly service delivery mechanisms Gender responsive and need based services Community participation in programme planning and implementation Evidence driven response- Collection and application of strategic information for program design and improvement in quality implementation Opioid Substitution Therapy OST was integrated as part of the harm

reduction service component in Buprenorphine is the drug for the OST program. India has two models for delivering OST Services: The medications are dispensed to the clients on a daily basis directly under supervision by a qualified and trained nurse DOTS. The TI staffs are trained on OST management and are required to follow standard operating procedures drafted to ensure minimum standards of care which include maintenance of records for clinical interactions, dispensing and stock keeping. In this model, the OST centre is located in a Government health care setting medical college hospital, district hospital, sub-divisional hospital, CHC, etc. In addition, the linked IDU TIs also follow-up with clients who drop-out from treatment and conduct regular advocacy with local stakeholders to generate support for the OST programme. OST distance learning programme for building the capacities of service providers engaged in delivery OST has also been developed. This distance learning program is targeted towards the personnel working in OST centres. Recognizing that partnerships with law enforcement agencies would be a value addition to the implementation of the harm reduction services, NACO held a National Consultative meeting with key stakeholders including State prison departments in under the chairmanship of Union Secretary, MOHFW. Based on the suggestions provided by the subject knowledge experts from the national consultative meeting a National strategy on HIV Prevention and Control in Prison Settings was developed. In order to standardise the approach to scaling up coverage among these core groups and bridge populations and maintain a high level of quality, it is important to provide detailed information on various operational issues to TI.

## 4: 10 Best Strategies for Infection Prevention and Control

*Prevention, Treatment, and Control Strategies Strategic Partnerships and Research Capacity While effective tools have been and will continue to be developed to combat malaria, inevitably, over time the parasites and mosquitoes will evolve means to circumvent those tools if used in isolation or used ineffectively.*

The Best Strategy Why is adolescence a critical time for preventing drug addiction? Remember, drugs change the brain—and this can lead to addiction and other serious problems. So, preventing early use of drugs or alcohol may go a long way in reducing these risks. Risk of drug use increases greatly during times of transition. For an adult, a divorce or loss of a job may increase the risk of drug use. For a teenager, risky times include moving, family divorce, or changing schools. Often during this period, children are exposed to substances such as cigarettes and alcohol for the first time. When they enter high school, teens may encounter greater availability of drugs, drug use by older teens, and social activities where drugs are used. A certain amount of risk-taking is a normal part of adolescent development. Can research-based programs prevent drug addiction in youth? Scientists have developed a broad range of programs that positively alter the balance between risk and protective factors for drug use in families, schools, and communities. A Research-Based Guide for Parents, Educators, and Community Leaders , can significantly reduce early use of tobacco, alcohol, and other drugs. National drug use surveys indicate some children are using drugs by age 12 or Prevention is the best strategy. These prevention programs work to boost protective factors and eliminate or reduce risk factors for drug use. The programs are designed for various ages and can be used in individual or group settings, such as the school and home. There are three types of programs: Universal programs address risk and protective factors common to all children in a given setting, such as a school or community. Selective programs are for groups of children and teens who have specific factors that put them at increased risk of drug use. Indicated programs are designed for youth who have already started using drugs. These brain images show the reward-related circuitry in the cortical and subcortical regions of the brain that tend to be more active when a child is successful at achieving a reward. While all of the images show the regions of the brain that are active to reward, the regions in yellow and red are the most active. Adapted from Casey et al.

## 5: Prevention of Soil-transmitted Helminth Infection

*Prevention. The prevention of human rabies is dependent upon the effective and verifiable control of the disease within the domestic dog population, being the most common reservoir of the virus and cause of 99% of human cases.*

Strategic Partnerships and Research Capacity Malaria is a difficult disease to control largely due to the highly adaptable nature of the vector and parasites involved. While effective tools have been and will continue to be developed to combat malaria, inevitably, over time the parasites and mosquitoes will evolve means to circumvent those tools if used in isolation or used ineffectively. To achieve sustainable control over malaria, healthcare professionals will need a combination of new approaches and tools, and research will play a critical role in development of those next-generation strategies. Special Populations Malaria has a significant impact on the health of infants, young children, and pregnant women worldwide. More than 1 million African children under the age of five die of malaria each year. Malaria also contributes to malnutrition in children, which indirectly causes the death of half of all children under the age of five throughout the world. Fifty million pregnant women throughout the world are exposed to malaria each year. In malaria-endemic regions, one-fourth of all cases of severe maternal anemia and 20 percent of all low-birthweight babies are linked to malaria. Scientists are working to better understand how malaria uniquely affects children and pregnant women and to develop new research tools, methods, and products appropriate for these populations. Vaccine Development The development of a safe and effective vaccine against malaria will be critical in malaria control, prevention, and eradication efforts. Currently, no licensed vaccine against malaria or any parasitic disease that afflicts humans exists. NIAID supports a broad research program to encourage vaccine development. Several candidate vaccines that target various life cycle stages of the malaria parasite are in development. In addition, NIAID is exploring novel vaccine strategies, such as transmission-blocking vaccines, which work by blocking transmission of the malaria parasite to the mosquito vector. Drug Development Antimalarial drugs, in combination with mosquito control programs, have historically played a key role in controlling malaria in endemic areas, resulting in significant reduction of the geographic range of malarial disease worldwide. Over the years, however, the emergence and spread of drug-resistant parasites has contributed to a reemergence of malaria, turning back the clock on control efforts. The need for new, effective drugs for malaria has become a critical priority on the global malaria research agenda. Using that information, scientists hope to develop new drugs that block different molecular processes required for parasite survival and identify the mechanisms of emerging drug resistance. Diagnostics New and improved diagnostics are essential for the effective control of malaria. Currently, the most reliable technique for diagnosing malaria is, as it was throughout the last century, labor-intensive, relying on highly trained technicians using microscopes to analyze blood smears. Such microscopic analysis is time-consuming, variable in quality, difficult to use in resource-poor field settings, and cannot detect drug resistance. Therefore, NIAID supports research to develop easy-to-use tests that diagnose the malaria parasite causing an infection and identify its drug resistance profile. Vector Management Approaches Vector management tools such as insecticides, environmental modification, and bed nets have contributed greatly to successful malaria control efforts historically, but have faced setbacks in recent years due to factors such as the emergence of insecticide resistance in mosquitoes. NIAID is supporting research on new vector management strategies to prevent parasite transmission from humans to mosquitoes and mosquitoes to humans and reduce the mosquito population. Content last reviewed on March 8,

**6: Defining Health Promotion and Disease Prevention - RHHub Toolkit**

*According to current national guidelines, unless contraindicated, vaccinate all people aged 6 months and older, including HCP, patients and residents of long-term care facilities [refs: Prevention and Control of Influenza with Vaccines and Seasonal Influenza Vaccination Resources for Health Professionals].*

This article has been cited by other articles in PMC. Abstract Soil-transmitted helminths (STHs) form one of the most important groups of infectious agents and are the cause of serious global health problems. The most important STHs are roundworms *Ascaris lumbricoides*, whipworms *Trichuris trichiura* and hookworms *Necator americanus* or *Ancylostoma duodenale*; on a global level, more than a billion people have been infected by at least one species of this group of pathogens. This review explores the general concepts of transmission dynamics and the environment and intensity of infection and morbidity of STHs. The global strategy for the control of soil-transmitted helminthiasis is based on i regular anthelmintic treatment, ii health education, iii sanitation and personal hygiene and iv other means of prevention with vaccines and remote sensing. The reasons for the development of a control strategy based on population intervention rather than on individual treatment are discussed, as well as the costs of the prevention of STHs, although these cannot always be calculated because interventions in health education are difficult to measure. An efficient sanitation infrastructure can reduce the morbidity of STHs and eliminates the underlying cause of most poverty-related diseases and thus supports the economic development of a country. These few seriously infected individuals are at a higher risk of disease and are also the prime source of environmental contamination. In the developing world, inadequate water supply and sanitation, as well as crowded living conditions, combined with lack of access to health care and low levels of education, make the poor particularly susceptible to infection and disease, including STHs. The STHs vary greatly in size, and female worms are larger than males. The STH infection life cycle follows a general pattern; the parasites in adult stages inhabit part of the host intestine. Adult worms survive for several years and produce large numbers of eggs. Eggs can remain viable in the soil for several months. Infection occurs through accidental ingestion of eggs. Although seasonal dynamics in transmission may occur, such fluctuations may be of little significance to the overall parasite equilibrium within communities. These few heavily infected individuals are at a higher risk of disease and are also the prime source of environmental contamination. Generally only the STH infections of moderate and high intensity in the gastrointestinal tract produce clinical manifestations, with the highest-intensity infections has been mostly common in children. Each of the STHs produces characteristic disease syndromes. Since morbidity from these infections and the rate of transmission are directly related to the number of worms harbored in the host, the intensity of infection is the main epidemiological index used to describe soil-transmitted helminth infection. Whether such age dependency indicates changes in exposure, acquired immunity or a combination of both remains controversial. Such children experience malnutrition, stunted growth, mental retardation, as well as cognitive and learning deficiencies. Amongst these are public investment in sewage networks and a collective will on the part of individual households to invest in a toilet and connect it to this network. Anthelmintic treatment and massive treatment Regular drug treatment represents the main approach for infection control in areas where infections are intensely transmitted, where resources for disease control are limited and where funding for sanitation is insufficient. Drug treatment can be administered in the community using alternative approaches – the treatment is offered to the entire community, irrespective of age, sex, infection status and any other social characteristics universal treatment; the treatment is targeted at population groups, which may be defined by age, sex or other social characteristics, irrespective of the infection status targeted treatment; and selective treatment representing individual-level administration of anthelmintic drugs, where selection is based on diagnosis to detect the most heavily-infected people who will be most at risk of serious morbidity and mortality. In accordance with the WHO [22], the recommended drugs for use in public health interventions to control STH infections are: Albendazole 400 mg tablets given in a single dose, reduced to 200 mg for children between 12 and 24 months; Levamisole 400 mg tablets given in a single dose by weight. A combined preparation of pyrantel-oxantel has

been proved to be more effective than pyrantel alone in treating T. These factors must be considered in relation to the resources available and the cost involved in drug purchase and distribution. Helminths in different areas of the world have different levels of egg output,[ 28 ] so the thresholds proposed by the WHO are not rigid and should be adjusted for the local situation. The World Health Assembly in endorsed a strategy for the prevention and control of schistosomiasis and soil-transmitted helminthiasis in high-transmission areas. For long-term sustainability, environmental health will be required improving access to safe water and sanitation and improved hygienic behavior through health education. For diseases related to poverty, such as STH infections, the suggested solution might not be available or might be too expensive to adopt. Deprived communities understand the importance of the safe disposal of fecal matter and of wearing shoes, but poverty often hinders the construction of latrines and the purchase of shoes. The prevalence of STHs in the community can be used as an indicator of the conditions of living, environmental sanitation, level of education and the socioeconomic status of the community. Providing information on the disease and the possible adoption of preventive measures frequently results in an increase in knowledge but not necessarily in behavioral change. The knowledge of, and motivation for, behavioral change must be sustained by making available proper facilities for excreta disposal. Frequently, in STH-endemic areas, latrines are not available or are not in sufficient numbers to meet the needs of the population. Promotion of latrine maintenance and use, washing of hands and proper food handling have benefits that go beyond the control of STH infections. From this perspective, it is reasonable to include health education in all STH-control programs, wherein the health education message can be provided in a simple and inexpensive way. Health education messages can be delivered by teachers in schools, thereby fostering changes in health-related behavior in children, which in turn involves their parents and guardians. Sanitation and personal hygiene Human STHs are fecal-borne infections, and transmission occurs either directly hand-to-mouth or indirectly through food and water. Sanitation in the context of economic development is the only definitive intervention that eliminates these infections. Improvement of sanitation standards always has a repercussion on infection and re- infection levels. Sanitation is inadequate in most cities in developing countries, with major effects on STH infections. In this situation, piped sewers are an appropriate solution, and it is questionable as to whether efforts should focus on systems based on onsite solutions, such as latrines. In a meta-analysis study,[ 45 ] data suggested that sewerage typically has a positive effect on enteric infectious disease burden. A systematic review and meta-analysis[ 46 ] suggested that water, sanitation, and hygiene interventions as well as their combination, are effective at reducing diarrheal illnesses and STH infections. This review identifies many research questions that need more attention: In another review,[ 47 ] consistent findings 30 studies of intervention and 24 observational studies during a year period support the conclusion that hygiene interventions other than infrastructure implementation are important for preventing infections, particularly the STH infections. Environmental factors such as water supply for domestic and personal hygiene, sanitation and housing conditions; and other factors such as socioeconomic, demographic and health related behavior are known to influence this infection. Two principal factors in maintaining endemicity of these helminths are favorable qualities of the soil and the frequent contamination of the environment by human feces. Their transmission within the community is predominantly related to human habits with regard to eating, defecation, personal hygiene and cleanliness. Sanitation factors such as the reliability of water supply, frequency of rubbish collection and proximity to overflowing or visible sewage are not under the control of individual households. These do not reflect personal hygiene, and their significance suggests that the impact of environmental sanitation on health could have been greater if the governmental systems had been properly operated and maintained. Improved disposal of excreta offers a more sustainable method of control, among many other benefits. Often, the high costs involved prevent the provision of sanitation to the communities most in need, and sanitation does not become effective until it covers a high percentage of the population. Vaccination has proven to be the most cost-effective and efficient procedure for disease management. The need to control chronic and emerging diseases and bio-security concerns stimulate demand for new vaccines. This begs the obvious question of whether this ability can ever be exploited for therapeutic purposes. Various results indicate an inverse relationship where in individuals infected with STHs are less susceptible to allergic

disorders, as a result of immunological mechanisms that remain unknown. This being the case, therapeutic dosing of a helminth or products thereof to relieve fulminant inflammatory disease in an adult may be relatively ineffective. Typically, STH infections are chronic in endemic areas, and, as with other helminth parasites, it is likely that geohelminths have developed ways of modulating the host immune response to permit adult development and survival. Likewise, the human host may have developed mechanisms to limit the pathology associated with the long-term presence of these highly allergenic parasites. Experimental vaccine development under controlled conditions in the laboratory requires field testing to isolate important modulating factors. An underlying parasitic infection is a profound, albeit reversible, modifier of vaccine efficacy. Remote sensing Studies have investigated spatial patterns of STH infections[ 18 , 61 , 62 ] and other helminths. These studies have focused on the use of RS data to identify ecological correlates of infection and develop statistical models of disease risk. Geographical distributions are continually updated as new epidemiological data are collected, and as intervention reduces the prevalence of infection. Analysis of the cost-effectiveness of the tools, which is germane to their long-term and sustainable use, is currently underway. Experiences in Uganda demonstrate the usefulness of remote sensing GIS or RS as geographic decision-making tools for implementing helminth control on both national and local scales. The national survey revealed that infection was highly focal and that deworming interventions could be precisely targeted, with significant savings in financial and technical resources. In deprived communities, where sanitation is practically nonexistent and the prevalence and intensity of infection are high, a suitable infrastructure such as the school system or a national immunization day should be used to distribute at least regular treatment to the groups at risk. The cost of adding this intervention is normally marginal. The average cost per child per year is 70 US cents: Many organizations, including NGOs, could include an STH control package in their routine activities and, even with limited budgets, relieve the burden of STHs in the population covered. Health education in community health has the same role as medical information and counseling given by the physician to the patient in clinical medicine. The effects of establishing a good relationship between the health system and the community are not always directly measurable with regard to the success of the control measures. The effect of health education in community health includes improvement in loyalty and trust between the educators and the community. When such a relationship is established, the community is no longer a simple recipient of the medical intervention but becomes one of the partners in the process of dissemination of health education. The magnitude of the problem of providing sewerage is a big challenge in large urban centers in developing countries. The construction of new latrines was considered important as a good example for the schoolchildren and a way of providing essential sanitation at least in schools. Progress has been made in developing a variety of latrines for rural communities, but these may not be appropriate for slums and squatter settlements with a shortage of land for dwellings and at sea level. A reliable evaluation of the advantage of investments in sanitation must include the consequences for other health services and for economic development. An efficient sanitation infrastructure removes the underlying cause of most poverty-related communicable diseases and thus supports the economic development of a country. Deworming for health and development. Reports on the third global meeting of the partners for parasite control. Global epidemiology, ecology and control of soil-transmitted helminth infections. Can we deworm this wormy world? The successful implementation of the nationwide control programme of ascariasis. Large scale control against intestinal helminthic infections in Japan, with special reference to the activities of Japan Association of Parasite Control. Mass drug administration for lymphatic filariasis and onchocerciasis. Apple Tree Production; The Public health importance of *Ascaris lumbricoides*. Infectious Diseases of Humans: Oxford University Press; The evaluation of potential global morbidity attributable to intestinal nematode infections. A simple device for quantitative stool thick-smear technique in *Schistosomiasis mansoni*. Age-dependent epidemiological patterns and strain diversity in helminth parasites. Spatial analysis of the distribution of intestinal nematode infections in Uganda.

## 7: WHO | Control strategies

*Learn about the seriousness of childhood obesity and how to help your child establish healthy behaviors. Related Information Nutrition, Physical Activity and Obesity Prevention Strategies and Guidelines provides guidance for program managers, policy makers, and others on how to select strategies.*

The spread of these infections, however, can be controlled. There are several simple and cost-effective strategies that can help prevent infections, from the basic tenet of hand hygiene to the team-oriented approach of Comprehensive Unit-based Safety Programs. Four infection prevention and process improvement experts weigh-in on the 10 best strategies for prevention of infections. According to the CDC, this is the simplest approach to preventing the spread of infections and needs to be incorporated into the culture of the organization. Surgical team personnel should wash their arms and forearms before a procedure and put on sterile gloves, according to CDC guidelines for infection control. Certain types of microbial bacteria are capable of surviving on environmental surfaces for months at a time, according to Mr. When healthcare providers or patients touch these surfaces with their skin, the bacteria can be transmitted, causing infection. Thus, it is essential that the environment be kept clean and disinfected. Patients and their families are now the biggest advocates of medical safety, and Mr. Garrett suggests including them in infection prevention protocols, especially with respect to maintaining a clean and sanitary environment. It is also important to involve multidisciplinary environmental hygiene teams in meetings regarding adherence to infection prevention protocols. Kenneley, PhD, APRN-BC, assistant professor at the Frances Payne Bolton School of Nursing at Case Western Reserve University in Cleveland and member of the Association for Professionals in Infection Control and Prevention, says that meeting with environmental services and sharing in-house surveillance data helps them relate housekeeping tasks with the spread of infection and helps ensure optimal environmental hygiene. Screening and cohorting patients. These patients must then be treated prior to surgery or any other procedure. However, it is essential that patients who are suffering from the same disease or infection should be kept together in a designated area. Infections can spread easily from one patient to another if they are being treated in the same area, with the same staff and shared patient care equipment. Some infectious agents are even airborne, says the CDC. Organizations must also evaluate whether the staff is adhering to specific protocols for specific infections, Dr. The staff at a healthcare organization may sometimes be the cause of the spread of infections. They come into contact with patients with different types of diseases and may contract infections, according to the CDC. As a result, organizations must make sure that recommended vaccinations are being administered to their staff as recommended. It results in decreased transmission risk to co-workers and patients. Through surveillance, organizations should gather data regarding infection patterns at their facility. They should also regularly assess current infection prevention protocols. Having a robust infection surveillance program helps organizations measure outcomes, assess processes of care and promote patient safety, says Mr. Sharing the data that the infection surveillance program gathers is the next step. The misuse and overuse of antibiotics can put patients at a risk of contracting infections, according to the Association for Professionals in Infection Control and Epidemiology. Inappropriate antibiotic use may also result in patients becoming resistant to some drugs. If those patients contract an infection, it becomes harder to treat them and the risk of it spreading increases. Schweon suggests establishing a program to assist with appropriate antibiotic selection and dosing. This helps optimize patient outcomes and minimize adverse events like C. Breakdown of communication in the surgical preparation, planning and postoperative care management among various care providers during the care transition process can lead to surgical site infections that could otherwise be avoided, says Ms. Often, the concept of "stopping the line" is not practiced, which is when care providers are doubtful if certain necessary infection prevention or surgical preparation activities have been completed by the previous care providers, and they halt the care transition process until the matter is resolved. Organizations must avoid situations where a certain process is overlooked by a department that assumes another department has already completed that it. There needs to be coordination of care and communication within the surgical team as well. There is a risk of breaking the sterile field in the

surgery room particularly around the portion of the surgical procedure when multiple, critical activities are taking place at the same time that require staff to multitask, she says. Care coordination goes a long way in preventing surgical site infections. Keeping abreast of the latest findings regarding the spread of infections and strategies for prevention is essential for a successful infection prevention program. What is new in the infection prevention field may not necessarily be the best fit for your organization, says Ms. Appreciating all the departments that support the infection prevention program. All caregivers are accountable, and to encourage infection prevention protocols, healthcare professionals should show appreciation for all the people who help keep infections at bay, from the people who prepare surgical instruments for the operating room to those preparing the food safely for patients, staff and visitors, says Mr. Comprehensive Unit-based Safety Programs. The Comprehensive Unit-based Safety Program is a structured strategic framework for patient safety improvement that integrates communication, teamwork and leadership, according to the Agency for Healthcare Research and Quality. Each unit should have its own infection prevention champions, with these individuals becoming an extension of the infection prevention and control department, adds Mr. Each of these strategies helps organizations keep the spread of infections at bay. When implemented, supported and carried out together, these 10 strategies are instrumental in ensuring the success of an infection prevention program at an organization. More Articles on Infection Prevention:

## 8: Prevention of HIV/AIDS - Wikipedia

*TB prevention consists of several main parts. The first part of TB prevention is to stop the transmission of TB from one adult to another. This is done through firstly, identifying people with active TB, and then curing them through the provision of drug treatment.*

Immigration regulation Each of these strategies has widely differing levels of efficacy, social acceptance, and acceptance in the medical and scientific communities. Over 60 countries impose some form of travel restriction, either for short- or long-term stays, for people infected with HIV. More importantly, information sent out through advertising and social marketing also proves to be effective in promoting more favorable attitudes and intentions toward future condom use, though they did not bring significant change in actual behaviors except those were targeting at specific behavioral skills. African American audiences need to be educated about strategies they could take to efficiently manage themselves in health behaviors such as mood control, management of drugs, and proactive planning for sexual behaviors. However, these things are not as important for European Americans. The results of the study revealed a The principal investigator of the study stated in the Lancet medical journal: Treatment facilities encourage those previously treated for HIV return to ensure that the infection is being successfully managed. New strategies to encouraging retesting have been the use of text messaging and email. These methods of recall are now used along with phone calls and letters. Modifying the CCR5 gene using gene therapy can thus make people able to catch it either. In the past, many U. Changes in syringe and drug-control policy can be ineffective in reducing such barriers if police continue to treat syringe possession as a crime or participation in NEP as evidence of criminal activity. For example, in Kyrgyzstan, although sex work, syringe sales, and possession of syringes are not criminalized and possession of a small amount of drug has been decriminalized, gaps remain between these policies and law enforcement knowledge and practice. Such alignment can be improved through policy, training, and coordination efforts. In the s, public policy makers and most of the public could not understand that the overlap of sexual and needle-sharing networks with the general community had somehow lead to many thousands of people worldwide becoming infected with HIV. In Swaziland, the government chose not to immediately address the problem in the way that international health agencies advised, so many people died. There came to be international discussion about why HIV rates in Africa were so high, because if the cause were known, then prevention strategies could be developed. Previously, some researchers had suggested that HIV in Africa was widespread because of unsafe medical practices which somehow transferred blood to patients through procedures such as vaccination, injection, or reuse of equipment. In March , the WHO released a statement that almost all infections were, in fact, the result of unsafe practices in heterosexual intercourse. The Taliban, however, had opposed local opium growers and the heroin trade; when the government of Afghanistan fell during the war, opium production was unchecked. By , the world market had an increase in the available heroin supply; in former Soviet states especially, an increase in HIV infection was due to injection drug use. Efforts were renewed to prevent HIV related to sharing needles. These couples also received counselling and had access to free male and female condoms. This is one important step on the path toward a permanent cure for AIDS. This is the first successful attempt to eliminate latent HIV-1 virus from human cells. The same technique could theoretically be used against a variety of viruses. The research shows that these molecular tools also hold promise as a therapeutic vaccine; cells armed with the nuclease-RNA combination proved impervious to HIV infection.

## 9: Prevention and control strategies - OSHWiki

*Evidence shows that obesity prevention policy and environmental change efforts should focus on facilitating a handful of key behaviors: This section of the website summarizes promising strategies for obesity prevention, based on a review of expert guidance from major governmental, professional, and public health advocacy organizations.*

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