

PROCESS DESCRIPTION

Health services refer to the prevention, treatment, and management of illness and the preservation of mental and physical well-being through the services offered by the medical and allied health professions. Services may be offered by the public, private and not-for-profit sectors and the split between these sectors differs from country to country. There are multiple channels through which these services might be offered, including: public hospitals; mobile clinics; community health centres; mental care centres; ambulance stations; dental clinics, and; pharmacies. An important consideration is that there is often a wide disparity between the quality of service provided at different centres. Also, access to reliable and affordable services in rural areas might be limited.

The environmental impacts of health care provision are associated with energy use (associated with buildings, vehicles or equipment), water use, procurement and waste generation (clinical and non-clinical waste). Although this guideline will describe all relevant environmental impacts briefly, it will focus on the disposal of clinical waste as this constitutes a unique and significant risk to this sector. In terms of the social impacts of the business, this guideline considers impacts on employees, patients and the immediate community, but not the implications of health service delivery on wider society.

Clinical waste can be defined as any waste that consists wholly or partly of:

- Blood or other bodily fluids
- Drugs or other pharmaceutical products
- Excretions

- Human or animal tissue
- Swabs or dressings
- Syringes, needles or other sharp instruments which, unless made safe, may be hazardous upon contact

The principal sources of clinical waste are: blood transfusion centres; dental surgeries; general practitioners' surgeries; health centres; hospitals; research establishments; public health laboratories, and; veterinary surgeries. Unless clinical waste is properly segregated, handled, transported and disposed of it can present risks to the health and safety of people at work, members of the public, and the environment.

KEY ENVIRONMENTAL, HEALTH AND SAFETY RISKS/LIABILITY FACTORS

Energy use and climate change impacts

Direct energy use in the health services sector is associated with buildings, equipment and vehicle fleets which are within direct operational control. Indirect impacts are associated with the energy required to produce and deliver products and services that the health services centre procures. Energy use, especially if fossil fuel dependent, contributes to climate change through the emissions of carbon dioxide and other greenhouse gases.

Organisations can reduce the climate change impacts of direct energy use by exploring options such as renewable energy (e.g. solar panels), combined heat and power (CHP), food waste energy generators and improved insulation. Energy efficient medical and IT equipment, and low carbon fuel options for

vehicles would also reduce impacts. Impacts of energy associated with procured goods and services may be reduced by choosing suppliers which can offer more sustainable versions of the goods or services (e.g. through their use of renewable energy in the production of the goods, through making goods out of recycled material, and through minimising packaging).

Waste management

Health service facilities create various waste streams which require separation at source and different modes of disposal.

Non-hazardous wastes might include: domestic waste (municipal waste); food waste; hygiene waste; packaging waste; recyclates (paper, glass, aluminium, etc); furniture; and waste generated from the maintenance of the facility's grounds such as soil and plants.

Hazardous waste might include: infectious waste; fluorescent tubes; laboratory, cleaning and photo chemicals; oils, batteries and waste electronics; asbestos, paints and solvents.

Clinical waste – Facility operators should ensure that clinical waste is managed properly and is only transferred to an authorised waste management operator. There are usually legal requirements which set standards and procedures for how clinical waste is segregated, stored and marked (often colour coded), transported and disposed. Disposal options vary according to the nature of the clinical waste but would include specially licensed incineration for waste contaminated with nuclear material, incineration, landfill, treatment (through heat, chemicals or irradiation) and recovery. Larger health care facilities (e.g. large hospitals) might have on-site waste incinerators. It is important for health services facility operators to be aware of the legislative framework that they are

required to comply with, which can be very complex with specific requirements for specific types of clinical waste. The EU Waste Framework Directive, Hazardous Waste Directive, and Landfill Directive are examples of such legislation. In the US, the Environmental Protection Agency (EPA) legislates on hazardous and non-hazardous wastes, including medical waste, through such acts as the Medical Waste Tracking Act. The potential exists for similar legislation to become more widespread in other regions of the world.

Occupational Health and Safety

The leading causes of employee sickness absence in health services are musculoskeletal disorders (MSDs), stress, violence, and slips and trips. MSDs are caused by manual handling of patients, repetitive and heavy lifting, uncomfortable working positions, long periods of work without breaks and exerting too much force. By far the leading contributor to major workplace injury in the health services sector is accidental tripping or slipping (over 50% of major injuries). Reports indicate that health services staff can be as much as four times more likely to experience work-related violence and aggression than other workers. It has been estimated that stress and violence together account for approximately 30% of the overall costs of ill-health and accidents in this sub-sector. Workplace accidents might also involve fires.

Employee injury also occurs through needle-stick injuries. The main risk posed is exposure of the worker to blood-borne viruses such as Hepatitis B, Hepatitis C and Human Immunodeficiency Virus (HIV).

Health care workers who work with or around diagnostic X-ray machines may be exposed to ionising radiation, which could have serious

health implications (including genetic effects and in rare circumstances cancer).

Clinical waste presents two primary risks - infection and toxicity. These wastes can affect health workers in three principal ways:

- Biologically (exposure to pathogenic micro-organisms);
- Physically (contaminated sharps penetrating the skin);
- Chemically (exposure to toxic drugs, liquids, gases, etc.).

Life and Fire Safety (L&FS)

Health facility operations are exposed to life and fire safety risks, as they are accessible to the public. Newly developed facilities and existing buildings scheduled for renovation should be designed, constructed and operated in compliance with local fire department regulations, local building codes, local legal/insurance requirements, and in accordance with internationally accepted life and fire safety (L&FS) standards. For instance the National Fire Protection Association (NFPA) codes of safety.

These considerations should be included within a Life and Fire Safety Master Plan, which identifies major fire risks, standards and regulations, applicable codes and mitigation measures. The plan should consider the following issues:

- Fire prevention – Identification of fire risks and ignition sources and mitigation measures to limit fire and smoke development;
- Means of Egress – Design measures to assist in the safe evacuation of occupants during a

fire or other emergency, e.g. emergency lighting and clear, unimpeded escape routes;

- Detection Alarm systems – All measures to detect and alert occupants to a potential fire;
- Compartmentation – Measures to prevent or slow the spread of fire and smoke, e.g. fire walls, dampers, smoke control systems and fireproof doors;
- Fire suppression and control – All automatic and manual fire protection/suppression installations, e.g. automatic sprinkler systems, fire extinguishers and fire hose reels.

The Life and Fire Safety Plan should also incorporate an emergency response plan and include an assessment of local fire prevention and suppression capabilities. The scenario-based emergency response plan is designed to assist staff and emergency response teams during emergencies and training exercises.

OTHER ENVIRONMENTAL, HEALTH AND SAFETY RISK/LIABILITY ISSUES

Water use

The efficient use of water is an important sustainability consideration. According to the World Health Organisation, two out of every three persons on the globe may be living in water-stressed conditions by the year 2025, if present global consumption patterns continue. Depending on the geographical location of the health care facility, water availability may be an issue, especially if supply is threatened due to changing climate, or demand increases due to changing demographics or consumption patterns.

Water uses specific to healthcare facilities, and especially hospitals, might include:

- Sterilizers and autoclaves;
- X-ray equipment (water used in the processing of prints);
- Food preparation processes;
- General domestic and sanitary use (over 30% of water use). This might include an in-house laundry;
- Outdoor water use (especially if garden areas are irrigated).

Water can be conserved by means of efficient water management, water audit, leakage detection, emergency repair service, training to staff on proper use, and methods such as rainwater harvesting. If the facility uses a water meter any reduction in water consumption will lead to cost savings.

Sustainable procurement

The upstream impacts of procured goods might be significant depending on the scale of the facility and the services it provides. For example, the environmental impacts associated with the production of food and products made out of natural or synthetic fibres (bed linen, uniforms, towels etc.). Associated impacts would include water use (cotton is especially water intensive, and 25% of all pesticide used is for cotton cultivation), and climate change impacts (through unsustainable agricultural practices such as clearing of land and deforestation).

KEY SOCIAL, LABOUR AND COMMUNITY RISK/LIABILITY ISSUES

Treatment of patients

An important consideration for the health services sector is the responsible and fair

treatment of patients. Risks to the business such as malpractice or negligence claims and reputational damage can be severe if health care facilities are ill-equipped, personnel ill-trained, equipment not maintained appropriately or if staff are guilty of negligence. A very real risk is the exacerbation of mental or physical ailments and in extreme cases, death. Considerations include:

- Access to health care services without discrimination or the need to bribe;
- Access to health care when ability to afford the service is limited;
- Level of skill and experience of staff (for instance is there a lack of skills at rural locations, or staff performing procedures they are not qualified to perform);
- Hygiene standards of facility, equipment and staff;
- State of equipment (age, level of maintenance, calibration);
- Capacity of the health care facility to provide services for the projected volume of patients;
- Right treatment and fair billing;
- Patient confidentiality.

Community health and safety

Clinical waste, if not properly managed, can pose significant health risks to the community.

- It is important to note that biological wastes may be infectious. Examples of diseases that may be transmitted by clinical waste are various forms of hepatitis, e coli infection,

tuberculosis and MRSA (bacteria that can lead to serious infections);

- Other hazards might include wastes containing nuclear material and improper disposal of sharp instruments leading to injury and infection;
- The improper disposal of biological wastes might lead to an infestation of vermin such as rats, cockroaches and birds, which might also be disease vectors;
- There might be cross-infection from contaminated waste materials which are deliberately scavenged either for reuse as a means of income generation, e.g. recyclable materials, or deliberate illegal use, e.g. hypodermic needles for illegal drug-taking (which are often later discarded in places accessible to the public and represent a community health risk);
- There are also concerns related to the odour of clinical waste and the unpleasant visual appearance, particularly with regard to blood, tissue and body fluids.

Labour standards

Labour standards are rules that govern working conditions and industrial relations. They may be formal, such as national level regulation and international agreements, or informal, expressed through norms and values. In general, developed countries have more robust labour standards than developing countries where the associated risks are higher. The commonly accepted rights and principles enshrined in the International Labour Organization conventions are the right to collective bargaining, elimination of forced or compulsory labour, abolition of child labour and elimination of all forms of discrimination. In addition, fair wages, fair working hours and

acceptable working conditions should be expected.

Labour standards should apply to the company's own employees as well as to all contractors and temporary staff.

Specific issues that might arise in this sector are: the use of immigrant or temporary labour at low rates of pay (as nurses or for routine tasks such as cleaning of facilities); unpleasant working and/or living conditions; long work shifts; and pressure on workers to withdraw from unions.

Ethics and bribery

Strong governance structures and transparency in reporting are important, particularly since corruption and bribery are illegal, and charges of misconduct can negatively impact a company's reputation. Issues in the health services sector would include the preferential endorsement of drugs, selection of medical equipment providers, and preferential treatment of patients (e.g. selection for donor organs). Companies may also use unethical means (such as bribery) to win large health care provision contracts or licences to operate.

FINANCIAL IMPLICATIONS

Regulatory compliance

There might be costs associated with complying with changing regulatory requirements.

In particular, clinical waste disposal involves higher costs than non-hazardous waste disposal due to stringent regulatory requirements that need to be met. These often require the selection of waste management operators certified to dispose of clinical waste. Higher costs may result from special treatment requirements, technical complexity in the process to obtain permits or

greater emissions in terms of the quantity or higher concentrations of pollutants. These costs will be passed on by the treatment/disposal facility to the waste producer.

Costs might also be associated with the safe handling, collection and storage of clinical waste requiring the provision of suitable equipment and infrastructure, including:

- Packaging, e.g. plastic bags, sharps containers, plastic drums;
- Collection facilities, e.g. wheelie-bins or dedicated cupboards and stores;
- Staff to collect waste and special training requirements for new staff;
- Treatment facilities, e.g. sterilisation;
- Central storage facility, possibly including mechanical handling equipment.
- Disposal facilities such as an on-site incinerator.

Litigation and compensation

The company could incur costs if legal action is taken against it. Areas of high risk would include action taken by: regulatory bodies over non-compliance with clinical waste disposal regulation; patients over medical misconduct or negligence, and; public prosecutors over claims of corruption with regard to endorsement of pharmaceutical products. Action could also be initiated by: employees over health and safety incidents or accusations of discrimination, and local communities and government agencies over environmental contamination.

Reputational risk

If the reputation of the health services facility is damaged, its ability to attract patients will diminish. The extent of the risk to the business will depend largely on alternative health care services that its patient base has access to. Medical misconduct or negligence, especially if not isolated incidents, can not only destroy the reputation of medical practitioners and facilities but also lead to crippling litigation claims.

IMPROVEMENTS

Companies can implement improvements to better manage the environmental and social aspects of their business. Examples of such improvements are given below.

Environmental

- Explore options for reducing energy use and climate change impacts through; energy efficient medical and IT equipment; energy efficiency measures such as automatic light control, efficient bulbs, switching off IT equipment when not in use etc.; renewable energy sources, and; low carbon fuel options for vehicles;
- Dispose of electrical and electronic equipment in line with regulation and waste management best-practice (e.g. recycling instead of landfilling);
- Explore options to reduce environmental impacts of procured goods (food, linen, uniforms, etc.) by working with suppliers to understand their sustainability performance;
- Dispose of food waste responsibly and explore options such as energy generation to reduce impacts on landfill;

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- Explore options to reduce water use (such as water leakage detection systems, rainwater harvesting systems etc.);
- Pack clinical waste securely in line with regulatory requirements;
- Store clinical waste safely on-site.

Health and Safety

- Enforce immediate and safe disposal of needles and other sharp instruments into appropriate, puncture-proof sharps bins;
- Introduce and enforce the use of appropriate mechanical aids for manual handling;
- Set up protective barriers to protect high-risk staff from violence;
- Provide health surveillance and immunisation, where appropriate.

Social, Labour and Community

- Ensure fair working hours and a minimum age of workers;
- Ensure fair wages in line with national law and sector standards;
- Develop a policy covering labour practices for temporary, immigrant, part-time workers and low-skill staff;
- Ensure skills development of workers;
- Develop a comprehensive policy on governance and ethics covering all areas of risk (such as endorsement of drugs, non-discrimination of patients etc.);

- Reduce Life and Fire Safety (L&FS) risks through introducing latest fire detection and management technology (such as the latest fire detectors, sprinkler systems etc.);
- Communicate to the community the facility's clinical waste disposal policy.

GUIDE TO INITIAL DUE DILIGENCE SITE VISITS

The issues and risks associated with a site will vary depending on factors including the type and size of the operation, site location, and the quality of management. Due diligence visits should consist of a tour of the entire site.

When visiting the sites of existing or potential borrowers, financial intermediaries may wish to use the following suggestions to guide the initial due diligence process. However, note that this does not represent an exhaustive list of issues for consideration.

During the initial site visit, it will be important to assess the following:

Environmental, Health and Safety

- Whether the company measures energy and resource use, and has a policy covering improvement in these areas;
- Whether the company has a policy covering the environmental and social impacts of the goods and services it procures;
- Whether the facility has a policy on clinical waste disposal supported by training, procedural documents and audits;
- Whether the company has any outstanding fines, or a record of poor relationships with environmental regulators and other

authorities (especially with regard to clinical waste);

- Whether there have been any recent (within the last three years) incidents on site such as serious injuries, fires etc. Is there insurance in place to cover such incidents?
- Whether walkways and work areas are clean, dry and free of clutter;
- Whether first aid-kits and fire extinguishers are provided;
- Whether employees are adequately trained on all health and safety risks, including risks associated with pathogens.

Social, Labour and Community

- Whether labour standards, contracting and remuneration are in line with national law and are consistent with the average for the sector;
- Whether hours worked, including overtime, are recorded and that staff receive written details of hours worked and payment received;
- Whether the company has received inspections from the local labour inspectorate in the previous three years. Have these resulted in any penalties, fines, major recommendations or corrective action plans?
- Whether the organisation has a grievance mechanism which allows employees to raise workplace concerns;
- Whether employees are free to form, or join, a workers' organisation of their choosing;

- Whether the company has a policy covering governance and ethics with relation to medical misconduct and negligence;
- Whether the company has a policy covering fair treatment of patients.

ACTION PLANS

Any lending or investment should take place within the context of Environmental and Social Action Plans, which should have clear timescales and roles and responsibilities established for each action point. Typically, plans may include:

Environmental

- Develop an environmental strategy to reduce the impacts of operations, supported by goals and targets, including impacts of goods procured;
- Develop a policy to reduce impacts associated with waste streams (clinical and non-clinical);
- Implement an environmental management system certified to a recognised standard such as ISO 14001;
- Train staff on proper procedures for dealing with clinical waste;
- Reduce impacts of waste streams through proper segregation of clinical and non-clinical wastes;
- Make all reasonable checks on waste management third-parties and review their performance at regular intervals;
- Ensure clinical waste falls within the terms of the waste contractor's waste management licence, permit or exemption.

Health and Safety

- Develop a formal Health and Safety policy;
- Maintain a schedule to track training given to workers and managers on safety policy and procedures;
- Develop Key Performance Indicators (KPIs) for Health and Safety measures with monitoring, reporting and target setting;
- Consider implementing a Health and Safety management system, certified to a recognised standard, such as the Occupational Health and Safety Assessment Series OHSAS 18001 or the International Labour Office ILO-OSH 2001 system.
- Consider implementing a Life and Fire Safety (L&FS) plan in accordance with certified standards;
- Enforce strict personal hygiene procedures;
- Keep walkways and work areas clean, dry and free of clutter to prevent slips and trips;
- Enforce the wearing of gloves, disposable gowns and eye protection as appropriate whenever working with blood or body fluids;
- Assess the risks to employees and others who may be affected from hazardous clinical waste at regular intervals;
- Assess the mental health of staff who work in areas of high-stress or have been the victims of violence.

Social, Labour and Community

- Design and communicate an appropriate code of business conduct;
- Implement best-practice labour standards (in line with ILO principles);
- Develop a policy to address the concerns of the community and patient base (covering non-discrimination, ethical medical practices, responsible disposal of clinical waste etc.).

REFERENCES AND ADDITIONAL SOURCES

Issue	Link
Labour standards	International Labour Organization declaration [http://www.ilo.org/declaration/thedeclaration/lang--en/index.htm]
Waste management and disposal	EU Landfill Directive [http://ec.europa.eu/environment/waste/landfill_index.htm]
Waste disposal	Control of Substances Hazardous to Health - COSHH [http://www.hse.gov.uk/coshh/]
Health and Safety	Health and Safety in health and social care services [http://www.hse.gov.uk/healthservices/]
Life and Fire Safety (L&FS) standards	National Fire Protection Association [http://www.nfpa.org/categoryList.asp?categoryID=143&URL=About%20NFPA]
Clinical waste management	Safe management of healthcare waste – UK Department of Health [http://www.hcsu.org.uk/index.php?option=com_docman&task=doc_view&gid=687]
Impacts of health care buildings	SHINE – The learning network for sustainable healthcare buildings – Energy and water use [http://www.shine-network.org.uk/?p=module_articles&aid=212]
Medical waste management legislation	US Environmental Protection Agency (EPA) – Medical Waste Tracking Act [http://www.epa.gov/epawaste/nonhaz/industrial/medical/tracking.htm]