Design Guidelines for Blood Centres




World Health Organization
Western Pacific Region

Design Guidelines for Blood Centres

World Health Organization
Western Pacific Region

WHO Library Cataloguing in Publication Data

Design Guidelines for Blood Centres

1. Blood transfusion. 2. Facility design and construction – standards.

ISBN 978 92 9061 319 0 (NLM classification: WB356)

CONTENTS

1 Introduction

Maintaining a supply of safe blood and blood products has become a national priority in many countries. Achieving this aim requires the development and implementation of a national policy and the development of guidelines to govern blood transfusion processes. There are a number of guidelines that spell out how quality and safety can be achieved.

These guidelines were prepared to assist countries in developing appropriate, purpose-built facilities for blood services. They may be used to guide the design of new buildings, to direct the renovation of existing facilities or even to improve work patterns by considering the layout in established facilities. Even if a new facility is not to be built, careful thought concerning the design and layout of an existing facility is essential for safe and efficient function. These guidelines are flexible. They can be adapted by countries with centralized services and by countries with multiple small facilities. Furthermore, buildings do not have to encompass every feature listed in these guidelines in order to be effective.

A safe blood supply depends on several important principles that have been set out by WHO in the Aide-Mémoire for National Blood Programmes: Blood Safety. The key elements are:

- establishment of a blood transfusion service;
- collection of blood from only voluntary, non-remunerated, low-risk blood donors;
- screening of all donated blood for transfusion-transmissible infectious agents; and
- reduction in unnecessary transfusions through the effective clinical use of blood.

Implementation of a quality management system covering all areas of the blood transfusion service is essential. Key elements—organizational management, standards, documentation, training and assessment—are outlined in the WHO Aide-Mémoire for National Blood Programmes: "Quality Systems for Blood Safety".

Intent of the design guidelines

The Design Guidelines for Blood Centres was prepared by the WHO Regional Office for the Western Pacific. The need for such a document was identified at the Workshop on Nationally Coordinated Blood Transfusion Services, organized by WHO and held in Melbourne, Australia, 9–13 December 2002.

This document will serve as a tool for authorities responsible for developing buildings to house blood transfusion services. It will assist national blood transfusion services (BTS) or ministries of health in determining the likely size and necessary content of blood transfusion facilities and how these facilities might operate. It will also assist these authorities in developing an appropriate design brief with their building design teams.

These guidelines do not set out detailed and specific designs for blood centres. Each facility should be designed as a specific response to unique local conditions. Rather, the guidelines expound on the fundamental principles that should guide the development of detailed and specific designs when used by the BTS and their consultant design team. They should be read and used in conjunction with relevant national and local standards and applicable guidelines.

Government and BTS policies regarding the provision of a safe blood supply must be taken into consideration. It is emphasized that facilities are part of the BTS, but facilities alone do not create a BTS or a safe and sufficient blood supply.

Blood Services Models

No single blood services model is appropriate in all situations or locations. Rather, there are a range of models that vary from centralized to decentralized. The determination of what is the appropriate blood service model for a particular country, state or province must take into account a number of considerations including the existing blood service infrastructure, transport infrastructure and the availability of skilled and trained staff.

Centralized blood services model

In recent years, many developed countries have adopted a highly centralized blood services model with a national management structure and policies. A centralized blood centre (Processing, Testing, Inventory and Distribution) supports a large number of collection centres distributed across the area serviced. Where logistics permit, centralization of processing and testing facilities has operational efficiencies, such as the use of complex and expensive equipment, staff training and quality management programmes to deliver consistently high-quality products for patients.

Decentralized blood services model

Other countries have maintained a highly decentralized model with each collection centre supported by a Processing, Testing, Inventory and Distribution facility.

Some countries or regions have developed a hybrid of these two models, with some degree of harmonization of practice and centralization of post-collection activities. These guidelines have been written for both the newer centralized models and the more traditional decentralized ones.

Co-location of a small blood centre with a hospital

For small or isolated communities, it may be appropriate to co-locate the blood centre with a hospital. This arrangement, if well managed, permits the sharing of buildings, skilled staff and equipment.

The collection facility

Although the centre is co-located with a hospital, the donors are not patients. For social or cultural reasons, they may be reluctant to attend a donation centre in the hospital. It is therefore recommended that the collection facility should have its own address, signage and front door— separate from other hospital entries.

Processing and testing

Blood donation, processing and testing can be carried out in separate facilities at the hospital or within the hospital pathology department, but only if activities are clearly separated and the security of donated blood can be ensured. Integrating the processing and testing within the pathology department may allow for more efficient and flexible staff and equipment utilization. In small or isolated communities, it may also enhance community participation, and allow rapid turn-around time from donation to transfusion of blood.

Scope of the Guidelines

For small or isolated communities, it may be appropriate to co-locate the blood centre with a hospital. This arrangement, if well managed, permits the sharing of buildings, skilled staff and equipment.

The collection facility

Although the centre is co-located with a hospital, the donors are not patients. For social or cultural reasons, they may be reluctant to attend a donation centre in the hospital. It is therefore recommended that the collection facility should have its own