

This case study describes a small hospital called *Northshore*, which is located in Stockholm. The *Northshore Hospital* specializes in the provision of health care for elderly people. Listed in these sections is a description of the data recorded, maintained, and accessed by the hospital staff to support the management and day- to-day operations of the *Northshore Hospital*.

Data Requirements

1. Wards

The *Northshore Hospital* has 17 wards with a total of 240 beds available for short- and long-term patients, and an outpatient clinic. Each ward is uniquely identified by a number (for example, ward 11) and also a ward name (for example, Orthopedic), location (for example, E Block), total number of beds, and telephone extension number (for example, Extn. 7711).

1.1. Staff

The *Northshore Hospital* has a Medical Director, who has overall responsibility for the management of the hospital. The Medical Director maintains control over the use of the hospital resources (including staff, beds, and supplies) in the provision of cost-effective treatment for all patients.

The *Northshore Hospital* has a Personnel Officer, who is responsible for ensuring that the appropriate number and type of staff are allocated to each ward and the outpatient clinic. The information stored for each member of staff includes a staff number, name (first and last), full address, telephone number, date of birth, gender, insurance number, position held, current salary, and salary scale. It also includes each member's qualifications (which includes date of qualification, type, and name of institution), and work experience details (which includes the name of the organization, position, and start and finish dates).

The type of employment contract for each member of staff is also recorded, including the number of hours worked per week, whether the member of staff is on permanent basis or temporary contract, and the type of salary payment (weekly/ monthly). An example of a *Northshore Hospital* form used to record the details of a member of staff called Moira Samuel working in ward 11 is shown in Figure B.1.

Each ward and the outpatient clinic has a member of staff with the position of Charge Nurse. The Charge Nurse is responsible for overseeing the day-to-day operation of the ward/clinic. The Charge Nurse is allocated a budget to run the ward and must ensure that all resources (staff, beds, and supplies) are used effectively in the care of patients. The Medical Director works closely with the Charge Nurses to ensure the efficient running of the hospital.

A Charge Nurse is responsible for setting up a weekly staff rotation, and must ensure that the ward/clinic has the correct number and type of staff on duty at any time during the day or night. In a given week, each member of staff is assigned to work an early, late, or night shift.

As well as the Charge Nurse, each ward is allocated senior and junior nurses, doctors and auxiliaries. Specialist staffs (for example, consultants and physiotherapists) are allocated to several wards or the clinic. An example of a *Northshore Hospital* report listing the details of the staff allocated to ward 11 is shown in Figure B.2.

1.2. Patients

When a patient is first referred to the hospital, he or she is allocated a unique patient number. At this time, additional details of the patient are also recorded, including name (first and last), address, telephone number, date of birth, gender, marital status, date registered with the hospital, and the details of the patient's next-of-kin.

Patient's next-of-kin

The details of a patient's next-of-kin are recorded, which includes the next-of-kin's full name, relationship to the patient, address, and telephone number.

<p align="center">Northshore Hospital Staff Form Staff Number: <u>5011</u></p>	
<p align="center">Personal Details</p>	
First Name <u>Maira</u> Address <u>49 School Road</u> <u>Broxburn</u> Tel. No. <u>01506-45633</u>	Last Name <u>Samuel</u> Sex <u>Female</u> Date of Birth <u>30-May-61</u> Insurance Number <u>WB123423D</u>
Position <u>Charge Nurse</u> Current Salary <u>18,760</u> Salary Scale <u>1C scale</u> Paid Weekly or Monthly (Enter W or M) <u>M</u>	Allocated <u>11</u> to Ward Hours/Week <u>37.5</u> Permanent or Temporary (Enter P or T) <u>P</u>
<p align="center">Qualification(s)</p>	<p align="center">Work Experience</p>
Type <u>BSc Nursing Studies</u> Date <u>12-Jul-87</u> Institution <u>Edinburgh University</u>	Position <u>Staff Nurse</u> Start Date <u>23-Jan-90</u> Finish Date <u>1-May-93</u> Organization <u>Western Hospital</u>
<p>Note: Please enter additional qualifications/work experience on reverse.</p>	

Figure B.1
Northshore
Hospital staff
form.

1.3. Local doctors

Patients are normally referred to the hospital by their local doctor. The details of local doctors are held, including their full name, clinic number, address, and telephone number. The clinic number is unique throughout the United Kingdom. An example of a *Northshore Hospital* patient registration form used to record the details of a patient called Anne Phelps is shown in Figure B.3.

2. Patient appointments

When a patient is referred by his or her doctor to attend the *Northshore Hospital*, the patient is given an appointment for an examination by a hospital consultant.

Figure B.2

The first page of the *Northshore Hospital* report listing ward staff.

Page <u>1</u>	Ward Staff Allocation		Week beginning <u>12-Jan-14</u>		
Ward Number <u>Ward 11</u>	Charge Nurse <u>Moira Samuel</u>				
Ward Name <u>Orthopaedic</u>	Staff Number <u>5011</u>				
Location <u>Block E</u>	Tel. Extn. <u>7711</u>				
Staff No.	Name	Address	Tel. No.	Position	Shift
5098	Carol Cummings	15 High Street Edinburgh	0131-334-5677	Staff Nurse	Late
5123	Morgan Russell	23A George Street Broxburn	01506-67676	Nurse	Late
5167	Robin Plevin	7 Glen Terrace Edinburgh	0131-339-6123	Staff Nurse	Early
5234	Amy O'Donnell	234 Princes Street Edinburgh	0131-334-9099	Nurse	Night
5344	Laurence Burns	1 Apple Drive Edinburgh	0131-334-9100	Consultant	Early

Each appointment is given a unique appointment number. The details of each patient's appointment are recorded and include the name and staff number of the consultant performing the examination, the date and time of the appointment, and the examination room (for example, Room E252).

As a result of the examination, the patient is either recommended to attend the outpatient clinic or is placed on a waiting list until a bed can be found in an appropriate ward.

2.1. Outpatients

The details of outpatients are stored and include the patient number, name (first and last), and address, and telephone number, date of birth, gender, and the date and time of the appointment at the outpatient clinic.

2.2. Inpatients

The Charge Nurse and other senior medical staff are responsible for the allocation of beds to patients on the waiting list. The details of patients currently placed in a ward and those on the waiting list for a place on a ward are recorded. This includes the patient number, name (first and last), address, telephone number, date of birth, gender, marital status, the details of the patient's next-of-kin, the date placed on the waiting list, the ward required, expected duration of stay (in days), date placed in the ward, date expected to leave the ward, and the actual date the patient left the ward, when known.

When a patient enters the ward, he or she is allocated a bed with a unique bed number. An example of a *Northshore Hospital* report listing the details of patients allocated to ward 11 is shown in Figure B.4.

Northshore Hospital	
Patient Registration Form	
Patient Number: <u>P10234</u>	
Personal Details	
First Name <u>Anne</u>	Last Name <u>Phelps</u>
Address <u>44 North Bridges</u>	<u>Female</u>
<u>Cannonmills</u>	Tel. No. <u>0131-332-4111</u>
<u>Edinburgh, EH1 5GH</u>	
DOB <u>12-Dec-33</u>	Marital Status <u>Single</u>
Date Registered <u>21-Feb-09</u>	
Next-of-Kin Details	
Full Name <u>James Phelps</u>	Relationship <u>Son</u>
Address <u>145 Rowlands Street</u>	
<u>Paisley, PA2 5FE</u>	
Tel. No. <u>0141-848-2211</u>	
Local Doctor Details	
Full Name <u>Dr Helen Pearson</u>	Clinic No. <u>E102</u>
Address <u>22 Cannongate Way,</u>	
<u>Edinburgh, EH1 6TY</u>	
Tel. No. <u>0131-332-0012</u>	

Figure B.3 Hospital report
Listing wards patients.

3. Patient medication

When a patient is prescribed medication, the details are recorded. This includes the patient's name and number, drug number and name, units per day, method of administration (for example, oral, intravenous (IV)), start and finish date. The medication (pharmaceutical supplies) given to each patient is monitored. An example of a *Northshore Hospital* report used to record the details of medication given to a patient called Robert MacDonald is shown in Figure B.5.

3.1. Surgical and nonsurgical supplies

The *Northshore Hospital* maintains a central stock of surgical (for example, syringes and sterile dressings) and nonsurgical (for example, plastic bags...)

Figure B.4
The first page of the *Northshore Hospital* report listing ward patients.

Page <u>1</u>	Patient Allocation		Week beginning <u>12-Jan-14</u>				
Ward Number <u>Ward 11</u>	Charge Nurse <u>Moira Samuel</u>						
Ward Name <u>Orthopaedic</u>	Staff Number <u>5011</u>						
Location <u>Block E</u>	Tel. Extn. <u>7711</u>						
Patient Number	Name	On Waiting List	Expected Stay (Days)	Date Placed	Date Leave	Actual Leave	Bed Number
P10451	Robert Drumtree	12-Jan-14	5	12-Jan-14	17-Jan-14	16-Jan-14	84
P10480	Steven Parks	12-Jan-14	4	14-Jan-14	18-Jan-14	18-Jan-14	79
P10563	David Black	13-Jan-14	14	13-Jan-14	27-Jan-14		80
P10604	Ian Thomson	14-Jan-14	10	15-Jan-14	25-Jan-14		87
P10787	Peter Smith	17-Jan-14	5	17-Jan-14	22-Jan-14		84

The details of surgical and nonsurgical supplies include the item number and name, item description, quantity in stock, reorder level, and cost per unit. The item number uniquely identifies each type of surgical or nonsurgical supply. The supplies used by each ward are monitored.

3.2. Pharmaceutical supplies

The hospital also maintains a stock of pharmaceutical supplies (for example, antibiotics and painkillers). The details of pharmaceutical supplies include drug number and name, description, dosage, method of administration, quantity in stock, reorder level, and cost per unit. The drug number uniquely identifies each type of pharmaceutical supply. The pharmaceutical supplies used by each ward are monitored.

Figure B.5
Northshore
Hospital
patient's
medication
report.

Northshore Hospital Patient Medication Form							
Patient Number: <u>P10034</u>							
Full Name <u>Robert MacDonald</u>				Ward Number <u>Ward 11</u>			
Bed Number <u>84</u>				Ward Name <u>Orthopaedic</u>			
Drug Number	Name	Description	Dosage	Method of Admin	Units per Day	Start Date	Finish Date
10223	Morphine	Pain killer	10mg/ml	Oral	50	24-Mar-14	24-Apr-14
10334	Tetracycline	Antibiotic	0.5mg/ml	IV	10	24-Mar-14	17-Apr-14
10223	Morphine	Pain killer	10mg/ml	Oral	10	25-Apr-14	2-May-14

3.3. Ward requisitions

When required, the Charge Nurse may obtain surgical, nonsurgical, and pharmaceutical supplies from the central stock of supplies held by the hospital. This is achieved by ordering supplies for the ward using a requisition form. The information detailed on a requisition form includes a unique requisition number, the name of the member of staff placing the requisition, and the number and name of the ward. Also included is the item or drug number, name, description, dosage and method of administration (for drugs only), cost per unit, quantity required, and date ordered. When the requisitioned supplies are delivered to the ward, the form must be signed and dated by the Charge Nurse who initiated the order. An example of a *Northshore Hospital* requisition form used to order supplies of morphine for ward 11 is shown in Figure B.6.

3.4. Suppliers

The details of the suppliers of the surgical, nonsurgical, and pharmaceutical items are stored. This information includes the supplier's name and number, address, email, and telephone and fax numbers. The supplier number is unique to each supplier.

Northshore Hospital Central Store Requisition Form						
Requisition Number: <u>034567712</u>						
Ward Number <u>Ward 11</u>			Requisitioned By <u>Maira Samuel</u>			
Ward Name <u>Orthopaedic</u>			Requisition Date <u>15-Feb-14</u>			
Item/Drug Number	Name	Description	Dosage (Drugs Only)	Method of Admin	Cost per Unit	Quantity
10223	Morphine	Pain killer	10mg/ml	Oral	27.75	50
Received By: _____			Date Received: _____			

Figure B.6
Northshore
Hospital ward
requisition form.

4. Transaction Requirements (Sample)

The following transactions are undertaken to ensure that the appropriate information is available to enable the staff to manage and oversee the day-to-day running of the *Northshore Hospital*. Each transaction is associated with a specific function within the hospital. These functions are the responsibility of members of staff with particular job titles (positions). The main user or group of users of each transaction is given in brackets at the end of the description of each transaction.

1. Create and maintain records recording the details of members of staff (Personnel Officer).
2. Search for staffs that have particular qualifications or previous work experience (Personnel Officer).
3. Produce a report listing the details of staff allocated to each ward (Personnel Officer and Charge Nurse).
4. Create and maintain records recording the details of patients referred to the hospital (all staff).
5. Create and maintain records recording the details of patients referred to the outpatient clinic (Charge Nurse).
6. Produce a report listing the details of patients referred to the outpatient clinic (Charge Nurse and Medical Director).
7. Create and maintain records recording the details of patients referred to a particular ward (Charge Nurse).
8. Produce a report listing the details of patients currently located in a particular ward (Charge Nurse and Medical Director).
9. Produce a report listing the details of patients currently on the waiting list for a particular ward (Charge Nurse and Medical Director).
10. Create and maintain records recording the details of medication given to a particular patient (Charge Nurse).
11. Produce a report listing the details of medication for a particular patient (Charge Nurse).

12. Create and maintain records recording the details of suppliers for the hospital (Medical Director).
13. Create and maintain records detailing requisitions for supplies for particular wards (Charge Nurse).
14. Produce a report listing the details of supplies provided to specific wards (Charge Nurse and Medical Director).