

A HEALTH INFORMATION SYSTEM AND A MEDICAL SERVICE INFORMATION SYSTEM

DEFINITIONS USED HERE

Health is state of well-being to which we all aspire

It is affected at both a personal and a public level
by political, socio-economic, and other factors as well as by medical services

A medical service is what doctors, nurses and others provide to
sick people to help them get well and
to well people to prevent them getting sick

An information system consists of
data collection, collation, analysis, interpretation, and use

Data which has been processed can be called information

Therefore

A health information system refers to processed data on health
A medical service information system refers to processed data on medical services

FROM A MSIS TO A HIS

(from a medical service information system to a health information system)

All medical service sectors – public and private – should provide data for a

NATIONAL MSIS

The national MSIS should network with information systems in other government sectors

directly or indirectly involved in the determination of health and disease

such as transport, water, labour, education, welfare, agriculture, etc

to form

A NATIONAL HIS

DATA AND INFORMATION MUST BE ACCESSIBLE TO ALL ROLE-PLAYERS AT ALL LEVELS

Each service unit must be able to convert its own data into information and have access to data and information from the national MSIS and HIS networks

provided that the confidentiality of patients, staff, and institutions is secured

GENERAL OBJECTIVES OF A MSIS

Information can provide a firm basis for medical service management because it can indicate what is really happening within the system – who is being served, whether generated targets are realistic and whether they are being met. A medical service information system can make secular trend monitoring possible. It can help to identify strengths and weaknesses. It can facilitate an informed approach to medical, financial and operational management.

These objectives can be achieved only if the right data are collected and converted into information which is put to work in making decisions to improve the overall effectiveness of the medical service in its own right and in the context of the community being served.

Adapted from the Introduction to
FROM DATA TO DECISION MAKING IN HEALTH
by B Campbell, S Adjei and A Heywood

QUO BONO

A MSIS should be a comprehensive system that can be used as a whole or in modules, locally and internationally

by the public and private medical service sectors:

- primary care clinics and private practices
- state and private health centres, group practices, and hospitals
- state health authorities and departments
- managed care organisations and medical aid schemes
- corporate medical aid premium payers

MSIS data and information can also be useful to:

local, regional, provincial, national, and supra-national non-medical government and civil society sectors:

- housing, transport, water, welfare, education, . . .

financial, as well as commercial and industrial enterprises:

- pharmaceutical and medical equipment industries
- food industry, information and communication industry, ...

academics and researchers, the media and the public at large

A PROTOTYPE FOR MEDICAL SERVICE

can be used in modules or as a whole
on paper, web-based, and all mixes in-between

(currently on paper and in access but could/should be re-written in another data-base language)

the full programme can enable non-technical staff at every level and unit of care to:

keep a patient and staff register: personal, socio-economic, demographic, and payer data
located within geographic and socio-economic strata

record and track attendance: date, time, reason for attendance, care provider/s, diagnosis,
investigations, treatment, outcome, referral, cost and fees, ...

record and track physical and financial resources: status, movement, and utilisation

record and track human resources: qualification, performance, deployment, remuneration,
continued development and training, ...

monitor secular trends: attendance, morbidity, mortality, performance, resource utilisation,
cost-benefit, effect of socio-economic determinants, ...

correlate data variables, analyse, and report findings: for use in-house and beyond

set and evaluate realistic goals and targets

HOW MSIS REPORTS CAN BE USED

USER	PURPOSE
patient	improved compliance, appointment reminder, medicine refill, knowledge, budgeting
household and family	self-care, risk reduction, disease prevention, budgeting
work-place, school	disease prevention, health promotion and protection, cost control
community, town, district, ...	health advocacy, support groups, disease prevention, health protection
care provider – patient	patient care monitoring, communication, appointment scheduling
care provider – process	cost control, budgeting, quality audit, clinical protocol development, administration
clinic, group practice, hospital	administration, supervision, resource management, protocol development, loss and cost control, budgeting, decision-making
local and district health departments	maintaining standards, policy review, planning, decision-making, cost control, budgeting, utilisation and resource management, supervision
provincial health departments	policy review, planning, decision-making, cost control, budgeting, resource management
national health departments	maintaining standards, protocol development, policy review, planning, decision-making
other state departments	disease prevention, health promotion and protection, health advocacy
medical insurance and managed care organisations	appointment scheduling, cost control, premium and benefit review, protocol development, claims processing, authorisation criteria review, health incentive programming
commercial and industrial enterprises	stock supply, new drug and equipment development, budgeting, policy review, planning, decision-making, resource management
academia and research	student selection and curriculum development, hypothesis generation and testing

all and in every way for surveillance, planning, policy-making, and decision-taking

COMMUNICATION OF DATA AND INFORMATION

modern electronic technology can be used to provide, real-time, accurate, prompt, and interactive communication and links

for data sharing between and on individuals and groups

patients

individual:

patient, parent, guardian, . . .

group:

family, household, social group, work-place, school, . . .
town/city, district, province, country, supra-national region, . . .

care-providers

individual:

doctor, radiologist, pathologist, pharmacist, nurse, physiotherapist, . . .

group:

clinic, health centre, group practice, laboratory, hospital, . . .

payers/funders

individual:

patient, parent, guardian, . . .

group:

state, insurance scheme, managed care organisation, employer, . . .

others

government departments of health, vital statistics, housing, . . . ,
academic and research institutions, NGOs, commerce, industry, . . .

data can be interchanged horizontally and transferred vertically from and to the collecting points to the national network with everybody having access to the national network

INFORMATION SUB-SYSTEMS COMMON IN ALL COUNTRIES

WHO REPORT 1995

epidemiological surveillance	for detecting, reporting and reacting to cases of infections, selected non-communicable diseases (asbestosis), important events (maternal deaths), and services (vaccination) <ul style="list-style-type: none">• routine reporting by service facilities and practitioners• ad hoc investigations at sentinel sites
routine service reporting	of varying frequency (weekly, monthly, annual) <ul style="list-style-type: none">• service record-keeping and report submission• special reports on monitoring the use of drugs and supplies, ...
programme information	stand-alone or integrated into routine reporting <ul style="list-style-type: none">• special public health programmes eg TB control, EPI, AIDS, ...
administrative systems	with own record-keeping, reporting, and flow of information <ul style="list-style-type: none">• budget and finance, supplies, facilities, and equipment,• human resources, education, training, and research,• external resources, licensing, and regulations
vital or civil registration	in support of the civil registration system <ul style="list-style-type: none">• births, deaths, marriage, divorce, and migration

COMMON PROBLEMS WITH NATIONAL INFORMATION SYSTEMS

WHO REPORT 1995

- excessive requirements for data recording and reporting by service staff
- data not used for the tasks performed at the level where data collected
- data on communicable diseases not analysed for local action to prevent and control epidemics
- extensive amounts of data accumulate at higher levels of the system
- little of the accumulated data analysed and used at the higher levels

- inadequate reporting of cases of communicable diseases
- inadequate functioning of surveillance systems
- inadequate registration of births and deaths and their causes

- routinely reported data of dubious validity, completeness and reliability
- data on people without access to services, or who use private services, missing from national systems
- use of general and special surveys to capture data which should be in routine reporting systems

- little appropriate, efficient use made of computers and data processing for better data management
- efforts to strengthen national information systems (some supported by WHO) eg: review and revision of forms, records, and reports and in-service training minimally effective

**insufficient use of available data for planning, implementation,
case and service management, monitoring and evaluation**

**inadequate quality, completeness and timeliness of data
from routine recording and reporting mechanisms**

SYSTEM REQUIREMENTS

THE SYSTEM SHOULD:

- measure what it is designed to measure
- be easy to use
- use standard codes and compatible computer interfaces
- be flexible and adaptable to changing needs and different users
- be customised with the staff who will collect and use the data
- ensure institutional and personal confidentiality

THE DATA SHOULD BE:

- structured, accurate, concise, up-to-date, not duplicated
- necessary or at least useful
- convertible into information that is easy to use, useful, and usable at all levels
- retrievable and continuously accessible

DATA MANAGEMENT

- data converted into information and used at the point of collection
- communication and sharing of data and information between all role-players

TOOLS

- customised goals, targets, and indicators
- clinical, housekeeping, financial, and administrative protocols
- service delivery and practice management data sets for comparisons
- continuing human resource training in the use of the system

SYSTEM APPLICATIONS

continuous real-time surveillance of needs, resources, processes, and outcomes

- pattern of morbidity and mortality
- impact of socio-economic factors on service needs
- effect of a service – in part and as a whole – on people's health

- tracking of patients, services, human and physical resources
- channelling clinical performance, reducing missed opportunities
- on-line disease notification and authorisation of proposed intervention
- appointment scheduling
- defaulter tracing

- protocol compliance monitoring, protocol review
- quality control
- outcome monitoring
- performance monitoring, service evaluation
- utilisation monitoring, cost-benefit audits

- tracking of finances
- on-line fee collecting, payments, banking

- co-ordination, budgeting, planning, decision-making
- hypothesis gathering and testing

ESSENTIAL DATA ON INDIVIDUAL PATIENTS

IDENTIFICATION

- name, ID number, date of birth, gender, and race
- patient's medical service number with details of institution imbedded
- contact details – addresses and 'phone numbers, ...
- service payment details

CLINICAL FEATURES, INVESTIGATIONS AND TREATMENT

- encounter status (first or repeat) and reason
- general condition, functional status and severity of disease
- nutritional and immunisation status (in general terms)
- habits – substance and drug use/abuse
- special investigations – requests and results
- diagnoses – definite and tentative
- treatment – drugs, procedures, and surgical supplies
- referrals and appointments – date, reason, and place

OUTCOME

- births and deaths
- improvement, deterioration, recurrence, relapse, hospitalisation,
- compliance – attendance and management

USEFUL BUT NOT ESSENTIAL DATA ON INDIVIDUAL PATIENTS

These could be collected	routinely	- according to local needs
	on an ad hoc basis	- for special studies
	at sentinel sites	- for surveillance

IDENTIFICATION AND DEMOGRAPHIC FEATURES

- identification of and patient's relationship to head of family/household
- residential area – current, usual, and previous
- level of educational attainment and marital status
- occupational history, income, and social class
- type of accommodation, supply of water and fuel, refuse disposal, ...
- availability and accessibility of medical and social services and amenities

CLINICAL FEATURES, INVESTIGATIONS AND TREATMENT

- immunisation coverage of individual vaccines
- identification of primary and secondary diagnoses and clinical subtypes – ICD 10
- verbatim pathology reports
- details of surgical procedures

**only nationally – preferably internationally – standardised codes
should be also used for all optional extra or add-on variables**

INSTITUTION-RETAINED PATIENT-RELATED DATA FORMS

- electronic data entered directly onto a computer
- manual where computers and electricity not at all available
- mixed data entered manually at point of care with electronic transfer later

EXAMPLES

- registers enrolment, attendance, admission, appointment, and defaulter *
 - encounter record care provider's record of encounters with patients
 - personal clinical record for monitoring diagnosis and care of individual patients
- out-patients
- childhood and adolescent growth and ill-health
 - reproductive health and disease
 - chronic diseases and rehabilitation
 - geriatric health and disease
- in-patients
- progress/process monitoring
- clinical note book/jotter care provider's informal notes on individual patients
 - multi-purpose pad interventions and communication – 1 copy retained
- requests for and results of special investigations
 - prescriptions and dispensing
 - reports of surgical procedures, ...
 - letters, referrals, and certificates

* merged in electronic format

COMMENTS ON ENROLMENT REGISTER

(serving as an institution's population register with staff members also enrolled in it)

unique institution number

- only the institution which assigned this number can identify the patient with it
- this number enables data updating and correction without loss of old data
confidential reporting

addresses – 2 kinds and 2 uses

contact residential	precise and correct approximate	to contact patient to situate patient demographically
contact details include	residential and postal address, e-mail address, telephone, fax, and cell phone numbers of patient or messenger (friend, relative, employer, neighbour, ...)	
residential area contains data on	housing, environment, community facilities, policing, transport, population density and age distribution, land valuation, morbidity and mortality, medical facilities, ...	
residential area codes are linked to	enumerator area (census tract) codes and postal and telephone codes	

**patients must be secure in the knowledge that they
will be treated irrespective of where they stay**

AN EXAMPLE: AN ENROLMENT REGISTER

[essential data only]

institution's name: _____

clerk's name: _____

page: _____

no.	patient's name			enrolment		service		demographic data				medical aid details			contact details			
	unique	surname	first or initials	dates		numbers		identification				principal's details			personal		close relative or friend	
first - original				current	old	new	date of birth	gender	race group	ID/passport no.	nationality	name	number	name, postal address and phone number/s	contact address/es [own or messenger's]	phone number/s	name, relationship, contact address/es	phone number/s

MSIS electronic variable list

essential

- unique institution reference number
- name of institution
- date of admission and date of data collection
- medical service number - old and new
- surname and first name or initials
- gender
- ID number or passport number [for non-nationals]
- date of birth
- contact details
- name of contact person if details not for patient
- name and details of close friend or relation
- method of service fee payment and funder's details

useful

- medical service number of mother
- service identification number of family/household
- country of which patient is a citizen
- MSIS area* where patient is currently staying
- date when moving into current area
- place of work [name, address, phone numbers]
- family/household income
- number of people dependent on income
- exact occupation
- whether employed in this institution
- province where previous home situated

nice to have

- title
- place of birth
- date birth registered
- literacy level
- highest educational level attained
- personal income
- occupational rank and social class
- if unemployed, duration and reason
- type of current home eg shack
- MSIS area of previous home
- postal and phone codes of previous home
- type of previous home

*** features embedded in MSIS area**

- enumerator area, postal and phone codes
- type and condition of housing
- fuel, water, sewage and refuse disposal
- road surface, street lighting and public transport
- air pollution and disease vector sites
- policing, parks and recreation
- social cohesion and civic functioning
- per capital income and inequality index
- population size and distribution
- unemployment and illiteracy
- access to medical care
- birth, infant mortality and TB rates

ATTENDANCE REGISTERS

FOR EMERGENCY OUT-PATIENTS

manual	attendance register with tracking details
electronic	encounter record with on-line access

new patients to be admitted first and enrolled later

FOR OTHER OUT-PATIENTS

big institution	as in big buildings	security checks with cards and entries in a register or electronically from a turnstile for selected patients
small institution (eg rural clinic)	new patient old patient	enrolment register and encounter record encounter record only
medium-sized institution	as big or small or in-between – customised	

FOR IN-PATIENTS

manual	as for emergency out-patients
electronic	clinical progress monitoring record with on-line access

SERVICE PROVIDER'S ENCOUNTER RECORD

Objectives – records used to:

- monitor staff performance and work-flow
- monitor pattern of morbidity, service utilisation, referral, and medico-legal reporting
- direct structured and comprehensive clinical care
- reduce missed opportunities
- facilitate comparative analyses
- provide data for audit and hypothesis gathering and testing

General features

- data entered manually onto a standardised structured form or
- data entered directly on a computer spread-sheet or data-base form

data to be entered during and NOT after the encounter

Special features

- standard codes to be used – local customised codes can be cross-referenced
- quality measures preferably on a 5-point scale
- field lists to be customised
- provision for the entry of more than 1 diagnosis (and whether tentative or definite)

AN EXAMPLE: SERVICE PROVIDER'S ENCOUNTER RECORD IN AN ADULT POLYCLINIC

Institution's name: _____ unit's name: _____ clinician's name: _____ date: _____

	patient			visit		if referred		out-	diagnosis											date		if referred			date
						where FROM	come	general								chronic disease			done	where TO	date				
	number	time	reason	institution's name	department	previous encounter	condition	nutrition	substance/s abused	notifiable condition	medico-legal	occupation-related	venereal disease	disease/s	complication/s	other diagnoses	nil made	check list	referral, report, notification, other	institution	department	appointment	next visit		
1																									
2																									
3																									
4																									
5																									
11																									
12																									
13																									
14																									
15																									

COMMENTS

- 1 Entries to be made in code [there is a code list]
- 2 The ICD 10 codes to be used for reasons for visit and diagnosis
- 3 A 5 point scale to be used for general condition, nutrition and outcome - from excellent to very bad
- 4 A "?" to be added as a suffix to the diagnosis if the diagnosis is tentative rather than definite

CLINICAL ENCOUNTER RECORD

Objectives – records used to:

- direct structured and comprehensive clinical care
- reduce missed opportunities
- facilitate secular trend monitoring
- facilitate access to and retrieval of structured data
- provide data for medico-legal purposes, audit, and hypothesis gathering and testing

General features

- data entered manually onto a standardised structured form or
- data entered directly on a computer spread-sheet
- retained by the patient or preferably by the service provider/facility

Examples

- infant health and disease monitoring record
- antenatal monitoring record
- hypertension monitoring record
- in-patient progress monitoring record
- annual review of chronic disease

but in the beginning there is the clinical questionnaire

ANTENATAL MONITORING RECORD

NAME _____ age _____ date of LMP _____ EDD _____ MSNO _____
 GENERAL: marital status _____ para _____ gravida _____ no kids alive _____ dead _____
 PAST PROBLEMS: number still-births _____ habitual abortion _____ CS _____ FAS _____ multip _____
 PAST PREGNANCY: PET _____ APH _____ GR/SFD _____ LFD _____ prem- _____ post- _____
 RISK FACTORS: CPD _____ rH -ve _____ ABO _____ alcohol _____ tobacco _____ poverty _____
 RISK DISEASES: HT _____ DM _____ anaemia _____ WR+ve _____ HIV +ve _____ proteinuria _____
 OTHER FINDINGS: height _____ obesity _____ teenager _____ elderly _____ primip _____ twins + _____

visit number	1	2	3	4	5	6	7	8	9	10	11	12
date												
attendant												
weeks of pregnancy												
PVD												
dysuria												
oedema												
impaired vision												
foetal movements												
other symptoms												
expected weight												
observed weight												
systolic BP												
diastolic BP												
breasts												
swollen ankles												
pelvic diameters												
fundal height												
presentation												
other signs												
urine protein												
urine glucose												
Hb												
RPR titre												
HIV parameters												
partner's WR/HIV												
rH status + antibodies												
ABO antibodies												
other tests												
other diagnosis 1												
other diagnosis 2												
no. meals/day												
sugar/salt												
vegetables/day												
legumes and fish												
vegetable oil/bran												
alcohol												
tobacco												
exercise												
stress												
compliance												
attendance												
K/Mg salts, oil												
pill count pregamol												
syphilis Rx completed												
partner Rx completed												
pill count other drug												
pill count other drug												
tetanus toxoid												
K/Mg salts, oil												
pregamol												
treatment for syphilis												
Rx of partner												
other drug												
other drug												
date next visit												
OUTCOME - mother	attendant		duration		presentation			complications				
OUTCOME - child	sex	weight	length		cord WR		abnormalities					

AN EXAMPLE: ANNUAL REVIEW OF PATIENTS SUFFERING FROM CHRONIC DISEASES

institution's name: _____

unit's name: _____

clinician's name: _____ **p**

	number	dates			level of control							complications	attendance			hospitalisation		non-ε	
	patient number	first visit	current review	previous review	HIV-AIDS	asthma	other COLD	diabetes	epilepsy	hypertension	other	complications of chronic diseases and associated conditions	expected number	observed number	observed/expected	number of times	length episodes [weeks]	date of latest discharge	other fr att re
1																			
2																			
3																			
4																			
5																			
10																			
11																			
12																			
13																			
14																			
15																			

COMMENTS

- 1 Use a 5-point scale for level of control - from excellent to very poor
- 2 Enter the duration of each episode of hospitalisation; not the total

CLINICAL QUESTIONNAIRE

- can be self-administered
- can be completed before the first consultation
- can be completed at leisure and with assistance

advantages:

accessible, retrievable, comprehensive record
destigmatises sensitive questions
jogs the patient's memory
empowers the patient
saves consultation time

useful sections in a clinical questionnaire:

main complaint/s
symptoms

open question
by system with leading questions

questions specifically directed at:

infants, children, women, the elderly, and the disabled.

general questions about:

medical care, medicines, illnesses, and hospitalisation
health of other members of the family and household
diet and physical activity, alcohol, tobacco
education, employment, income, dependents, food security
accommodation, marital status, social networks

A CARE-PROVIDER'S PERSONAL JOTTER

for notes on individual patients

PURPOSE

- making and keeping notes on clinical consultations on patients without structured forms such as:
 - walk-in or once-off patients
 - patients suffering from acute illness or injury
- keeping hands and eyes busy
- focussing the mind
- reference purposes and reminders
- noting impressions and hunches
- planning and doodling

PROCESS

- entries are made during the consultation
 - entries do not have to be structured or formal
 - jotters are private and belong to the care-provider
 - a jotter should not be accessible to anybody other than owner/user
-
- entries should be retained for at least 2 months – longer if medico-legal
 - care-providers should store their own jotters
 - data confidentiality must be secured

A MULTI-COPY MULTI-PURPOSE PAD

many copies and many uses

- patient information – top copy
- communication:
 - requests for and results of special investigations
 - formal, legally correct prescriptions and refills
 - reports of surgical procedures
 - referral letters and replies
 - medical certificates and sick notes
- data for computer input
- hard-copy, manual reference – last copy

WHAT A BLANK PAGE COULD LOOK LIKE

Institution's name:

Institution's address and phone numbers:

patient's name, ID number, medical service number:

patient's address:

date:

clinician's signature, name and qualifications:

...

ESSENTIAL DATA ON SPECIAL INVESTIGATIONS

protocols

- test what, why, when, by and for whom
- laws and regulations patient confidentiality, safety, disease notification
- safety needle-stick injury, waste disposal

types of tests

- point of care equipment, material, patient, result, cost
- in-house type, cost, quality control
- out-sourced type, cost, reliability, turn-around time

specimen

- collection where, by and from whom, when, how, cost
- tracking where, when
- result value, notification, storage

test material and equipment

- control stolen, mislaid, damaged – who, what, when, why
- distribution to and from where, what, when
- cost purchase, depreciation, store, service, operate

commercially available systems could be adapted and linked with a MSIS

AN EXAMPLE: LABORATORY TRACKING REGISTER

institution's name: _____

laboratory's name: _____

technician's name: _____

page: _____

patient identification		referred from					test identification		specimen				result details					reports												
		place	person					collected	received	ready		results checked				clinician notified			written report											
ref number	medical service no.	institution	department	status	name	staff code	contact phone number	test name	test code	date	time	date	time	date	time	value	date	time	name of checker	checker's code	urgent notification?	date	time	message left?	clinician's code	messenger's code	notifier's code	date sent	time sent	poster's code
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COMMENTS

- 1 Another manual tracking register has to be used when requesting an investigation
- 2 Another register has to be used when contacting a patient
- 3 In the electronic data form all these fields and more are merged

ESSENTIAL DATA ON MEDICINES

protocols

- treatment what, why, when, how much, by and for whom
- customised drug list based on treatment protocols and standard codes
- laws and regulations national and local
- storage place, temperature, security, handling

stock management

- order amount, date, quoted prices, supplier
- supply amount, date,
- distribution to and from where, what, when,
- safety batch numbers, expiry date,
- control stolen, mislaid, damaged – who, what, when, why
- costs total excluding labour – item, container, label

prescribing and dispensing

- prescriber who, what, when, how much, how
- prescription identity, status, location
- dates, amount, type, name, strength, duration, refills, ...

commercially available systems could be adapted and linked with a MSIS

AN EXAMPLE: DISPENSARY STOCK CONTROL CARD

Institution's name: _____

name of item: _____ **code:** _____ **batch number:** _____ **expiry date:** _____ **pack size:** _____ **price/item:** _____

stock in hand

receipt of item											stock taking - checking									
date new item		delivery	persons responsible		amount received		errors found		errors reported		date	persons responsible		amount		errors found		errors reported		
received	packed	number	receiver	unpacker	packs	discrete	short-fall	excess	date	to whom	checked	checker 1	checker 2	packs	discrete	short-fall	excess	date	to whom	

stock dispensed/issued

number	date	receiver's reference		supplier's details		amount issued	
		page	number	name	signed	packs	discrete
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							

stock dispensed/issued [continued]

number	date	receiver's reference		supplier's details		amount issued	
		page	number	name	signed	packs	discrete
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							

note: amount can be recorded either as packs or as discrete items [tablets, ml. ...] but not as both

AN EXAMPLE RURAL CLINIC MEDICINE ORDER AND SUPPLY FORM

Institution's name _____ order number _____ date of order _____

PRIMARY HEALTH CARE MEDICINES

item [generic name]	pack size	used in 1 wk	needed for 10 wks	stock in hand	amount			amount	
					ordered	issued	received	to follow	received

tablets, capsules, pessaries, suppositories, sachets

amoxicillin 250mg									
aspirin soluble 300mg									
bismuth subgal suppositories									
co-trimox 80/400mg									
dextrose-elec sachet									
doxycycline 100mg									
erythromycin 250mg									
ferr/folate 200/.1mg									
h-chlo-thiazide 25mg									
ibuprofen 200mg									
metronidazole 200mg									
niclosamide 500mg									
oxytetracyclin 250mg									
penicillin 250mg									
probenecid 500mg									
terconazole pessary 160mg									
vitamin A									
vitamin B co									

oral mixtures, suspensions, gargles [ml]

amoxicillin 125mg/5ml									
cetylpyridine gargle									
chlorpheniramine 2mg/5ml									
magnesium hydroxide									
multivitamin syrup									
paracetamol 120mg/5ml									
penicillin 125mg/5ml									
piperazine 750mg/5ml									

ointments, paints, other skin applications

benzyl benzoate solution									
benzoic acid co [whitfields]									
calomine lotion									
chloramphenicol eye ointment									
gentian violet paint									
methyl salicylate ointment									
povidine iodine ointment									
thiabendazole solution									
zinc & castor oil ointment									
zinc undeconoate ointment									

ordered by	date	authorised by	date
packed by	date	dispatched by	date
first delivery received by		checked by	date
follow-on received by		checked by	date

APPOINTMENT AND DEFAULTER REGISTERS AND CARDS

data capture

where made:	first appointment	clerk's desk
	next local appointment	service point
	referral appointment	service point
where recorded:	first appointment	appointment register + patient-retained record
	next local appointment	encounter record + patient-retained record
	referred appointment – OUT	encounter record + patient-retained record
	referred appointment – IN	appointment register + patient-retained record
if manual, use cards	contents	medical service number + date of next visit + defaulter reference
	storage	in a (shoe) box – as in an old-fashioned library
	filed	by date of next visit

appointment report

manual	cards from service points and clerk's desk
electronic	daily printed reports for each care provider and department

defaulter register

(can be used also for infection contacts)

manual	data from cards and registers – enrolment and appointment
electronic	daily printed register for each care provider and department

ESSENTIAL DATA ON HUMAN RESOURCES

data must be continuously updated – not once-off like ReHMIS

CATEGORIES OF STAFF

- clinical, house-keeping, administrative
- employers, employees and volunteers

PERSONAL DATA

- as on patient enrolment register socio-demographic, addresses, ...
- status experience, rank, qualifications, accreditation,
- continued education formal, in-service training, CPD, ...
- previous employment where, when, references, referees, ...
- health past and present

WORK-RELATED DATA

- employment part-time or full-time, temporary or permanent
- deployment when and where, ...
- remuneration salary, benefits, incentives, bonuses, how, ...

- attitude empathy, job satisfaction, loyalty, ...
- behaviour performance, absenteeism, discipline, ...

ESSENTIAL DATA ON PHYSICAL RESOURCES

data must be continuously updated

assets: buildings and grounds, furniture and soft goods, ...
vehicles, clinical and office equipment, IT software,

stock: clinical medicines, test material, surgical supplies, . . .
house-keeping cleaning material, food, . . .
administrative stationery, . . .

data needed on items that have been:

- acquired bought, donated, borrowed, replaced, ...
- used dispensed, distributed, eaten, worn-out, ...
- lost damaged, destroyed, mislaid, stolen, discarded, condemned, ...
- stored rooms, refrigerators, cupboards, ...

details needed:

- by, from and to whom, when, where, why, ...
- quantity number, type and identification, ...
- quality condition, suitability, safety, ...
- maintenance inspection, service, repair, ...
- costs acquisition, replacement, depreciation, insurance, ...

commercially available systems could be adapted and linked with a MSIS

ESSENTIAL DATA ON SERVICES

data must be continuously updated

TYPES

- clinical, house-keeping, administrative
- in-house or out-sourced

LEVELS

- institution
- individual and grouped departments
- individual and grouped members of staff

DATA

- | | |
|----------------------|--|
| • location | of and in the institution, including satellite clinics and mobile services |
| • type | out-patient, ward, intensive care, administration, cleaning, ... |
| • level | primary, secondary, tertiary |
| • times of operation | hours, days, ... |
| • staffing levels | optimum, permitted, minimum, frozen, unfilled, actual |
| • work-load | number of patients, disease severity, ... |
| • date and time | consultation, bed occupancy, procedures, tea-breaks, ... |
| • performance | safety, standards, efficiency, ... |
| • compliance | protocols, authorisation criteria, ... |
| • costs | |

ESSENTIAL DATA ON FINANCE

data must be continuously updated

LEVELS

- institution
- individual and grouped departments
- individual and grouped members of staff

DATA ON INCOME AND EXPENDITURE

- | | |
|-------------------------------|--|
| • service fees | nil, direct, third party payers, mixed, ... |
| • state subsidies | national, province, district, local authority, other |
| • private subsidies | dedicated, not for profit, charity, ... |
| • grants, donations and loans | conditions, constraints, interest |
| • other | hiring out of resources and services, investments, ... |
| • work related | when, to whom, for what |
| • other expenditure | tax, insurance, investments, interest on loans, ... |

DATA ON PROCESS

- | | |
|------------------------|---|
| • medical service fees | structure, payments, debts, ... |
| • medical aid schemes | credit checks, authorisation, account submission, ... |
| • expenditure | control, supervision, ... |

commercially available systems should be adapted and linked with a MSIS

ANALYSES AND REPORTS

frequencies and correlations – in tables, graphs, diagrams and text

FEATURES

- real-time tracking of patients, staff, specimen, stock, assets, payments, ...
- customised to needs at every level
- available daily, weekly, quarterly, annually, ... as required
- accessible physically and intellectually to all who need to know

ROLE PLAYERS

data collectors: everybody – clinical, house-keeping and administrative staff

report writers: data collectors, managers, dedicated others

report users: data collectors
department and institution managers, owners, boards, ...

individuals patient, family, household
community street, area, suburb, town/city, district, ...

state health structures local, district, provincial, national and international
funders medical aid schemes, MCOs, NGOs, ...
premium payers medical aid and corporate subscribers, ...

non-medical governmental and NGO sectors
commercial and industrial enterprises
academic and research institutions and individuals

TOPICS FOR REPORTS

CLINICAL	patients
individual	clinical summary, diagnosis, treatment, next appointment, referral, fee
groups	socio-demographic features, socio-economic status
encounter	number, rate, type, reasons, day and time, duration, missed opportunities
admissions	number, rate, type, reasons, day and time, duration
diagnoses	number, rate, type, name, severity, habits – indicators as derivatives only
investigations	tracking, number, rate, type, pick-up rate, effect on treatment, response, cost
medicines	number, rate, type, name, billing, cost, protocol compliance, prescriptions, dispensing, supply, orders, loss
procedures	number, rate, type, name, day and time, duration, authorisations, urgency
referrals	number, rate, reason, method, response, place – from/to
defaulters	number, rate, type, response
outcome	cure, control, relapse, disease spread, hospitalisation, birth, death
finance	income, expenditure, budgeting, billing, debt tracking
CLINICAL	staff
general	socio-demographic features, socio-economic status, qualification, rank
deployment	department, day and time, number, type, status, use of time, . . .
performance	behaviour, attitude, absenteeism, professional and skills development
remuneration	salary, benefits, method of payment, . . .

HOUSE-KEEPING, ADMINISTRATION and FINANCE – standard good practice

the reports also monitor the MSIS system itself

AN EXAMPLE: WEEKLY CLINICAL REPORT

AT AN ADULT POLYCLINIC IN A HEALTH CENTRE

week number		1	2	3
total number of patients	health centre	3107	3291	3289
	polyclinic	958	893	989
	morning	653	586	669
	afternoon	305	307	320
	males	346	332	364
	females	612	561	625
residential area	local suburb	780	729	810
	rest of town	101	120	92
	rest of province	53	25	56
	other provinces	24	19	31
new - first encounter	number of patients	886	813	914
repeat encounter	total number of patients	72	80	75
reasons for return visit	worse	25	20	20
	not better	18	25	19
	for certificate	16	29	23
	by appointment	13	6	13
diagnoses				
substance abuse	number of patients	420	387	421
	number of diagnosis	1056	1049	1088
substances abused	alcohol	312	322	342
	tobacco	382	358	374
	dagga	235	247	241
	other	127	122	131
abnormal nutrition	thin	56	49	52
	overweight	171	169	178
	obese	60	59	63
notifiable conditions	number of patients	85	81	83
	number of diagnoses	88	87	91
	AIDS	3	6	8
	PTB	79	75	74
	other	6	6	9
medico-legal conditions	number of patients	133	107	139
	number of diagnoses	169	149	186
	physical assault and battery	79	68	94
	rape	54	39	45
	other	36	42	47
STDs	number of patients	201	184	224
	number of diagnoses	261	269	304
	penile discharge	79	75	84
	vaginal discharge	35	39	46
	WR +ve	44	43	48
	HIV +ve	15	24	32
	other	88	88	94
chronic diseases	number of patients	55	59	57
	number of new patients	50	55	52
	number of diagnoses	78	81	79
	chronic lung disease	17	19	21
	diabetes	12	11	9
	epilepsy	7	12	8
	hypertension	42	39	41
other diagnoses	number of patients	587	608	647
	number of diagnoses	649	680	701
	musculo-skeletal distress	162	160	169
	upper respiratory tract infection	169	192	187
	lower respiratory tract infection	52	61	69
	skin disease	59	61	57
	urinary tract infection	102	98	107
	visual impairment	12	14	9
	psychosis and depression	9	5	10
	other	84	89	93
	no diagnosis made	number of patients	26	31
referred patients	number of patients referred from polyclinic	147	153	175
	casualty	7	9	5
	CDC clinic	36	33	32
	satellite clinic	27	29	33
	STD counselling	43	52	76
	elsewhere in health centre	21	15	27
	hospital in Gauteng	12	10	13
	hospital in other province	1	2	1

AN EXAMPLE: WEEKLY CLINICAL REPORT

AT AN ADULT POLYCLINIC IN A HEALTH CENTRE

rates and percentages

week number		1	2	3
denominator	all patients at the health centre			
	% attending polyclinic	31	27	30
	% repeat encounter	8	9	8
	morning/afternoon ratio	2.14	1.91	2.09
	female/male ratio	1.77	1.69	1.72
denominator	all patients at the polyclinic			
residential area	% from local suburb	81	82	82
	% from rest of town	11	13	9
	% from rest of province	6	3	6
	% from other provinces	3	2	3
diagnoses				
substance abuse	% of substance abusers	44	43	43
denominator	number of substance abusers			
	alcohol	74	83	81
	tobacco	91	93	89
	dagga	56	64	57
denominator	all patients at the polyclinic			
abnormal nutrition	thin	6	5	5
	overweight	18	19	18
	obese	6	7	6
notifiable conditions	% of patients	9	9	8
denominator	number of patients with notifiable conditions			
	AIDS	4	7	10
	PTB	93	93	89
medico-legal conditions	% of patients	14	12	14
denominator	number of patients with medico-legal conditions			
	physical assault and battery	59	64	68
	rape	41	36	32
STDs	% of patients	21	21	23
denominator	number of patients with STDs			
	penile discharge	39	41	38
	vaginal discharge	17	21	21
	WR +ve	22	23	21
	HIV +ve	7	13	14
chronic diseases	% of patients	6	7	6
denominator	number of patients with chronic diseases			
	number of diagnoses/patient	1.42	1.37	1.39
	chronic lung disease	31	32	37
	daibetes	22	19	16
	epilepsy	13	20	14
	hypertension	76	66	72
other diagnoses	% of patients	61	68	65
denominator	number of patients with other diagnoses			
	musculo-skeletal distress	28	26	26
	upper respiratory tract infection	29	32	29
	lower respiratory tract infection	9	10	11
	skin disease	10	10	9
	urinary tract infection	17	16	17
	visual impairment	2	2	1
	psychosis and depression	2	1	2
referred patients - OUT	% of patients referred from polyclinic	15	17	18
denominator	number of patients referred from polyclinic			
	casualty in health centre	5	6	3
	chronic disease care clinic in health centre	24	22	18
	satellite clinic attached to health centre	18	19	19
	STD counselling service in health centre	29	34	43
	elsewhere in health centre	14	10	15
	hospital in this province	8	7	7
	hospital in other province	1	1	1
	number of diagnoses/patient - including substance abuse and abnormal nutrition	2.70	2.90	2.77
	number of diagnoses/patient - excluding substance abuse and abnormal nutrition	1.30	1.42	1.38

ANNEXURES

1. Clinical encounter records for some common chronic conditions
 - obstructive lung disease
 - diabetes
 - diabetes and hypertension
 - epilepsy
2. Coding conventions for these common chronic conditions
3. Self-administered clinical questionnaire

These records, coding conventions and questionnaire are slightly modified from those used in clinics which I developed and ran from 1976 to 1991.

OBSTRUCTIVE LUNG DISEASE

CDC # _____

NAME _____ sex _____ date of birth _____ AHC # _____

ADDRESS _____ code _____ phone _____

ID _____ medicAid _____ medicAlert _____ year of onset _____

CAUSES & TRIGGERS: tobacco _____ ET-smoke _____ house dust _____ occupation _____ other air _____ animals _____

plants _____ food _____ cold _____ rain _____ wind _____ exercise _____ infection _____ stress _____ drugs _____

TYPES & COMPLICATIONS: asthma _____ chronic bronchitis HS/O _____ / _____ emphysema _____ CCF _____ PTB _____

severity of OLD _____ height _____ IBM _____ PCV _____ expected peak flow _____ %PFV _____

date	past	when									
attendant											
no. asthma attacks/week											
night-time asthma											
early morning dip											
weakness or tiredness											
shortness of breath											
cough											
sputum											
headache											
impotence/date of LMP											
other											
weight											
systolic blood pressure											
diastolic blood pressure											
pulse rate											
pulse rhythm											
respiratory rate											
cyanosis tongue/hands											
swollen ankles											
other sign/s											
peak flow											
other tests											
other diagnosis											
time last meal											
no. meals/day											
sugar/salt											
meat/tinned food											
legumes/vegetable oil											
alcohol											
tobacco											
environmental T-smoke											
chest exercises											
general exercises											
stress											
compliance attendance											
steam/warm drinks											
S-inhaler use/day											
amount S-inhaler over											
time last S-inhaler used											
pill count theophyllin											
pill count salbutamol											
amount B-inhaler over											
time last B-inhaler used											
pill count tetracycline											
pill count other drug/s											
steam/warm drinks											
salbutamol inhaler											
theophyllin SA											
salbutamol oral											
beclamethasone inhaler											
tetracycline HCl											
contraception											
other drug/s											
date next visit											
OCCUPATION	past			present							
ACCOMODATION	type	rooms	occupants				water	fuel	toilet		
NEW ADDRESSES											

DIABETES

NAME _____ sex _____ date of birth _____ AHC No. _____

ADDRESS _____ code _____ phone _____

ID _____ **medicAid** _____ **medicAlert** _____ **year of onset** _____

RISK FACTORS: family _____ obesity _____ alcohol _____ sloth _____ drugs _____ infection _____

COMPLICATIONS: hypo _____ IRF _____ retina _____ cataracts _____ UTI _____ caries _____

other infection _____ peripheral n/p _____ autonomic n/p _____ PVD _____ CVA _____ IHD _____

OTHER FINDINGS: creatinine _____ choles- _____ potas- _____ uric acid _____ PCV _____ ketosis _____

type of DM _____ height _____ IBM _____ waist _____ hip _____ BMI _____ coma _____

date	past	when										
attendant												
headache/dizziness												
weakness or tiredness												
palpitations/sweating												
disturbed vision												
drowsiness/confusion												
thirst or dry mouth												
nocturia/polyuria												
hunger or eating a lot												
impotence/date of LMP												
other												
weight												
systolic blood pressure												
diastolic blood pressure												
pulse rate/rhythm												
respiratory rate												
teeth [DMF]												
skin/feet												
other signs												
urine protein												
other urine test												
time blood sugar taken												
blood sugar result												
other tests												
other diagnosis												
time last meal												
no. meals/day												
sugar/salt												
meat/tinned food												
legumes/fish												
vegetable oil/bran												
alcohol												
tobacco												
exercise												
stress												
compliance attendance												
K/Mg salts												
insulin dose												
time of last insulin dose												
pill count DM oral drug												
time last DM dose taken												
pill count other drug												
pill count other drug/s												
K/Mg salts												
insulin												
glipizide/metformin												
other drug												
contraception												
other drug/s												
date next visit												
OCCUPATION	past:		present:									
ACCOMODATION	type	rooms	occupants	water	fuel	toilet						
NEW ADDRESSES												

DIABETES-HYPERTENSION

NAME _____ sex _____ date of birth _____ AHC No. _____

ADDRESS _____ postal code _____

ID _____ medicAid _____ medicAlert _____ year of onset _____

RISK FACTORS: family _____ obesity _____ alcohol _____ drugs _____ sodium _____ infection _____

COMPLICATIONS: coma _____ hypo- _____ IRF _____ retina _____ cataract _____ UTI _____

caries _____ other infection _____ peripheral n/p _____ autonomic n/p _____ LVH _____ CCF _____ CVA _____ PVD _____ IHD _____

OTHER FINDINGS: creatinine _____ potas- _____ choles- _____ uric acid _____ PCV _____ ketosis _____

type DM _____ severity HT _____ height _____ IBM _____ waist _____ hip _____ BMI _____

date	past	when														
attendant																
headache/dizziness																
weakness or tiredness																
cough																
dyspnoea/chest pain																
palpitations/sweating																
disturbed vision																
drowsiness/confusion																
thirst or dry mouth																
nocturia/polyuria																
hunger or eating a lot																
impotence/date of LMP																
other																
weight																
time BP measured																
systolic blood pressure																
diastolic blood pressure																
pulse rate																
pulse rhythm																
respiratory rate																
teeth [DMF]																
swollen ankles																
skin/feet																
other signs																
urine protein																
other urine test																
time blood sugar taken																
blood sugar result																
other tests																
other diagnosis																
time last meal																
no. meals/day																
sugar/salt																
meat/tinned food																
legumes/fish																
vegetable oil/bran																
alcohol																
tobacco																
exercise																
stress																
compliance attendance																
K/Mg salts																
insulin dose																
time of last insulin dose																
pill count DM oral drug																
time last DM dose taken																
pill count reserpine																
time last reserpine taken																
pill count HCT																
time last HCT taken																
pill count other drug/s																
K/Mg salts																
insulin																
glipizide/metformin																
reserpine 0.125mg																
HCT 12.5mg																
other drug																
contraception																
other drug/s																
date next visit																
OCCUPATION	past:		present:													
ACCOMODATION	type	rooms	occupants	water	fuel	toilet										
NEW ADDRESS																

EPILEPSY

CDC # _____

NAME _____ sex _____ date of birth _____ AHC # _____

ADDRESS _____ code _____ phone _____

ID _____ medicAid _____ medicAlert _____ year of onset _____

TYPES OF SEIZURES PARTIAL: simple _____ complex _____ becoming generalised _____

- GENERALISED: grand mal _____ petit mal _____ hysterical _____ other _____

CAUSE OF EPILEPSY familial _____ congenital _____ infections _____ injury _____ vascular _____ other _____

level of control retarded _____ psychotic _____ disabled _____ stressed _____ height _____ IBM _____

date	past	when											
attendant													
number of seizures													
aura													
incontinence													
tongue-biting													
post-ictal state													
burns													
other injury													
impotence/date of LMP													
other													
weight													
systolic blood pressure													
diastolic blood pressure													
injury													
teeth [DMF]													
other sign/s													
tests													
other diagnosis													
time last meal													
no. meals/day													
sugar/salt													
meat/tinned food													
legumes/vegetable oil													
alcohol													
tobacco													
exercise													
stress													
dangerous activity													
anxiety or worry													
lack of sleep or tiredness													
during sleep or dosing													
hunger or hypoglycaemia													
after alcohol													
dagga and other drugs													
television/other triggers													
compliance attendance													
time last phenobarb													
pill count phenobarb													
time last phenytoin taken													
pill count phenytoin													
time last other drug													
pill count other drug													
pill count other drug/s													
phenobarb													
phenytoin													
other drug													
contraception													
other drug/s													
date next visit													
OCCUPATION	past:			present:									
ACCOMODATION	type	rooms	occupants	water	fuel	toilet							
NEW ADDRESSES													

CHRONIC DISEASE CARE CLINIC RECORD SHEETS

CODING CONVENTIONS

GENERAL

Record sheets enable systematic monitoring of a patient's progress. Codes help to standardise the interpretation of data by several coders and facilitate evaluation of process and outcome. The use of codes and coding conventions also saves time and space. These advantages depend however on correct and accurate coding.

NOTES ON HOW TO COMPLETE THE RECORD SHEETS

- 1 The record sheets are divided into horizontal blocks. Each block deals with an aspect of patient monitoring. Complete the rows in the first and last blocks at the first two visits and whenever a new page is started. Update the summary rows in block 1 regularly. Complete a column at each visit.
- 2 Use a pen for the entries in the first 3 lines of block 1, all 3 lines of block 11 and a pencil for the rest. Pencil entries can be erased in case of error.
- 3 Where applicable the information should be clearly **printed** in full or the **actual** numeric value should be entered.
- 4 In the rows add a date where relevant and possible eg:

PTB present from July 1991	= PTB 7/91
gold miner from 1948 to 1965	= gold miner 48-65.
- 5 The cell should be shaded if the information is awaited eg:

bloods have been taken and the results are awaited or MedicAlert disc has been ordered and number is awaited.
--
- 6 Identify yourself at each visit in the appropriate **attendant** cell with your initials as an indication of your commitment and responsibility. The identification of the provider/attendant is also needed for monitoring and evaluating the clerking process.
- 7 Every page 1 has a column where information on the **past** [history] can be entered. Enter the code for the most severe episode. Put the corresponding date in the **when** column.
- 8 The entries in the columns refer to what happened since the previous visit. If the patient has attended elsewhere in the interval between the two visits use a column/s to record the data in correct chronological order.

- 9 Two variables are sometimes listed next to each other separated by a stroke. Both should be coded and the codes should be separated by a stroke. In the example below the patient complains of severe headache and mild dizziness,

headache/dizziness = 3/1.

- 10 Enter the **exact** type of work done for OCCUPATION. Also enter the address and telephone number of present occupation.
- 11 A space has been provided to enter any change of address. Old addresses should never be erased.
- 12 Use the back of the page for notes on symptoms, signs, differential diagnosis, explanations etc.

NOTES ON CODES

- 1 Alphanumeric entries combine alphabetic and numeric codes.
- 2 When abbreviations, letters, numbers or symbols are used that are not detailed here, their meaning should be entered on the back of the page.
- 3 Treat a plus sign [+] as a code meaning present or prescribed. Use the plus sign also as a prefix when coding left-over treatment eg:

6 days' supply of metformin over = + 6.

- 4 A minus sign [-] on its own means that information was deliberately not sought or not prescribed. Use the minus sign also as a prefix to indicate a negative value eg:

patient not obese = - 1 or
no metformin for 5 days = - 5.

- 5 A blank cell means that information was not collected.

- 6 Dates should always be in one of the following forms:

DD/MM/YY DD/MM
MM/YY YYYY

- 7 Time should always be entered as hhmm eg:

8.15 am = 0815 or
8 pm = 2000

8 Drug dosage except for insulin, inhalers and K/Mg salts, drug compliance and tobacco use are coded per day eg:

metformin 850mg x bd	= 1700 mg
5 days supply of metformin over	= + 5
a packet of 20 cigarettes lasts 3 days	= 7

Insulin is coded in units, inhalers and salts in containers.

9 Alcohol and all food except salt are coded per week eg:

meat twice per day	= 14
legumes once every 2 weeks	= 0.5
sugar and sweets 5 times a day	= 35

10 In other situations unless otherwise stated problems and diseases should be coded as follows:

absent/nil/normal/good	0
mild	1
moderate	2
severe	3
very severe	4

Health and well-being should be coded similarly as follows:

excellent	0
mildly inadequate	1
moderately inadequate	2
severely inadequate	3
very severely inadequate	4

SOME DEFINITIONS

ASTHMA

Night-time asthma

asthma attacks that disturb sleep

Early morning dip

asthma attacks very early in the morning

EPILEPSY

Aura

a feeling before an epileptic fit starts
a premonition of a fit

Types of seizures [fits/attacks]

Some people suffer from only one type of seizure, others may suffer from two types at the same time or at different times and others start with one type of seizure and then change to have only another type.

Partial fits only part of the body affected

simple without loss of consciousness

They may move their eyes or head to one side, shake a part of the body, pull faces or move the corner of their eye or mouth. They may feel frightened or dizzy, or see or smell something that is not there.

They know a little of what is going on. They do not remember anything afterwards. They do not fall .

complex as above but with loss of consciousness

becoming generalised

partial at onset; whole body affected later

Generalised fits whole body affected at onset

grand mal tonic-clonic seizures

The body first goes stiff and they fall. They may scream and bite their tongue. The face goes blue and spit may dribble from the mouth. They may wet or soil themselves. This is the tonic [stiff] phase.

After a short time the body starts to shake all over. This is the clonic [convulsive] phase. They are now unconscious. They gradually regain consciousness. Afterwards they may be confused or have headache and feel sore all over.

petit mal absence seizures

There is loss of consciousness lasting a few seconds. Subjects do not fall down.
Usually only children are affected.

hysterical not true epilepsy, attention seeking, bizarre

other myoclonic, tonic, clonic, atonic, atypical

OTHER

ET smoke	environmental tobacco smoke
K/Mg salt	potassium/magnesium salt
Nocturia	number of times subjects wake up from sleep to pass water but excluding the time just before getting up
Polyuria	passing urine many times during the day
Stress	psycho-social, economic, personal stress
Teeth [DMF]	decayed, missing and filled
Tinned food	includes food in bottles, plastic containers, cardboard, cellophane or aluminium foil, etc.
Year of onset	when the sickness started, not when it was first diagnosed

RECOMMENDED ALPHABETIC CODES

ACCOMODATION

rooms	bathroom	W
	bedroom	B
	dining-room	D
	kitchen	K
	sitting room	L
	other	O
fuel	electricity	E
	gas	G
	oil	O
	paraffin	P
	sun	S
	wood	W

occupants	co-habitants	H
	friends	C
	grandparents	G
	inmates [hostel/compound]	I
	nuclear family [parents and kids]	N
	single-parent unit	S
	tenants	T
toilet	bucket	B
	communal	C
	inside water-flush	I
	outside water-flush	O
	VIP	V
	other pit toilet	P
	nil	N
type	brick house	B
	container	C
	flat/apartment	F
	hostel/compound	H
	mud hut	M
	nil - on the move	N
	room in back-yard	R
	shack	S
	tent	T
	veld - in the open	V
wooden house	W	
Alcohol	habitual alcohol intake	
	occasionally/sometimes	S
	weekends only	W
	daily	D
ACTIVITY		
dangerous activity		
	bus or combi driving	B
	car driving	C
	cooking, boiling water, making fire	F
	driving cranes or trains etc	D
	working at a height [as on ladders]	H
	open machine work	M
	truck driving	T

COMPLIANCE with attendance

reason for non-punctual attendance

away	A
family sick	F
going away [attending early]	G
job	J
money too little for transport/fees	M
no reason	N
sick [patient self]	S

DIABETES

complications of diabetes

autonomic np autonomic neuropathy

nocturnal diarrhoea	D
impotence	I
postural hypotension	H
urinary retention	U

peripheral np peripheral neuropathy

cramps	C
limited joint mobility	LJM
mononeuritis	M
numbness	N
paraesthesia	P
wasted, weak or painful muscles	W

type of diabetes

insulin dependent diabetes	IDD
non-insulin dependent diabetes	NIDD
non-insulin dependent diabetes in the young [< 40 years]	NIDDY
insulin requiring diabetes	IRD

DRUGS

drugs

as **risk factor** for disease

alkalinisers and antacids	A
B-blockers	B
diuretics	D
NSAID [non-steroidal anti-inflam drugs]	N
oestrogens	O
steroids	S
sympatheticomimetics	M

other drugs

recommended limited drug list =
drugs **for use** in other common chronic
diseases and in other common conditions

aspirin	A
allupurinol [zyloprim]	Z
amoxicillin	Am
antifungal - local	LAF
betamethasone inhaler	B
digoxin	D
erythromycin	E
gentian violet	GV
glipizide	G
hydrochlorothiazide	HCT
insulin - monotard	IM
insulin - actraphane	IP
metformin	M
metronidazole [flagyl]	F
paracetamol	P
penicillin	Pen
phenobarb [luminal]	L
phenytoin [di-phenyl-hydantoin]	DPH
prednisolone [cortisone]	C
reserpine	R
salbutamol inhaler	S
tetracycline HCl	Tet
theophyllin	T
ung methyl salicylate	UMS

Limited drug list rewritten in **ascending order of code**

aspirin	A
amoxicillin	Am
betamethasone inhaler	B
prednisolone [cortisone]	C
digoxin	D
phenytoin [di-phenyl-hydantoin]	DPH

erythromycin	E
metronidazole [flagyl]	F
glipizide	G
gentian violet	GV
hydrochlorothiazide	HCT
insulin - monotard	IM
insulin - actraphane	IP
phenobarb	L
antifungal - local	LAF
metformin	M
paracetamol	P
penicillin	Pen
reserpine	R
theophyllin	T
tetracycline HCl	Tet
ung methyl salicylate	UMS
salbutamol inhaler	V
allupurinol [zyloprim]	Z

EPILEPSY

causes of epilepsy

congenital

problems during pregnancy

AIDS	HIV
syphilis	S
other congenital infections	I
alcohol	A
tobacco	T
other chemical poisons/drugs	D

infections

measles encephalitis	M
other encephalitides	E
TBM	TB
other meningitides	M
cysticercosis [tapeworm]	C

injury of head

assault	D
birth trauma	B
motor vehicle accident	MVA
other accidents	A

vascular

cerebral embolus	E
cerebral haemorrhage	H
cerebral thrombosis	T

other

brain tumour [space occupying lesion]	SOL
alcohol	A

mandrax withdrawal	W
other chemical poisons/drugs	D
other causes	O

Post-ictal state

mental condition/behavior after a fit

aggressive	A
confused	C
drowsy	D
normal	N
restless	R
unconscious	U

FAMILY

family members with same disease

aunt	A
brother	B
cousin	C
father	P
mother	M
sister	S
uncle	U

OBSTRUCTIVE LUNG DISEASE = OLD

types

asthma [reversible bronchospasm]	A
hypersecretory chronic bronchitis [daily cough with sputum for at least 3 months a year for at least 2 consecutive years]	HS
obstructive chronic bronchitis	O
emphysema [barrel-shaped chest with restricted movement]	E
non-specific	NS

OTHER

Retina	retinal vascular changes	
	atherosclerotic	A
	diabetic	D
	hypertensive	H
Skin/feet	amputations	A
	blotchy - discoloured	B
	cool/cold	C
	hot/warm	H
	infected	I
	pulseless	P
	scarred	S
	varicose	V
Sputum	type, characteristics	
	watery	W
	sticky/mucoid	M
	purulent	P
Tests	other tests	
urine	if menstruating, prefix	M
blood	creatinine	C
	potassium	K
	cholesterol [lipid]	L
	PCV [anaemia]	A
	sugar	S
	uric acid	U
Tobacco	mainstream smoke [MSS] = personal smoke	
	cigarettes	C
	rolled cigarettes	T
	cigars - sheroots	S
	pipe	P
Sex	female	F
	male	M

NUMERIC CODES

ALCOHOL

depends on number of units per week
1 unit of alcohol [about 10g alcohol] =

malt beer - mug	350 ml
mkomboti - scale	500 ml
port and sherry - sherry glass	60 ml
spirits - metric tot	25 ml
wine - standard table glass	120 ml

except one glass [120 ml] dry martini = 4 units

habitual intake of alcohol **as a risk factor**

very occasionally or nil	0
about 1 unit/week on average	1
2 - 7 units/week	2
8 - 14 units/week	3
more than 14 units/week	4

current intake number of units per week

SEVERITY OF OLD

asthma

depends on symptoms, bronchodilator use and
percentage peak expiratory flow variability [%PFV].

Percentage peak expiratory flow [PEF] variability [%PFV] is calculated with
the following formula. The figures are added up and then divided by 3:

$$\frac{[\text{best PEF minus worst PEF}] \times 100}{\text{divided by the best PEF}}$$

symptoms	bronchodilator use	% PFV
4 = waking at night	4 = > 4 times/day	4 = 25 +
3 = daily, night OK	3 = 1 - 4 times/day	3 = 15 - 25
2 = < daily - > 1/week	2 = < daily	2 = 10 - 15
1 = < 1/week or only with exercise	1 = < 1/week	1 = 6 - 10
0 = nil for 3 months	0 = nil for 3 months	0 = 0 - 6

Hypersecretory chronic bronchitis

depends on the amount of sputum/day

20 ml	1 tablespoon	1
40 ml	2 tablespoon	2
60 ml	3 tablespoon	3
80 ml	4 tablespoon	4

Obstructive chronic bronchitis, emphysema and non-specific OLD.

depends on the ratio [%] of
observed to expected peak expiratory flow

90 +	0
70 - 90	1
60 - 69	2
40 - 59	3
< 40	4

DIABETES

complications of diabetes

caries	number of rotten teeth	
cataracts	if removed	4 - 0
coma	number of times noted	
hypo	hypoglycaemic attacks depends on severity and frequency of attacks	
severity	hunger pains, mild anxiety palpitations, sweating, yawning restlessness, aggression, confusion coma, convulsions	mild moderate severe very severe
severity	frequency/week	code
mild	1 - 4	1
mild	5 +	2
moderate	1 - 4	2
moderate	5 +	3
severe	1 - 3	3
severe	4 +	4
very severe	1 +	4
ketosis	number of times noted	

UTI number of episodes of urinary tract infection

EXERCISE/SLOTH

physical activity and general exercises/
lack of exercise/physical activity

depends on type and frequency of exercise

type of exercise

dynamic exercises, strenuous sports and aerobic exercises, running, jogging, very heavy work such as loading and carting submaximal

as sub-maximal, but less strenuous like swimming, heavy manual work taxing

brisk walking, gardening, sports like golf, bowls, social tennis, gentle aerobic exercises moderate

walking on level ground, light exercise, domestic work little

sedentary life, not even domestic work nil

type	frequency/week	code
submaximal	5 - 7	0
submaximal	3 - 4	1
submaximal	1 - 2	2
taxing	5 - 7	1
taxing	3 - 4	2
taxing	1 - 2	3
moderate	5 - 7	2
moderate	3 - 4	3
moderate	1 - 2	4
little	7 +	3
little	< 7	4

chest exercises

number of times/day expiratory exercises done

HYPERTENSION

Complications of hypertension

IRF	impaired renal [kidney] function	
	nocturia < 2, no proteinuria and creatinine < 120umol/l	0
	nocturia 2, occasional proteinuria or creatinine 120 - 149 umol/l	1
	nocturia 3, persistent proteinuria or creatinine 150 - 179 umol/l	2
	creatinine 180 - 259 umol/l	3
	creatinine 260 + umol/l	4

LVH	left ventricular hypertrophy	
	apex within or in mid-clavicular line	0
	apex between 0 and 2	1
	apex in anterior axillary line	2
	apex between 2 and 4	3
	apex in mid-axillary line	4

severity of hypertension

normal/absent	SBP and DBP < 140/90	0
borderline	SBP/DBP 140 -159/90 - 94	1
mild	SBP/DBP 160 - 179/95 - 104	2
moderate	SBP/DBP 180 - 209/105 - 119	3
severe	SBP/DBP 210 +/-120 +	4
accelerated	SBP/DBP 210 +/-120 + headache = 4	4 +
malignant	SBP/DBP any BP + retina = 4	4++

IBM ideal body mass [acceptable weight]

For most practical purposes a simple formula which does not depend on tables is sufficient. If the value 100 is subtracted from a person's height in cm, the resulting value is a fair approximation in kg of the upper level of what that person should weigh. For example, if the person is 160 cm tall, s/he should not weigh more than 60 kg.

OBESITY

% variation from ideal body mass [IBM]

not obese, very thin	20+ below IBM	-2
not obese, thin	10 - 19 below IBM	-1
not obese, normal	9 below - 4 above IBM	0
mildly obese	5 - 9 above IBM	1
moderately obese	10 - 19 above IBM	2
very obese	21 - 39 above IBM	3
grossly obese	40+ above IBM	4

RETINOPATHY

atherosclerotic

no changes	0
thickening of arterioles, copper wiring	1
arteriolar/venous [a/v] nipping	2
increased arteriolar tortuosity	3
sheathed vessels, retinal vein occlusion	4

diabetic

no changes	0
venous dilatation, increased tortuosity	1
retinal oedema with glazed appearance, reduction in vessel calibre and number	2
dot and blot haemorrhages, cotton-wool spots and fatty exudates	3
new vessel formation, haemorrhages and fibrosis, retinal detachment	4

hypertensive

no changes	0
narrowing of terminal arterioles	1
widespread, severe narrowing with distal dilatation of arterioles	2
striate haemorrhages, soft exudates, deep lipid exudates near macula [stars]	3
papilloedema	4

SODIUM	amount of sodium [as in table salt] in food	
	no salt at all	0
	no salty foods, no salt in cooking, salt sometimes added after tasting salty food disliked	1
	no salty foods, a little salt in cooking salt often added after tasting may taste the salt in shop bread	2
	some salty foods, food cooked with salt, salt often added before tasting salty taste enjoyed	3
	salty foods eaten often, food cooked with salt, salt usually added before tasting salty taste craved/desired	4
TEST results	Start coding in the column of the date when the test was performed and continue in the same row.	
all urine	nil	0
	trace	1
	+	2
	++	3
	+++	4
blood		
creatinine	< 120umol/l	0
	120 - 149 umol/l	1
	150 - 179 umol/l	2
	180 - 259 umol/l	3
	260 + umol/l	4
potassium	> 5.1 mmol/l	E
	4.4 - 5.1 mmol/l	0
	4.0 - 4.3 mmol/l	1
	3.6 - 3.9 mmol/l	2
	3.3 - 3.5 mmol/l	3
	< 3.3 mmol/l	4

cholesterol	< 2.6 mmol/l	L
	2.6 - 4.2 mmol/l	0
	4.3 - 5.1 mmol/l	1
	5.2 - 6.0 mmol/l	2
	6.1 - 7.0 mmol/l	3
	> 7.0 mmol/l	4
blood sugar	1 - 2 hours after a meal	
	< 3.0 mmol/l	H
	3.0 - 7.9 mmol/l	0
	8.0 - 11.0 mmol/l	IGT
	> 11.0 mmol/l	DM
blood sugar	fasting or more than 2 hours after a meal	
	< 3 mmol/l	H
	3.0 - 6.9 mmol/l	0
	7.0 + mmol/l	DM
uric acid	< 0.17 mmol/l	L
	0.17 - 0.29 mmol/l	0
	0.30 - 0.34 mmol/l	1
	0.35 - 0.40 mmol/l	2
	0.41 - 0.47 mmol/l	3
	> 0.47 mmol/l	4
PCV [anaemia]	> 50 %	E
	40 - 50 %	0
	37 - 39 %	1
	34 - 36 %	2
	29 - 33 %	3
	< 29 %	4

SELF ADMINISTERED CLINICAL QUESTIONNAIRE - FOR ADULTS

When answering a question fill in a blank or ring your answer.

Date: _____

Name: _____

Title: Prof/Dr/Ms/Mrs/Miss/Mr / _____

Date of birth: _____

ID number: _____

What are you complaining of [Please also enter duration of complaints]:

Do you suffer from headaches? YES/NO
Do you suffer from dizzy spells? YES/NO
Can you see well, with or without spectacles? [delete which does not apply] YES/NO
Can you hear well, with or without hearing aids? [delete which does not apply] YES/NO

Do you suffer from hay-fever or allergic sinusitis? YES/NO
If YES, what brings on an attack? _____
Do you get frequent head "colds"? YES/NO
Do you have any other trouble with your ears, nose, throat or sinuses? YES/NO
If YES, what? _____

Do you suffer from asthma? YES/NO
If YES, what brings on an attack? _____
how often per week are you woken up in the early morning by an attack? _____
Do you get frequent chest "colds"? YES/NO
Do you tend to cough on getting up from bed? YES/NO
Do you produce a lot of phlegm when you cough? YES/NO
Do you become short of breath when walking on the level? YES/NO

Do you become short of breath when lying flat in bed? YES/NO
Do you have pain or discomfort in your chest? often/sometimes/seldom/never
Are you aware of your heart beating? often/sometimes/seldom

Do your feet feel cold? YES/NO
Do your ankles become swollen? YES/NO
Do you suffer from varicose veins? YES/NO

Do you have a poor appetite? YES/NO
Do you have pain or discomfort in your abdomen? YES/NO
Do you sometimes feel like vomiting? YES/NO
Have you been vomiting recently? YES/NO
How often each week do your bowels work? _____

Has there been a change in your bowel habits recently? YES/NO
 Do you/did you ever notice blood in your stools? [delete which does not apply] YES/NO
 Do you/did you ever have piles? [delete which does not apply] YES/NO
 Do you/did you ever have intestinal worms? [delete which does not apply] YES/NO

How often are you woken up from sleep to pass water? _____
 Does it/did it ever hurt/burn when you pass water? [delete which does not apply] YES/NO
 Do you/did you ever pass blood in your urine? [delete which does not apply] YES/NO
 Do you have difficulty holding your urine? YES/NO
 Do you have difficulty in passing urine [getting it out]? YES/NO
 Are you passing more or less urine than before? more/less/neither

Do you suffer from skin allergies? YES/NO
 If YES, to what are you allergic? _____
 Do you bruise easily? YES/NO
 Do you have any other skin problems? YES/NO

Do your arms and legs feel weak? YES/NO
 Do your joints feel stiff and sore? YES/NO
 Do you limp or have you ever limped? YES/NO
 Do you have cramps or a feeling of pins and needles in your arms and legs? YES/NO

Do you feel unusually tired or drowsy? YES/NO
 Do you feel very thirsty or hungry? YES/NO
 Are you losing or gaining weight? losing/gaining/neither

Are you being, or have you ever been, physically assaulted or abused? YES/NO
 Are you being, or have you ever been, emotionally harassed or abused? YES/NO
 Have you had other distressing experiences in the past 5 years? YES/NO

Do you feel depressed for no obvious reason? often/sometimes/seldom/never
 Do you have a lot to be sad about? YES/NO
 Do things keep getting worse as you get older? YES/NO
 Do you tend to worry about things? often/sometimes/seldom/never

Questions about sexuality and related matters

Do you/did you ever have a discharge? [delete which does not apply] YES/NO
 Do you/did you have genital sores or swellings? [delete which does not apply] YES/NO
 What other sexual problems do/did you have? impotence/premature ejaculation/_____

How many sexual partners have you had in the past 3 months? _____
 How many times have you had sexual intercourse in the past week? _____

Do you use a condom when you have sexual intercourse? always/usually/sometimes/never
 Have you ever been raped? YES/NO
 Have you ever raped some-one? YES/NO

Do you, or do you want to, know your HIV status? [delete which does not apply] YES/NO

Questions for women

When did you last see your periods? _____
Were the last 3 periods abnormal in any way? YES/NO

Do you/did you ever take oral contraceptive pills? [delete which does not apply] YES/NO
If YES, during which years were you taking it? _____
Do you/did you ever use a contraceptive by injection? YES/NO
If YES, during which years were you using it? _____
What other forms of contraception do you/did you ever use? condom/cream/cap/IUD
If YES, during which years were you using them? _____

Have you ever been pregnant? YES/NO
If NO, would you like to fall pregnant and cannot? YES/NO
If YES, how many times have you been pregnant? _____
how many children were born alive? _____
do you want more children but cannot? YES/NO
what problems did you have with any pregnancy or labour? _____

Questions for the handicapped, disabled and elderly

Can you bath/wash yourself without help? YES/NO
Can you feed yourself without help? YES/NO
Can you dress yourself without help? YES/NO
Can you use the toilet without help? YES/NO
Can you get out of bed onto a chair without help? YES/NO
Can you walk across a small room without help? YES/NO

Can you walk up and down stairs without help? YES/NO
Can you walk half way up or down a "block" without help? YES/NO
Can you use public transport without help? YES/NO
Can you do your shopping without help? YES/NO

Questions about ill health and medical care

How many times in the past year have you seen a doctor or a nurse? _____
How many times in the past year have you seen any other medical care provider? _____
How many days in the past year have you spent in bed? _____
How many times in the past year have you not gone to work
or out of your home because you did not feel well? _____

Have you ever suffered serious physical injury? YES/NO
If YES, what parts of your body were injured? _____

Did you ever use cortisone in any form? YES/NO
How many times in the past year have you used an antibiotic? _____
How many times per week do you use a pain-killer? _____
Name the pain-killer/s that you prefer to use? _____
Have you ever had a bad reaction to a drug? YES/NO
If YES, name the drug/s: _____

If you are at present taking any medicines, please list them and bring them [or the empty containers] with you at your next visit.

If you have [or have ever had] any of the following conditions, please complete the table below. Tick 3rd column if condition still present.

disease	start year		details
cancer			
bronchitis			
tuberculosis			
fractured bone/s			
head injury			
loss of consciousness			
epilepsy			
stroke			
mental illness			
other brain/nerves disease			
diabetes [sugar sickness]			
high blood pressure			
heart disease			
kidney disease			
stomach trouble			
liver disease			
sex organ disease			
skin disease			
other diseases			

Please complete the following table about your family.

Relative	age		nature of illness and cause of death
	now	at death	
mother			
father			
siblings			
siblings			
children			
children			
partner/s			
other			

Questions about eating and diet:

- How often in a month do you skip a meal because you have no food? _____
 If you have enough food:
 How many times per day do you usually eat something? _____
 When do you eat your biggest meal? morning/midday/evening
- How many times per day do you eat bread? _____
 How many times per week do you eat porridge? _____
 How many times per week do you eat rice, potatoes, pasta? _____
 How many times per week do you eat legumes [dried beans, peas, lentils]? _____
 How many times per day do you eat vegetables? _____
 How many times per day do you eat fruit? _____
- Which kind of milk do you usually use? fat-free/low-fat/full-cream/none
 Which kind of cheese do you usually use? fat-free/low-fat/full-cream/none
 Which kind of yoghurt or maas do you usually use? fat-free/low-fat/full-cream/none
 How many times per week do you eat meat and fish? ____/____
 How is your meat usually prepared? grilled/fried/roasted/boiled
- How much salt is used in the preparation of your food? none/little/average/lot
 How much salt do you add to your food at table? none/little/average/lot
 If you add salt do you add it before or after tasting? before/after
- What kind of fat do you usually use? oil/butter/soft-/block margarine/none
 How many items of packaged or tinned food do you use per week? _____
 How many tea-spoons of sugar do you add to your tea or coffee? _____
 How many sugar-containing foods [cold-drinks, cakes, sweets] do you use? none/few/lot
 How many glasses of waters do you drink per day? _____

Questions about alcohol and tobacco:

If you drink [or have ever drunk] alcohol, complete the table below:

kind of alcohol	amount/week		Year in which you	
	now	most	started	stopped
pints of beer/tswala				
glasses of wine				
tots of spirit				

If you smoke [or have ever smoked], please complete the table below:

type of tobacco	amount		Inhale	Year in which you	
	now	most	Yes/No	started	stopped
manufactured cigarettes/day					
hand-rolled cigarettes/day					
pipe tobacco g/week					
cheroots or cigars/day					

Questions about physical activity:

What type of transport do you usually use? bicycle/car/bus/train/own feet
Approximately how many minutes do you usually spend walking each day? _____
How many times per week do you go for a brisk walk or a jog? _____
Do you take part in any other physical activity? YES/NO
If YES, how many times/week? _____
what type of physical activity? gardening/gym/soccer/tennis/_____

Questions about employment, income and education:

What is your work situation? [You may circle more than 1 answer]
full time/part-time/flexi-time/temporary/permanent/self-employed/employed by others/
unemployed/voluntary worker/housewife/retired/pensioner/disabled

What kind of job are you doing now [give details]? _____
For how many months have you been doing this job? _____
List other jobs that you have done [in chronological order]: _____

Are you happy at work? YES/NO
Are you in control of what you are actually doing? YES/NO
Are you involved in decision making at work? YES/NO
Are there opportunities for your advancement at work? YES/NO

What is your personal monthly income [R]? _____
What is the nett [after tax] family monthly income [R]? _____
How many people depend on this income [totally and partially]? ____/____

What formal education level have you reached? _____
Can you read and write English fluently? YES/NO
Can you read and write another language fluently? YES/NO

Questions about marital status, domestic arrangements and social networks:

What is your marital status? single/married/living together/separated/divorced/widowed
Do you live in a polygamous household? YES/NO
Do you live in an extended family? YES/NO

How many people share the place where you stay? _____
Who are they? partner/children/parents/friends/co-workers/_____

Do you get on well with the people you stay with? YES/NO
Generally speaking, do you think that most people can be trusted? YES/NO

If you are not staying with your partner how often do you see him/her per month? _____
If you are not staying with your parents how often do you see them per month? _____
If you are not staying with your children how often do you see them per month? _____
If you are not staying with your siblings how often do you see them per month? _____
Can you ask your neighbours for help if necessary? YES/NO

Do you get on well with your partner, parents, children, siblings, neighbours?
Circle the person/people if the answer YES applies

How many times per month do you go to church? _____
How many times per month do you attend meetings/social gatherings? _____
Is there a library or recreation centre near your home? YES/NO
Is there a public park or play-ground near your home? YES/NO
Do you use them, or would you if they were near? YES/NO

Questions about place of residence

For how long have you stayed at your present address? _____ weeks/months/years
How many times in your life have you moved home? _____
How many times in the past 5 years have you moved home? _____
Where did you stay before you moved to your present address? [postal code] _____
[full address] _____

Questions about previous accommodation

Did you stay in a: house/flat/shack/room/hostel/street/veld/other _____
How many rooms [including bathroom/s and kitchen] were there in your home? _____
How many bedrooms were there in your home? _____

Questions about current accommodation

Do you stay in in a: house/flat/shack/room/hostel/street/ veld/other _____
How many rooms [including bathroom/s and kitchen] are there in your home? _____
How many bedrooms are there in your home? _____
Is there a bathroom inside the house? YES/NO

From where do you get water? inside tap/outside tap/pump/tanker/river/other _____
If there are no taps in your home how far is it to a water point? [minutes walking] _____

What type of toilet do you use? water-flushed/pit/bucket/nil/other _____
If water-flushed is the toilet in the building? YES/NO
How far is it from where you sleep to the toilet? [number of steps] _____
How many people share 1 toilet? _____

What type of fuel do you use for cooking? electricity/coal/wood/gas/paraffin/ _____
What type of fuel do you use for heating? electricity/coal/wood/gas/oil/other _____
What do you use for lighting? electricity/candle/gas/paraffin lamp/ _____
Is your home adequately insulated? YES/NO

In your home:
Do you have a fridge? YES/NO
Do you have a telephone? YES/NO
Do you have a radio? YES/NO
Do you have a TV set? YES/NO
Do you have a computer? YES/NO