

Objectives

- Sources of data in epidemiology
- Understand methods of assessments of frequency of diseases
- Indicators

Sources of Data in Epidemiology

Birth and Death Certificates

Birth Certificate

This Certifies That

_____ (Name)
was born to _____ and _____ (Mother) (Father)
on _____ (Date) at _____ (Time)
weight _____ (Weight) length _____ (Length)
at _____ (Location)
in _____ (City) _____ (State)

(Signed) _____ (Signed)

www.FreePrintableCertificates.net

State of West Virginia County of Randolph, W.Va.

Death Certificate

I, BRENDA WISEMAN, Clerk of the County Commission in the County and State aforesaid, in being an office of record, and having a seal, do hereby certify that the records in my office show that

Dullesse Kelley died at _____ XXXX
in Randolph County and State of West Virginia, on the 5th day of OCTOBER, 1888.
Sex Male Race ~~Black~~ Age: 63 years
Name of Disease or Cause of Death Typhoid

Occupation FARMER
Married Unmarried Single Divorced
as shown by certificate of death returned by XXXX and recorded in Death Record No. 1 at page 3 Certificate filed Oct. 1, 1888

In testimony whereof, I have hereunto affixed my signature and official seal at Elkins, West Virginia, this 19th day of _____ 2007
Brenda Wiseman
Clerk of Randolph County Commission, Elkins, W. Va. 26041

Patient Record

FileMed - Michael A. O'Donovan, MD

File Edit Tools Appointments Help License

filemed

New Patient
Demographics
Clinical Chart
Images
Network Configuration
Export Database
Backup
Exit

Demographics

Last Name, Maiden	First Name, MI		
Watts	Jennifer A		
Record#	Social Security #	D.O.B.	
000001	23784598	mm/dd/yyyy	03/08/1967
Current age	Sex	Marital St.	Occupation
39 y.	F	MAR	Teacher
Insurance/Coverage	Insurance ID	Nationality	
Blue Cross/Blue Shield	47815879	american	
Address	City		
7235 SW 48th St	Miami		
State/Province	Zip/Postal Code		
FL	33155		
Phone	Fax		
305-666-5599	305-666-5560		
Mobile/Pager	Email		
305-666-5015	jenwatts@uol.net		
Referring Physician	Attending Physician		
Dr W. Garland	Dr. Herman Stewart		
Date of First Visit			
07/15/2004			

Photo
Add
Delete
Change

Diagnoses
ICD-9CM ICD-10 Paste

11/25/2004: Allergic rhinitis | Nasal polyps | Acute sinusitis.

Remove Pt Print Save Cancel

Patient: Watts, Jennifer A User: Administrator Version 5.1 - Multiuser

Questionnaire

A. About you and your teaching

1. *Your gender:* Male Female

2. *Your teaching experience:*

	<i>< 1 year</i>	<i>1-5 years</i>	<i>> 5 years</i>
a) How long have you been teaching?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) How long have you been in your current post?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. *How much time do you spend in teaching and preparation in English Language at P7 in a typical week?*

	<i>< 1 hour</i>	<i>1- 5 hours</i>	<i>6-10 hours</i>	<i>> 10 hours</i>
a) Teaching	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Preparation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. *On professional development:*

	<i>Yes</i>	<i>No</i>
a) Have you had any professional development in English Language in the last two years?	<input type="checkbox"/>	<input type="checkbox"/>
b) Are you satisfied with the number of professional development opportunities available to you in English Language?	<input type="checkbox"/>	<input type="checkbox"/>

5. *Please indicate your opinion about your pupils' motivation to learn, behaviour and lesson attendance (in general):*

	<i>Very good</i>	<i>Good</i>	<i>Poor</i>	<i>Very poor</i>
a) Motivation to learn	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Behaviour in class	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Lesson attendance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. *Please indicate how you use 5-14 National Assessments with your P7 pupils:*

	<i>Always</i>	<i>Sometimes</i>	<i>Never</i>
a) With individual pupils when you judge they have attained a level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) With groups of pupils when you judge they have attained a level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) With the whole class, when you judge most have attained a level, irrespective of time of year	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) With the whole class at set times each year	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. *If you use National Assessments with your P7 pupils, for what proportion of pupils would you say the test results and your own judgments coincide?*

	<i>Fewer than half</i>	<i>Over half</i>	<i>The majority</i>	<i>Almost all</i>
a) Reading	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Writing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Laboratory Results

Laboratory Results

Four AIDS patients with compromised immune function

Name	Age	Sex	Start	Time on LifeOne			
				Test #1	(Days)	Test #2	(Days)
Aispuro, F	24	M	09/28/02	11/09/02	42	01/06/03	100
Balcazar, M	26	M	10/03/02	11/08/02	36	01/09/03	98
Cano, D*	48	M	10/14/02	12/02/02	49	01/06/03	84
Jimenez, R	35	M	10/15/02	11/07/02	23	01/07/03	84
Average	33.25				38		92

Name	Absolute Lymphocyte Count Range: 1,000 - 3,500 cells/ml				T-cells CD3+ Range: 740 - 2,400 cells/ml				CD4 (CD3+CD4+) Range: 440 - 1,600 cells/ml			
	Begin	Test #1	Test #2	Change	Begin	Test #1	Test #2	Change	Begin	Test #1	Test #2	Change
Aispuro, F	1,500	2,600	2,900	1,400	975	1,850	1,925	950	148	335	389	241
Balcazar, M	1,900	1,500	1,680	-220	1,300	1,100	1,200	-100	150	225	350	200
Cano, D*	1,200	1,500	1,400	200	840	626	1,050	210	117	575	156	39
Jimenez, R	1,300	2,500	1,700	400	885	1,750	1,200	315	151	385	345	194
Average	1,475	2,025	1,920	445	1,000	1,332	1,344	344	142	380	310	169
		IMPROVED BY 30.2%				IMPROVED BY 34.4%				IMPROVED BY 119.1%		

Name	CD8 (CD3+ CD8+) Reference Range: 170 - 940 cells/ml				CD4/CD8 Reference Range: 0.9 - 5.0 cells/ml				HIV-1 (RNA) Viral Load Reference Range: No detected copies/ml			
	Begin	Test #1	Test #2	Change	Begin	Test #1	Test #2	Change	Begin	Test #1	Test #2	Change
Aispuro, F	235	450	476	241	0.6	0.8	0.9	0.3	1,900	1,900	2,100	200
Balcazar, M	150	326	420	270	1.0	0.7	0.7	-0.3	67,400	4,010	2,500	-64,900
Cano, D*	168	189	189	21	0.7	3.0	1.0	0.3	2,900	75	250	-2,650
Jimenez, R	222	525	392	170	0.7	0.8	0.9	0.2	16,000	2,100	2,010	-13,990
Average	194	373	369	176	0.8	1.3	0.9	0.1	22,050	2,021	1,715	-20,335
		IMPROVED BY 90.6%				IMPROVED BY 15.6%				IMPROVED BY 92.2%		

Name	Glucose mg/dl				Cholesterol mg/dl				Triglycerides mg/dl			
	Begin	Test #1	Test #2	Change	Begin	Test #1	Test #2	Change	Begin	Test #1	Test #2	Change
Aispuro, F	86	82	98	12	174	176	170	-4	282	150	144	-138
Balcazar, M	95	85	78	-17	219	195	185	-34	199	138	140	-59
Cano, D*	149	107	105	-44	264	268	269	5	327	540	730	403
Jimenez, R	107	88	97	-10	268	164	177	-91	540	339	344	-196
Average	109	91	95	-15	231	201	200	-31	337	292	340	3
		IMPROVED BY 13.5%				IMPROVED BY 13.4%				REDUCED BY 0.7%		

*Patient Cano, D. stopped taking the formula after 23 days due to a misunderstanding of the protocol. His follow up lab work was done on day 38, and began taking the formula again.



DATA collection
SHOULD
be taken seriously

**You SHOULD
KNOW
What and Why
you are collecting**

x

SAMPLE

y

Population







Proportion

RATIO

Indicator

مؤشر



**All calculations
are used as
Indicators**

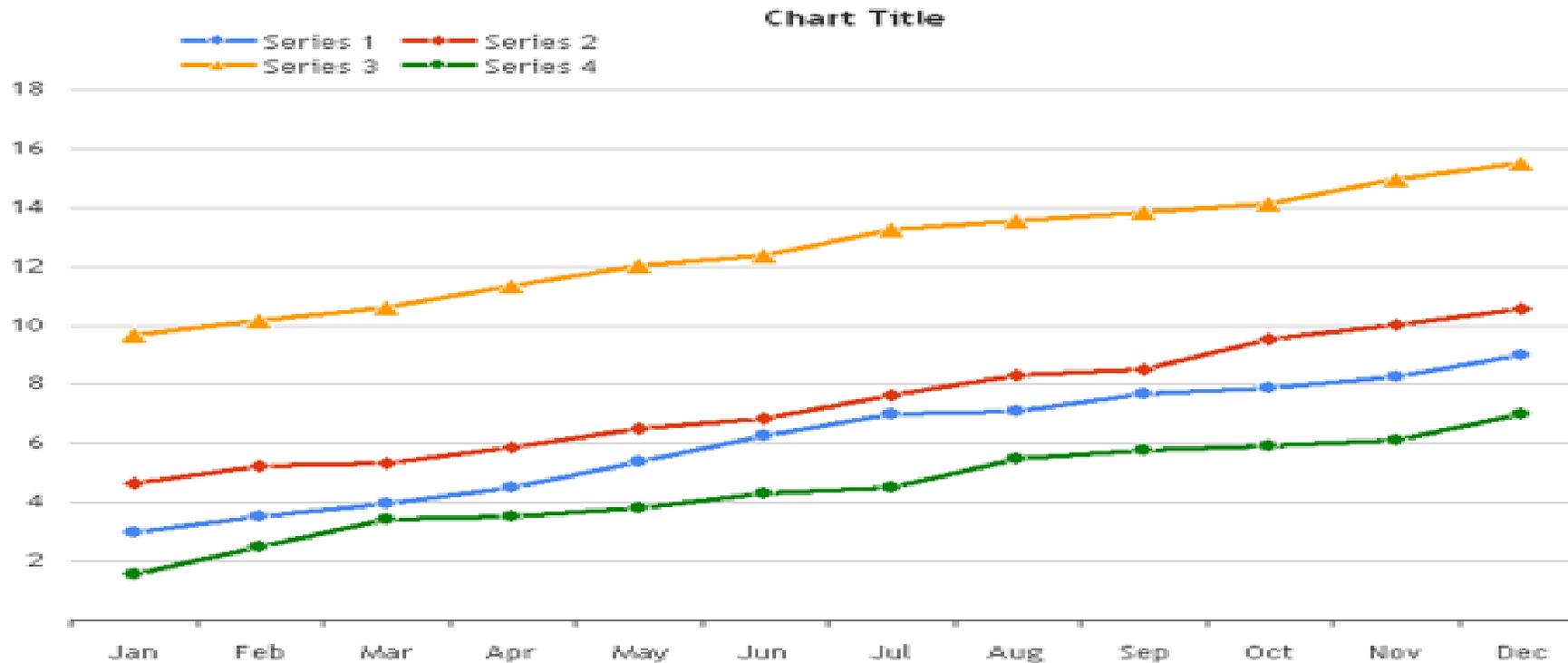
Uses of Indicators

1- **Simplify** information about complex phenomena in order to **improve communication**



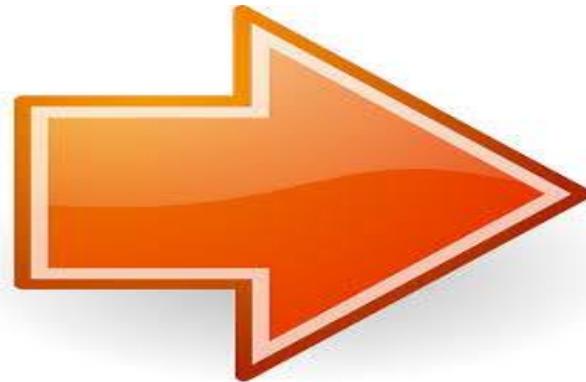
Uses of Indicators

2- Monitor **progress** over time



Uses of Indicators

3- **Indicate** (POINTS) that **something is good or wrong** is going on, this depends on the indicator threshold



Indicator Threshold

Definition of indicator thresholds and (or) targets **applies to the individual measures under each indicator.**

The threshold is indicated in the indicator description statement.

A threshold is **setting certain norms and criteria.**

Any health programme, department, or institution, strives to reach the indicator threshold.

Example

The minimum threshold for the immunization coverage of the compulsory vaccination schedule in country X is 98%.

$$\text{Immunization Coverage} = \frac{\text{Number of newborns in 2023 eligible for vaccination}}{\text{Total number of newborns in 2023}}$$

Uses of Indicators

4- An indicator must be useful to its intended audience. It must **convey information that is meaningful to decision makers** and in a form which is easily understood



**Public and Decision Makers
are interested
in an answer to the question
of**

What are the **risks** ?

OR

What is the **probability**
that the event would
occur or happen

Epidemiology is
DATA
driven

WHAT IS **QUALITY DATA**

ACCURACY

- Data should be accurate for the intended use
- Variables should have consistent well communicated definitions

VALIDITY

- Data should measure what is intended to be measured

RELIABILITY

- Data should reflect stable and consistent data collection methods

TIMELINESS

- Data should be captured as quickly as possible after the event or activity and must be available for the intended use within a reasonable time period
- Data must be available quickly and frequently enough to support information needs and to influence decisions

RELEVANCE

- Data should be relevant to the question for which it is addresses

COMPLETENESS

- Data should be checked for outliers and missing data

ALIGNMENT

- Alignment with other data sources should be identified, validated, and checked for accuracy between variables

OWNERSHIP

- A specific organization, agency, or individual should be identified as having primary ownership of the data