Community Diagnosis

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Community Diagnosis:
Keystone of Public Health Practice

Community Health Action

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Accurate assessment of the state of health of the community

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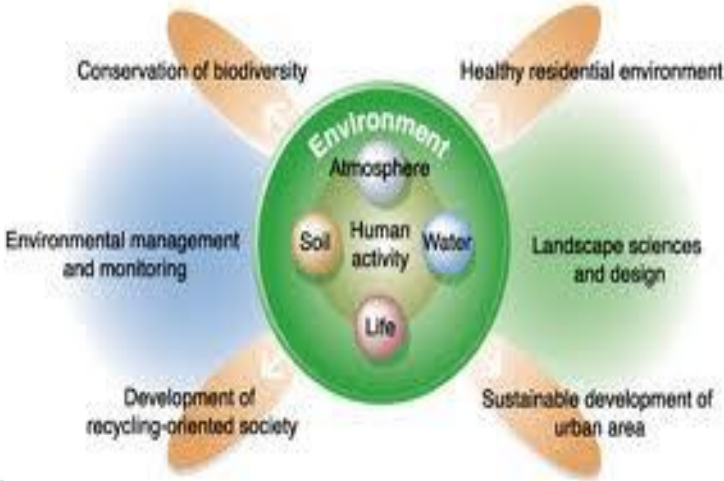
Community Diagnosis:
An Ecologic Approach

- Ecology is concerned with the **interaction of man and his natural or manmade environment.**
- Health goals encompass the **improvement of the quality of health as well as the prevention and treatment of disease environment**
- **Impact** of ecologic and psychological forces on health and health care



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CDx: An Ecologic Approach

Thus,community health diagnosis reflects not only the cumulative record of health conditions and threats in a population group but also

1. an ***evaluation of the dynamic situation*** in which that group is experiencing, adapting to, and modifying all of the biological, physical and social forces that have bearing on community health and
2. the ***relationship and interaction of these forces***


Human Environment Interaction
humans/culture
environment

Three Considerations of Community Health Diagnosis

CDx is based on three interdependent, interacting and constantly changing conditions:

1. The ***health status*** of the community, including the population's level of vulnerability
2. ***Community health capability***, or the ability of the community to deal with its health problems
3. ***Community action potentials***, or the ways and directions in which the community is likely to work on its health problems

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Health Status of the Community

The estimate of the health status of the community includes two interrelated factors:

- People factors
- Environmental factors

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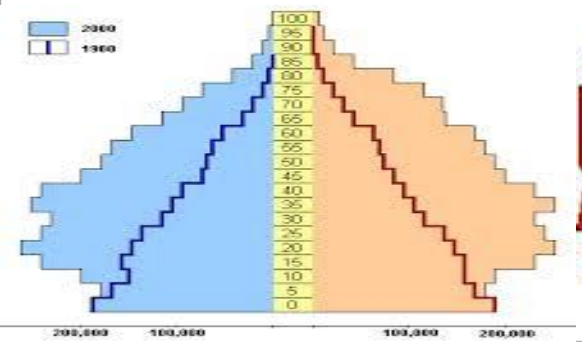
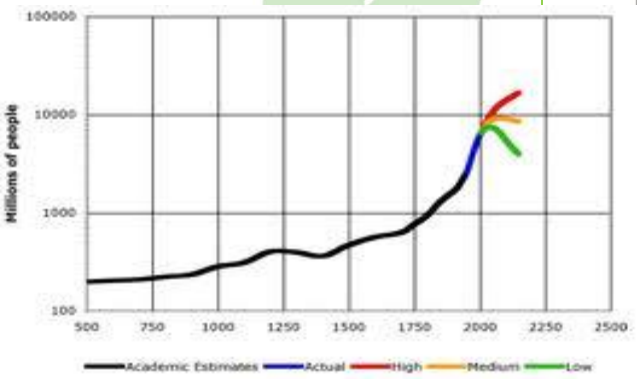
Health Status of the Community:
People Factors

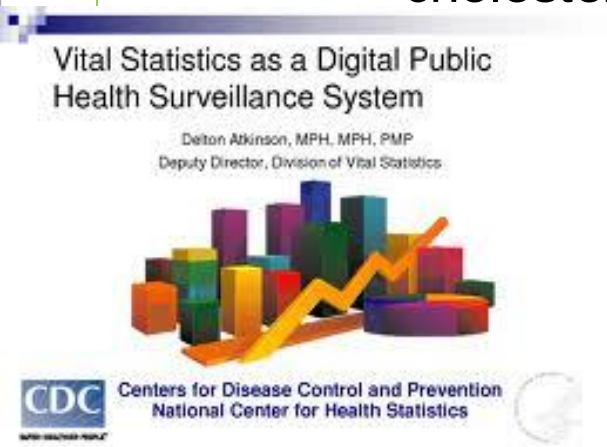
1. The characteristic and the growth trends of the population as a whole
    - Relationships between birth and death rates
    - Immigration and emigration rates
    - Changes in the age, sex or racial characteristics of the population
    - Educational achievement levels
    - Residence characteristics
    - Mobility





Health Status of the Community: *People Factors*

2. Trends in the death experience of the community, with special attention directed to untimely death
    - Causes of death by age and sex
    - Effects of occupation and lifestyle
    - Population deaths among sub-groups
3. The prevalence of symptomatic illness
    - **Indices** such as presence of high blood pressure, high cholesterol or blood sugar levels



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Health Status of the Community:
People Factors

4. The number and location of vulnerable or special risk groups in the community

   - not characterized by disease or conditions requiring medical care

   - personal or social condition that makes them unusually susceptible to illness or lowers their capacity to deal with disease or disability.

   – Poverty and its consequent effects
   – Multiproblem families
   – Inappropriate or risky behaviors
   – Patterns of utilization of available health services

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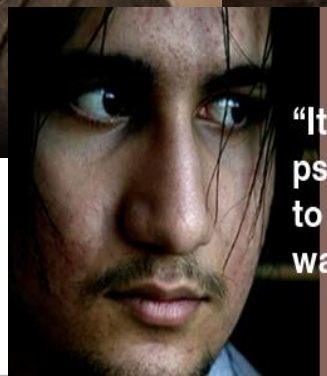
Health Status of the Community: *People Factors*

5. The number and characteristics of those functioning below their potential health level



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Health Status of the Community: *Environmental Factors*

1. The physical environment such as:
   - Purity of air and water
   - Adequacy of housing
   - Quality of work and home environment
2. The social environment
   - Integration of institutions within the community
   - Stability of the population
   - Quality of social planning to prevent alienation or disenfranchisement of certain subgroups
   - Effectiveness and acceptability of communication networks
   - Provision for recreation


Collecting environmental information
Processing and analyzing environmental information
Creating new ecological systems that foster recycling
Reducing environmental impact
Providing environmental education and enlightenment

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Health Capability of the Community

- Represented by the degree to which the community is **able to cope** with its health problems and needs
- Refers to the **extent** the community's economic, institutional and human resources are able to assure the well-being of its people

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Health Capability of the Community: *Economic Resources*

1. **General economy- an obvious and powerful factor for health action**
   - Distribution of wealth in the community
   - Conditions that reflect general economic conditions that create negative influence on health capability
     - Low level of educational achievement that may have implication in terms of slowing down health education efforts and reducing pool of future health workers
     - Poor roads or lack of public transportation that may make health facilities inaccessible even when they do exist in adequate quantity and quality
     - Inadequate nutrition that may sap energies of the people making them indifferent to all but the most crisis-oriented health services

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Health Capability of the Community: *Economic Resources*

2. Institutional Resources

- Quantity and quality of hospitals and other health facilities
- Geographic and financial accessibility of these resources to the people
- Organization of health services and mechanisms for coordination or referral, prevention of gaps and overlaps in services

3. Human resources

- Formal human resources
- Informal human resources

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Health Action Potentials of the Community

Community action patterns differ depending on:

- The value people give to health compared to their other life needs and their characteristic way of taking action
- The political system by which they govern themselves
- The habits they developed regarding social action

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Health Action Potentials of the Community: *Characteristic Beliefs and Behaviors*

Characteristic beliefs and behaviors are influenced by the following factors:

- Presence of identifiable subgroups that may have their own ways of life and or are working on their own problems
- Culture or traditions
- Hierarchy of life values or other competing values
- Individual versus neighborhood
- Strong leader pattern

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Health Action Potentials of the Community: *The Community's Political System*

Political system – represent the way in which a population group has organized itself in order to facilitate collective action and exert some control over its collective behavior

The stability and responsiveness of health programs in the community depends on the:

- Extent the people are allowed to participate in policy and decision-making on health concerns
- Commitment and sincerity of the elected officials to bring about meaningful change in the health status of the community

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Health Action Potentials of the Community: *Community's Habits of Action*

Partnership for Health – goal of community health development efforts

To understand health action patterns of the community:

- Determine in what ways the different levels of government interact
  - Flow of money
  - Advice
  - Support from national to local to community agencies
- Determine "who does what?"
  - Power structure
  - Leadership patterns

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Health Action Potentials of the Community: *Community's Habits of Action*

- Determine "who talks to whom?"
  - Formal and informal network of communication
  - Patterns and force of influence
- Determine community's own styles of response
  - Community-wide basis under well-defined goals
  - Loose structure of community-wide planning with considerable diversity in programs for smaller groups
  - Each small group has its own program with little relationship to plans or actions of other groups

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Community Diagnosis (CDx)

- Also called ***community assessment*** or ***situational analysis***
- Described as a ***profile*** and a ***process***
- Of two types: ***comprehensive***
  problem-oriented or
  focused

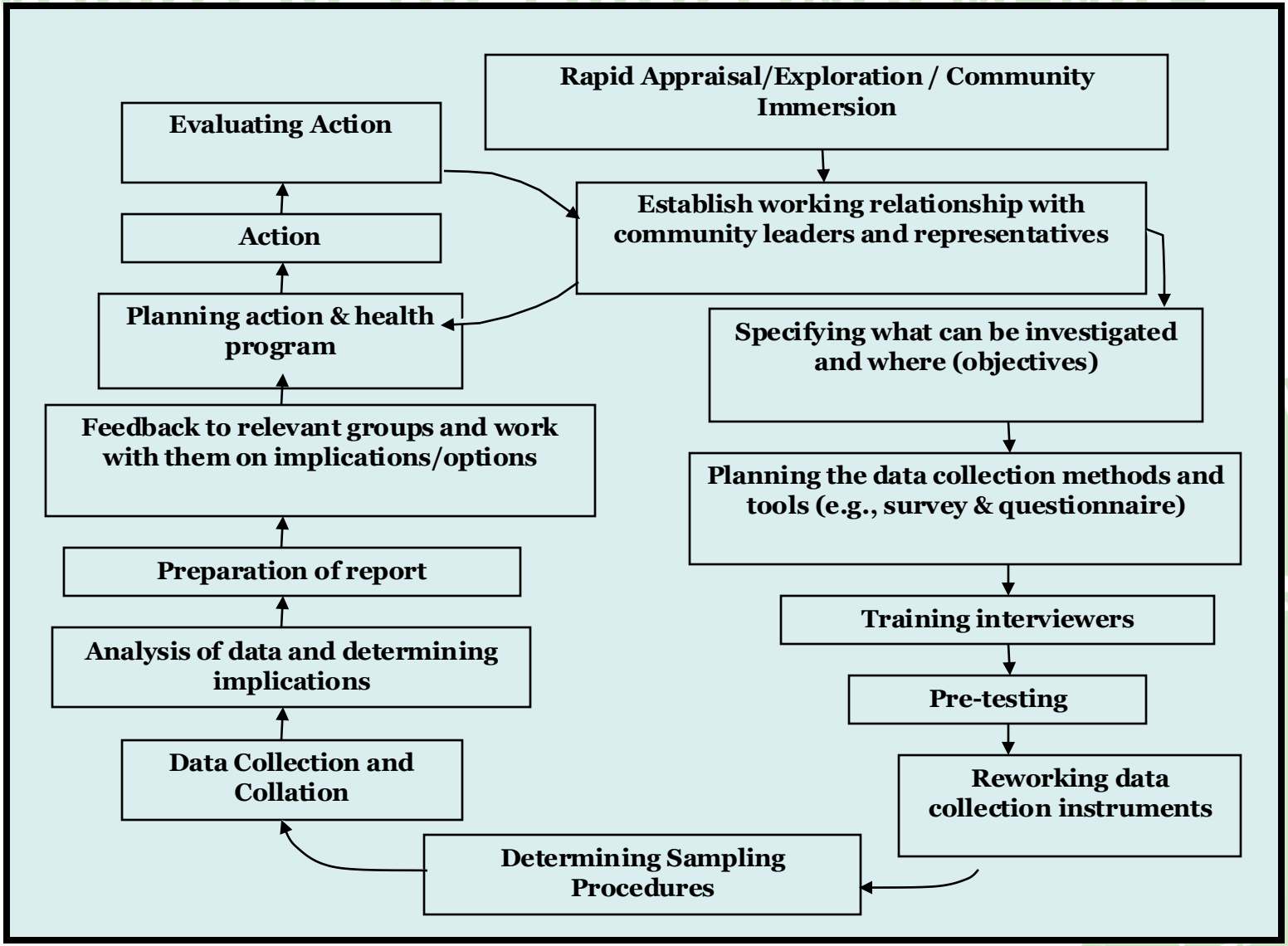

Figure 1. The process of community diagnosis. Adapted from F.J. Bennett (1979)

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Comprehensive Community Diagnosis: Components

Aims to obtain general information about the community

- A. Demographic variables
- B. Socio-economic variables
- C. Health and illness patterns
- D. Health resources
- E. Political and leadership
- patterns

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A. Demographic variables

- should describe the size, composition and geographical distribution of the population

1. total population
2. geographical distribution
3. selected vital indicators
   - growth rate
   - crude birth/death rates
   - LEB
4. migration patterns
5. population projections
6. population groups at risk

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B. Socio-economic and cultural variables

- factors that may directly or indirectly affect the health status of the community

1. **Social indicators**
   - communication network
   - transportation system
   - educational levels
   - housing conditions

2. Economic indicators

- income
- poverty level
- unemployment/ underemployment rates
- proportion of salaried and wage earners vis-à-vis total economically active population
- types of industry present in the community
- occupation common in the community

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3. Environmental indicators

3.1 Physical/Geographical/Topographical Characteristics

- land areas that contribute to vector problems
- terrain characteristics that contribute to accidents or geohazard zones
- land usage in industry that contributes to pollution
- climate/season

3.2 Water supply

- percentage of population with access to safe, adequate water supply
- source of water supply

3.3 Waste disposal

- % population served by daily garbage collection system; types
- % population with safe excreta disposal system; types

3.4 Air, water and land pollution

- industries in the community having health hazards associated with it
- air and pollution index

4. Cultural factors

4.1 variables that may break the people into groups:

- ethnicity
- social class
- language
- religion
- race
- political orientation

4.2 cultural beliefs and practices that affect health

4.3 concepts about health and illness

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C. Health and Illness Patterns

- Leading causes of mortality
- Leading causes of morbidity
- Leading causes of infant mortality
- Leading causes of hospital admission
- Nutritional survey

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D. Health Resources

- essential ingredients in the delivery of basic health services

1. Manpower resources

- categories of available health manpower
- geographical distribution of health manpower
- manpower-population ratio
- distribution of health manpower according to health facilities and type of organization
- quality of manpower
- existing manpower development policies

2. Material resources

- health budget and expenditures
- sources of health funding
- categories of health institutions
- hospital bed-population ratio
- categories of available health services

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E. Political and leadership patterns

- reflects the action potential of the state and its people to address the health needs and problems of the community
  1. Formal and informal power structure in the community
  2. Attitudes of the people toward authority
  3. Conditions/events/issues that cause social conflicts/upheavals or social bonding/ unification
  4. Practices/approaches that are effective in settling issues and concerns within the community

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Steps in Conducting Community Dx: *Defining objectives and study population*

1. Determine *objectives* of the CDx
   - who, what, where, when
   - stated clearly, unambiguously and specifically
   - stated in measurable and operational terms

2. Define the *study population*
   - clarifies whether the CDx to be done is going to be comprehensive or focus/problem-oriented

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Steps in Conducting Community Dx: *Determining data to be collected*

3. Determine ***data*** to be collected
   - Categories of data according to source:
     - Primary
     - Secondary
   - Data may be:
     - Quantitative
     - Qualitative
   - Sources of Data:
     - Census: de facto, de jure
     - Registries of vital events
     - Reports of occurrences of notifiable diseases

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Types of Data: *Numerical*

Numerical data can be:

- Counted
- Can yield
  - Frequencies
  - Scale value
- Can also be
  - Quantitative
  - Qualitative

Age Distribution of Patients Diagnosed With Pulmonary and Extrapulmonary TB

Age Bracket	Males	Females	Total	%
10 - 19	19	11	20	12.33
20 - 29	40	31	71	47.33
30 - 39	14	20	34	22.66
40 - 49	6	10	16	10.66
50 - 59	6	3	9	6.00
TOTAL	**75**	**75**	**150**	**100.0**

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Types of Data: *Numerical*

Contingency Table Showing the Numbers of Adult Population (18 years old and above) According to Smoking Habits and Sex

Smoking Habits	Males	Females	Total
Regular	40	6	46
Occasional	26	14	40
Ex-smoker	9	8	17
Non-smoker	85	186	271
TOTAL	**160**	**214**	**374**

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Types of Data: *Descriptive*

- Merely describes
- Can be
  - Quantitative
  - Qualitative

Sex can be described or categorized:

- Qualitatively as
  - Male
  - Female
- Quantitatively as
  - Male: 1
  - Female : 2

Age can be described:

- Qualitatively as
  - Young
  - Middle
  - Old
- Quantitatively as
  - 15 – 19
  - 20 – 29
  - 30 – 44
  - 44 – 54
  - 55 – 64
  - 65 and above

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Steps in Conducting Community Dx: *Methods of Data Collection*

4. Collect the data

Methods of data collection:

- **Observation or windshield survey**- extracting information from subjects by observing behavior and environment; maybe supplemented or documented by the use of hard equipment
- **Self-administered questionnaires-** respondent reads the questions and writes his response in the questionnaire

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- **Informant Interviews** – one-to-one encounter between interviewer and respondent; may be facilitated by a list of questions called an interview schedule; answers are written verbatim by the data collector
  - face-to-face
  - telephone
  - key informant
  - focused group discussion
- **Use of documented sources**

5. Develop the **instruments or tools for data collection**
   - Questionnaire
   - Observation checklist
   - Interview schedule or guide
   - Records checklist

6. Actual data gathering

   Considerations:
   - duration and schedule of data gathering
   - availability of respondents
   - timing – season, cultural calendar

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Steps in Conducting Community Dx: *Processing data*

7. Process the data- organizing raw data to prepare and facilitate its analysis and interpretation

Consists of:

- ✓ editing: checking data collection tool for completeness, legibility of entries and consistency of responses
- ✓ coding: categories are developed for classification purposes making sure that they are mutually exclusive and exhaustive
- ✓ summarizing: manual, computer

Numerical or quantitative data- can be measured or ordered according to quantity or amount

Example: age, #years in school, #hospital beds, hemoglobin count

- Discrete –deals with whole numbers
- Continuous – deals with decimals; has a scale

Qualitative or descriptive data- categories or labels to distinguish one group from another

Example: Region, province, sex

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Coding and Categorizing Data

Mutually exclusive: do not overlap in concept

Examples:

To classify civil status:

- Single - Separated
- Married - Widowed
- Divorced

To classify overseas contract workers:

- Seaman
- Professional
- Skilled Laborer
- Domestic helper

Exhaustive: anticipate all possible answers that a respondent may give

Example:

To classify services utilized by people in the health center:

- Immunization
- Family planning
- Dental services
- DOTS
- Nutrition supplementation
- Laboratory/diagnostics

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Categorizing Data from Fixed Response Questions

Fixed-Response Questions:

- provided with choices; can be accompanied with use of flash cards;
- pre-categorized

Example:

Why did you choose to study in UP?

- ❑ Low tuition fees
- ❑ Liberal atmosphere
- ❑ Standard of excellence
- ❑ Parents are UP alumni

Categorizing Data from Open-Ended Questions

Open-ended Questions:

- do not provide choices or categories;
- categories are constructed only during actual collation

Responses:

R8 droga

R10 walang disiplina ang mga tao

R12 tambak na basura

R19 maraming maysakit na bata

R37 nagkalat na tae ng hayop at tao sa kalye

R54 walang pakialam ang pamunan ng barangay

R71 walang kwentang serbisyo sa health center

Example:

In your opinion, what are the most important problems in the community that need priority intervention?

Possible Categories

Social – R8, 10

Environment - R12, 37

Health - R19

Political – R54, 71

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Summarizing Data: *Manual Tallying*

- Involves counting by hand
- Responses are entered into the tally sheets then summarized as frequencies
- Easy if categories are simple and not requiring correlation of two items

Example:

Type of toilets in the community

Type	Tally	
Flush	///// - /	6
Pour flush/	///// - ///// - ///// -	18
Water-sealed	///	
Pit latrine	///// - ///// - ///// - ///// - ///// - ///// - ///	38
Cat-hole latrine	///// - ///// - ///// - ///// - ///// - ///// - ///// - ///// - /////	60

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Summarizing Data: *Manual Tallying*

Age Group (in years)	Sex	Immunized Against Tetanus		Not Immunized Against Tetanus		Total
		Literate	Illiterate	Literate	Illiterate	
Less than 1 year old	Male					
	Female					
1 – 5	Male					
	Female					

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Summarizing Data: *Computer*

In summarizing results:

- Responses are coded
- Codebook is prepared containing code assigned to categories
- A summary coding sheet will contain all codes of a questionnaire
- Number or codes are entered into the computer

Examples of Software: EPIINFO, SPSS

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Steps in Conducting Community Dx: *Data presentation*

8. Present the data
   - largely depend on the type of data generated
   - descriptive data may be presented in narrative reports
   - numerical data may be presented in tabular or graphical form

Type of Graph	Use/Data Function
Line graph	Shows data trend or changes with time or age with respect to some other variable
Bar graph/ pictograph	For comparisons of absolute or relative counts and rates between categories
Histogram/ frequency polygon	Graphic presentation of frequency distribution or measurement
Proportional or component bar graph/ pie chart	Shows breakdown of a group or total where the number of categories is not too many
Scattered plot diagram	Correlation data for two variables

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Narrative or Textual Method of Data Presentation

A census conducted in Barangay X in Cavite by the International Institute of Rural Reconstruction in 1988 showed that there were 272 females aged between 15 and 44years old. Of these women, 75 or 28% were less than 20 years old, 106 or 39% were between 20 and 29 while 91 or 33%between 30 and 44. Sixty-six percent (66%) or 181 of the women had married at least once. Among the 15-19 age group, only 6 women or 8% were ever-married. The proportion of the ever-married women increased sharply in the 20-29 age group to 81% or 86 women. For the 30-44 age group the number of ever-married women was 89 or 98% of the women in this age bracket.

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Tabular Method of Data Presentation

Table 7.1 Marital Status of Women Between 15 and 44 Years Old in Barangay X, Cavite, 1988						
Age Group (in years)	**Total**	**%**	**Marital Status**			
			Single		**Ever-married**	
			Number	**%**	**Number**	**%**
15 - 19	75	27.6	69	92.0	6	8.0
20 - 29	106	39.0	20	18.9	86	81.1
30 - 44	91	33.4	2	2.2	89	97.8
TOTAL	**272**	**100.0**	**91**	**33.4**	**181**	**66.5**

Source: International Institute of Rural Reconstruction; Silang, Cavite, Unpublished data

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Steps in Conducting Community Dx: *Data analysis*

9. Analyze the data
   - involves ***quantification, description*** and ***classification*** of data
   - aims to establish ***trends and patterns***
   - allows for ***comparison*** of obtained data with standard values
   - determining ***interrelationship*** of factors

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Steps in Conducting Community Dx: *Problem identification*

10. Identify community health nursing problems

Categories of community health nursing problems:

- ***Health status problems*** – described in terms of increased or decreased morbidity, mortality and fertility
- ***Health resources problems*** – described in terms of lack of or absence of manpower, money, materials, institutions or facilities necessary to solve health problems
- ***Health-related problems*** – described in terms of existence of social, economic, political and environmental factors that aggravate the illness-inducing situations in the community

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Steps in Conducting Community Dx: *Priority-setting*

11. Set priorities

Criteria for priority-setting:

a. **Nature of the problem** – classified as health status, health resources or health-related problems
b. **Magnitude of the problem** – refers to the severity of the problem measured in terms of the proportion of the population affected by the problem
c. **Modifiability of the problem** – refers to the probability of reducing, controlling or eradicating the problem
d. **Preventive potential** – refers to the probability of controlling or reducing the effects posed by the problem
e. **Social concern** – refers to the perception of the population or the community as they are affected by the problem and their readiness to act on the problem.

Scale for Ranking Community Health Nursing Problems

Criteria			Weight
Nature of the problem	health status	3	1
	health resources	2	
	health-related	1	
Magnitude of the problem	75 – 100% affected	4	3
	50 – 74% affected	3	
	25 – 49% affected	2	
	< 25% affected	1	
Modifiability of the problem	high	3	4
	moderate	2	
	low	1	
	not modifiable	0	
Preventive potential	high	3	1
	moderate	2	
	low	1	
Social concern	urgent community concern; expressed readiness	2	1
	recognized as a problem but not needing urgent attention	1	
	not a community concern	0	