

Primary Health Care Initiatives (PHCI) Project  
Contract No. 278-C-00-99-00059-00  
Abt. Associates Inc.

## GROUP EXERCISES AND ACTIVITIES

### Discussion Guide

#### Public Health

#### Basic Epidemiology

Apply the above criteria for suitable screening to the following problems. Is there an effective and efficient way to screen for these problems?

- a. Diabetes
- b. Cancer of the breast
- c. Cancer of the uterus
- d. Anemia in children

(Criteria for disease or problem suitable for community screening)

- Is highly prevalent
- Serious consequences of disease
- No symptoms or signs at early stages
- Can be detected at relatively low cost before the clinical stage starts
- Early treatment is available and accessible that has been shown to reduce morbidity and mortality

#### A. Diabetes – Emphasize:

- All of screening criteria are met
- In Jordan, 95% of diabetes is type II in adult population, so selective screening could be done
- Screening possibilities include: screening all adults over age 40 with fasting blood glucose, screening only adults with a positive family history for diabetes
- Screening mechanisms to discuss – fasting blood sugar, random blood sugar, urine sugar test (early morning or random), HbA1C

#### B. Cancer of breast

- All of screening criteria are met
- Selective screening could be done (only women over a certain age – 40?, 50?)
- Screening mechanisms to discuss – breast self exam (poor yield), breast exam by physician or trained nurse or midwife (cancer identified somewhat late in course), or screening mammogram (early detection, but expensive, and requires expensive technology and trained radiologists)

#### C. Cancer of the uterus

- All screening criteria are met except #1 (is not highly prevalent) and #4 (cancer of the body of the uterus cannot be detected easily before clinical stage starts, especially as low cost)
- Exception to the above – cancer of the cervix DOES meet all the above criteria, including CAN be detected easily with Pap smear before clinical stage starts.
- Screening mechanisms for cancer of body of uterus – screening endometrial biopsies on all women over age 50?? – difficult to implement
- Screening mechanisms for cancer of cervix – pap smears on all women over age 25, every 2-3 years; could be more selective by doing pap smears only on women

at risk for STD (since cancer of cervix most commonly caused by HPV virus – an STD)

D. Anemia in children

- All screening criteria are met
- May discuss long term consequences of anemia in children if not detected and treated (slowed psychomotor development, higher risk of infections, risk of heart failure, association with other problems of malnutrition, etc.)
- Screening population – discuss ideal time to identify anemia in children (? Age 9-12 months, ?2-3 years, ?5 years, ? only in children who appear to be malnourished)
- Screening possibilities – Hgb, PCV, clinical assessment of conjunctiva

**CASE STUDIES – Basic Epidemiology**

1. You are working in a Health Center which serves a population of 14,500 people. In the period from January to March you treat a total of 126 new cases of upper respiratory infection, and from April to June you treat a total of 70 new cases of respiratory infection.

- Calculate the incidence of upper respiratory infection in January-March. and April-June.
- What may be some of the reasons that there is a change in the incidence?
- Why are we measuring incidence rather than prevalence in this example?

1.a. Jan-March –  $\frac{126}{14500} = 0.87\%$       Apr-June -  $\frac{70}{14500} = 0.48\%$

1b. Possible reasons for change?

- More people inside during winter, with more circulation of virus
- Population more susceptible to resp. infections during cold, dry winter

1.c. Why incidence rather than prevalence? Because ARI is an acute, self-limited infection, and because new cases easily identified

2. In this same health center that serves a population of 14,500 people, you treat a number of people with asthma and with diabetes (Type II). Since they all come to the center for their medicines at least once in two months, you count all the persons with asthma and all those with diabetes in the months of June and July. You find that during this time, you have treated 45 people with asthma and 165 people with Type II diabetes.

- Calculate the prevalence of asthma and of diabetes in this population.
- Why are we measuring prevalence rather than incidence in this example?

2.a. Asthma -  $\frac{45}{14500} = 0.31\%$       Diabetes -  $\frac{165}{14500} = 1.1\%$

2.b. Why prevalence rather than incidence? Because these are chronic, long-term diseases that persist in the population – so ALL existing cases should be counted

3. During an entire year approximately 4,000 people, both adults and children, come to your PHC to receive care. During that entire year, the diagnosis of diarrhea was made in 500 people who came in to be seen for that problem.

- What was the annual incidence of diarrhea in your PHC clinic population that year?
- Can you say that was the incidence of diarrhea in the whole village? Why or why not?

3.a. Incidence -  $\frac{500}{4000} = 12.5\%$

3.b. No, this does not represent the incidence of diarrhea in the whole village.

- Not all those with diarrhea would come to health center – some self-treated at home
- Some of the visits could have been for repeated episodes of diarrhea
- There are many causes of diarrhea – some could be infectious, some related to colitis, some to irritable bowel syndrome, etc.

4. *Among the 4,000 people who come to your PHC for care, one-half of them are adults. Among the adults, 50 of them have chronic arthritis.*

a. *What is the prevalence of arthritis among the adults who come to your PHC?*

4.a. Prevalence among adults -  $\frac{50}{2000} = 2.5\%$

## Environmental Health

### GROUP EXERCISES

1. *One environmental hazard that you as a health care provider may be able to influence is second hand smoke. Discuss the health risks of second hand smoke. As a health care provider, what can you do to decrease those risks?*

1. Risks of second-hand smoke include:

- Increased risk of bronchitis, ARI, and other infections
- Increased risk of cancer, heart disease, and other problems caused by smoke (less risk than those who actually smoke, but risk is higher than those not exposed at all to second hand smoke)
- In children, increased incidence of asthma, otitis media, ARI
- Mild irritations such as irritated eyes, sore throat, hoarseness from irritant effects of smoke

What can health providers do?

- Prohibit smoking in health center
- Health providers can become the first to stop smoking themselves, to serve as a model to the community and to know firsthand the issues involved in stopping smoking
- Counsel parents to not smoke in the house or where children might be exposed to smoke
- Work to develop local and national legislation to discourage smoking

2. *In a small group, discuss the health risks caused by the following environmental hazards, and what the staff in your Health Center can do to decrease those risks, or improve the situation.*

a. *Heavy automobile and truck traffic through the residential area of your town*

b. *Frequent episodes of diarrhea and vomiting (apparent food poisoning) in certain families that attend your health center*

c. *Accumulated garbage on street corners because of improper collection*

2.a. Health risks of residential traffic:

- Increased smoke and air pollution
- Increased carbon monoxide levels in the air
- Increased noise levels, and long-term damage to hearing
- Increased risk of accidents, especially with children in street

What can Health Center staff do?

- Work with local authorities to reroute traffic
- Work with national authorities to develop new roads or traffic patterns
- Counsel parents regarding risks of air pollution, especially to children or those with chronic lung diseases such as emphysema

2.b. Issues of frequent food poisoning in certain families:

- Possible poor hygiene by preparers of food
- Possible improper storage of food (no refrigeration, etc.)
- Possible carrier of infection by member of family (Salmonella, Entamoeba, toxigenic E.coli, etc.)

What can Health Center staff do?

- Visit the homes of affected families to observe social conditions and food preparation area
- Counsel food preparers in proper hygiene in food handling, and in storage of food
- Perform stool cultures on food preparers to look for possible chronic infection

2.c. Accumulated garbage health risks:

- Increased population of flies, mosquitos, and other insects that carry disease
- Increased population of rats and mice that can carry disease
- Risk of children playing in or near garbage, and developing infections
- Risk of injuries from broken glass, metal objects, etc.

What can Health Center staff do?

- Counsel patients and parents about risk of garbage
- Work with local authorities to find solution to garbage problem

## Epidemic Investigation

### GROUP EXERCISES

1. *Develop a standard case definition (using the above criteria and example) for the following epidemic problems:*

- Staphylococcal food poisoning*
- Streptococcal pharyngitis (NOT a simple cold or viral pharyngitis)*
- Scabies in school children*

1.a. Suggested Staphylococcal food poisoning case definition:

- Nausea with either: vomiting (at least one episode) or diarrhea (at least one episode of loose, watery stool)
- Develops within 8 hours of eating suspected contaminated food
- Temperature less than 38 C. (absence of high fever)
- Symptoms significantly improved within 48 hours

1.b. Suggested Streptococcal pharyngitis case definition:

- Sore throat for at least 24 hours
- Presence of pharyngeal inflammation and redness (may be exudative) AND tender anterior cervical adenopathy AND fever of greater than 38 C.
- Absence of cough or significant runny nose
- (when feasible) positive throat culture for Strep. Pyogenes, Group A

1.c. Suggested scabies case definition:

- Presence of at least 5 itchy, raised, red papules on body, preferrably on distal extremities
- At least 2 papules linked with red line (tunnel)
- Exclude herpes, varicella, staph pustules

## Child Abuse

### CASE STUDIES

Sameer is a 3-year old boy who presented to the health center because of cough and fever for 5 days. On examination he was very irritable and had a black eye and bruises of different ages covering different sites of his body.

Discussion:

1. What further history would you obtain?
2. What other areas would you examine in this child?
3. How would you proceed in followup of this case?

1. Suggestions regarding further history?
  - What kind of boy is Sameer? (active, quiet, naughty, troublesome)
  - Comment of the bruises and bruised eye, and ask, “How might Sameer have received these bruises?”
  - Ask about who cares for Sameer, brothers and sisters, family structure,
  - Try to determine significant family stresses
  - Look for changes in story, especially from various family members
2. Further examination
  - Check for tenderness in extremities (especially shoulders, arms, legs) to look for hidden or old fractures
  - Look for evidence of deliberate injury (strange patterns to bruises)
  - Exclude possibility of bleeding disorder (request bleeding time, PTT, platelet count) – ask about family history of bleeding disorder
  - Consider X-rays of extremities and skull to look for old or other injuries
3. How would you followup?
  - Refer Sameer for further evaluation by pediatrician or Family Protection unit
  - Consider home visit to investigate social and family stresses, and evaluate other children in family for possible abuse
  - Consider involvement of social worker, if available
  - Notify Family Protection unit

## Health Behavior Change

### 1. Group Exercise

You realize that smoking causes a lot of illness in your community. As a health care provider you want to try to do something to help people stop smoking. Using the Health Behavior Change Model, discuss how you would approach this problem on an individual basis with your patients.

1. Issues to consider:
  - Identify those patients who smoke
  - Using the health behavior change model to identify in which stage each smoking patient is, and identify this stage on the patient’s chart
  - Give each smoking patient a short message each visit appropriate to their stage of change
  - Offer more extensive counseling to those patients who are in the precontemplative or action stage of stopping smoking
  - Continue to ask about smoking even in those patients who have stopped; to encourage their continued behavior, or to identify those who have relapsed into smoking again.

## **2. Group Exercise**

*Fatima is a 30 years old mother of 6 children. Her youngest child is a one year old baby girl. Her neighbor Alia is a 26 years old mother of three children. Alia's youngest child is a one year old baby boy. The two mothers live in a village provided with a primary health care center. Antenatal, family planning (FP), and well-baby clinic services are provided at the health center in a nearby town. Alia is utilizing the FP services at the town health center while Fatima is not using these services.*

*Question: Using the Health Behavior Change Model, what are the possible explanations for this discrepancy in behaviors of these mothers towards FP?*

### 2. Issues to consider

- Fatima may be in the precontemplation or contemplation stage of consideration of family planning.
- Fatima may have a husband who does not support birth spacing, while Alia's husband does support this
- Fatima may have less trust of the Health Center than Alia
- Fatima may be under different pressures from the family or friends
- Fatima may have had previous bad experiences with a form of birth spacing, and is afraid to consider another form

## **3. Group Exercise**

*Using the Health Behavior Change Model, what are the steps to be taken in designing a "Weight reduction program"?*

### 3. Issues to consider

- Identify those patients who are overweight or whose weight is a significant health problem, ideally using the BMI chart as a reference (especially those who are diabetics or who have a family history of diabetes)
- Identify the stage of behavior change of these patients, and indicate this on the patient record
- Give a message to each patient appropriate for their stage of behavior change, and reinforce this message with each visit
- Help each patient identify the specific reasons he or she is overweight
- When possible, identify for the patient possible barriers or specific difficulties this patient may have in losing weight (limited finances, no access to fresh vegetables or fruits, unable to exercise fully because of arthritis, etc.)
- For those patients in the action stage, offer a structured and monitored program of weight loss (regular exercise, diet counseling, practical ways to overcome overeating, regular health center visits for weighing and further counseling and encouragement)
- Identify those patients who have stopped their weight loss (relapse), and continue to offer them counseling and encouragement to resume their loss of weight

## **4. Group Exercise**

*It seems that our youth are not well educated in the area of reproductive health (RH). As a health educator, you were consulted in designing a education program in RH addressing the youth. How do you use the Health Behavior Change Model in designing this program?*

### 4. Issues to consider

- Identify the cultural and social issues involved in teaching reproductive health issues to young people.
- Identify the barriers to teaching reproductive health
- Identify the population that you wish to present these issues to
- Consider a short survey of the population to be taught regarding their current

knowledge and attitudes regarding reproductive health issues

- In collaboration with the important advisors (parent's groups, religious and civil leaders, teachers, etc.), develop a curriculum that corresponds to the needs of the young people
- Monitor the young people for changes in their attitudes and activities