2017

MPH Principles of Public Health: Mid Term Exam 2017

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PRINCIPLES OF PUBLIC HEALTH

MID TERM 2017

Mid-term is due by 5 pm on Monday, October 16th. Be concise/brief. Questions may be discussed with others in the class. Answers **must** be written individually (3~4 pages single-spaced; don't rewrite questions). Please bring two copies of your midterms to Nina Wallerstein's office, 149 Family Practice (you can leave on outside door). Email also to jeldredge@salud.unm.edu.

20 points

1. Prescription opiate/narcotic (ie., oxycodone, vicodin, percocet, etc.) availability and abuse are growing health problems in New Mexico and elsewhere. This is compounded by persons addicted to these drugs switching to heroin because of lower costs. Consequences of growing levels of abuse can range from addiction, impact on life trajectory and family, and death from overdose

(1a) As a health planner for the State Public Health Division, you are considering approaches to address the overall prevention of drug addiction or overdose. First provide your overall health outcome of interest for the next examples. Second, provide examples of five preventive strategies: two at the host level, two at the environment level, and one example for the agent. For each example, state whether you are referring the "host," the "environment," or "agent."
 (10 points)

(1b) Define primary and secondary prevention. Then categorize each of your five examples in (1a) as "primary" or "secondary" and explain why you've assigned primary or secondary (briefly**). (7 points)**

(1c) Add one strategy that is a harm reduction strategy and define whether it is primary or secondary prevention. (**3 points**)

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11 points

2. As defined by the United States Department of Health and Human Services (DHHS).

Health Promotion "seeks the development of community and individual measures which can help them to develop lifestyles that

can maintain and enhance the state of well-being." (Healthy People);

Clinical Preventative Services involve counseling, screening, immunization, and chemoprophylaxis interventions.

Health Protection strategies involve the regulation or legislation of policies to protect the public's health.

(2a) For each of these three approaches listed above, list one intervention that would lead to a reduced incidence of hip fracture in elderly persons at a facility for seniors. (The examples should illustrate the distinctiveness of each approach).
(2 points each – Total of 6 points)

(2b) Using the health promotion action section from the Ottawa Charter, briefly describe an intervention which includes strategies for each of the five components to prevent and reduce the incidence of hip fracture in the elderly in general that incorporates all five elements. **(5 points)**

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20 points   3. "Income inequality in the USA has increased over the past four decades. Socioeconomic gaps in survival have also increased. Life expectancy has risen among middle-income and high-income Americans whereas it has stagnated among poor Americans and even declined in some demographic groups. Although the increase in income inequality since 1980 has been driven largely by soaring top incomes, the widening of survival inequalities has occurred lower in the distribution—ie, between the poor and upper-middle class. Growing survival gaps across income percentiles since 2001 reflect falling real incomes among poor Americans as well as an increasingly strong association between low income and poor health. Changes in individual risk factors such as smoking, obesity, and substance abuse play a part but do not fully explain the steeper gradient. "

From: Abstract is from: Jacob Bor, Gregory H Cohen, Sandro Galea, Population health in an era of rising income inequality: USA, 1980–2015, Lancet, 389 April 8, 2017.

3a) Create a grid of at least three potential pathways to explain the growing steeper gradient in life expectancy and how distal factors might influence proximal factors. You can follow the style of the grid used by Braveman in the RWJF Education brief, if it helps. **(12 points)**

3b) While not reported in this abstract, state two hypotheses (and incorporate these hypotheses in the pathways) that would add potential disparities by race/ethnicity. **(8 points**)

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20 points

4. You are a counselor with a public health focus in a multi-ethnic elementary school in Albuquerque and would like to initiate a program to prevent child obesity and promote child wellness. You are part of a obesity pregnancy prevention coalition in the city. You team up with the health staff at the school-based health center.

4a Using social learning/cognitive theory, outline a comprehensive behavior change strategy targeting teen girls as well as teen boys, with your strategy including at least **four** program components and state how each exemplifies a distinctive feature of this comprehensive theory. See the October 19th NCI reading of behavior change theory for background. **12 points**

4b. Use the readings by N. Freudenberg to discuss two major ways the food/beverage industry contributes to the obesity epidemic. Identify two Freudenberg-inspired strategies that your coalition might take to the city council to address child obesity. **(8 points)**

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10 points

5. Use the Banks, Marmot et al. article on the differences between British and U.S. health status for white populations:

(5a) Would you expect to find similar differences in health disparities as the whites between the **two Black** populations in U.S. and Britain? State why or why not. **(2 points)**

(5b) Provide two hypotheses based on the social determinants literature for the differences between the two Black populations that you expect. **(8 points)**

10 points   **6.** Osteoporosis is an age-related condition characterized by loss of bone mineral density (BMD) and is a risk factor for fractures in older women. A research project on women looking at fracture rates and bone mineral density showed that women with the lowest bone mineral density were associated with a higher fracture rate than those with higher bone mineral densities. Women targeted with bone mineral density rates of less than 2.5 standard deviations (SD) were evaluated and this was found to be effective in reducing fractures in those treated compared with a control group of untreated persons in the same range. A consortium of family practice, ob-gyn, and geriatric clinics and senior health centers decide to start a city-wide prevention campaign to prevent falls and fractures in women. Implemented over five-years, this intervention screened and reached virtually all women with a bone mineral density of less than 2.5 SD. Follow-up evaluation, however, indicated no significant reduction in the overall fractures of women in the community during this period. They consulted a local public health professional who provided them with data and the figure below.
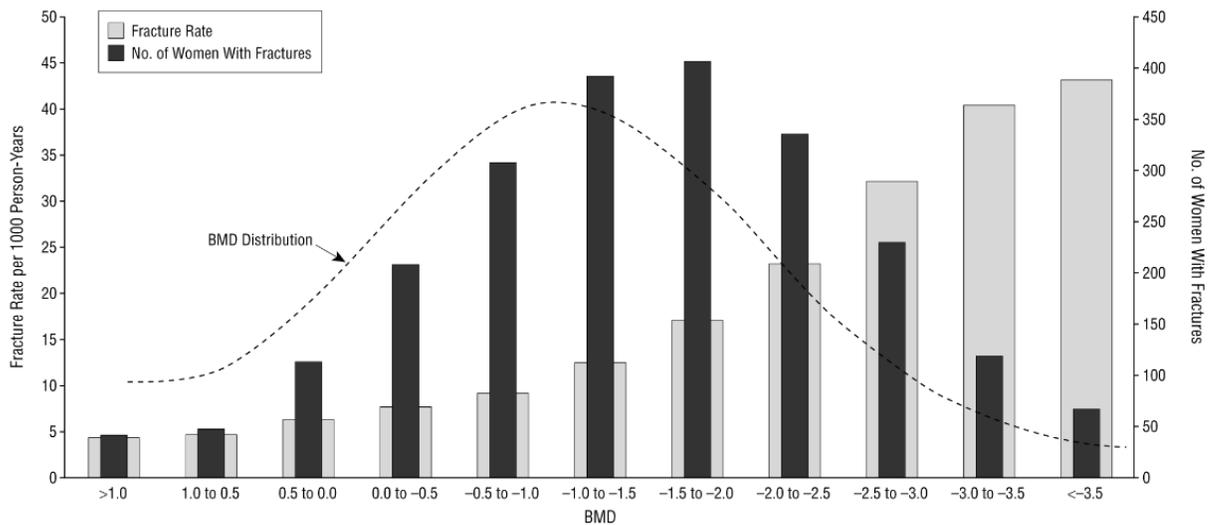
(6a) Drawing upon Rose's Theorem, offer an hypothesis that might explain the failure of this intervention to reduce the overall prevalence and incidence of bone fractures in the community. **(4 points)**

(6b) Propose and describe an alternative intervention. Explain how this intervention would be more effective in reducing overall number of fractures. State how your intervention is an application of Rose's "prevention paradox." **(6 points)**

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9 points **7.** Refer to Table 1 on page 179 of the Brownson et al, Evidence- Based Public Health review article. Briefly describe your assessment of the level of evidence available in the literature about your topic for causality/determinants for Part One of the paper. How might you plan to assess the efficacy and effectiveness of interventions and policies in Part II of your paper?