PUBLIC HEALTH INTERVENTIONS

1. Improved sanitation  
   a. Safe disposal of waste  
   b. Provision of clean drinking and washing water

2. Isolation and quarantine  
   a. Isolation of cases (e.g., SARS)  
   b. Quarantine of exposed individuals (e.g., yellow fever, SARS)

3. Improved standard of living  
   a. Less crowding decreases respiratory spread (e.g., TB)  
   b. Better quality of food (fresh and uncontaminated decreases gastrointestinal diseases)  
   c. Year-round access to vegetables and fruits eliminates vitamin deficiency diseases (e.g., beri beri)  
   d. Refrigeration allows fewer preserved foods (salted or chemically modified), which may reduce some cancers  
   e. Improved nutrition  
   f. Better education  
   g. Reduced poverty

4. Immunization  
   a. Objectives of vaccination  
   b. Requirements for a vaccine  
   c. Sociopolitical considerations  
   d. Primary issues for vaccine evaluation

5. Innovative strategies using existing public health interventions (e.g., search and containment strategy for implementation of smallpox vaccination)

6. Health education - informing the public  
   a. Rarely sufficient alone

7. Societal (behavioral change)  
   Stages of behavior change
   a. Theory of behavior change  
   b. Popular opinion leader model (targeting of natural leaders in a social group)  
      i. Gay bars  
      ii. Markets in Fuzhou, China  
      iii. Dormitories in St. Petersburg, Russia
c. Community intervention [status of women?]
   i. Getting the community to accept responsibility and implement change
   ii. Changing community norms (e.g., smoking, Yunnan drug intervention)

d. Legislative change
   i. Requires political will
   ii. To be effective also requires enforcement (e.g. smoking prohibitions, seat belt laws, maximum highway speeds, safety regulations, pollution laws)
   iii. Requires constant vigilance (e.g. repeal of motorcycle helmet laws, weakening pollution laws and environmental protection)

8. Elements of intervention
   i. Are the appropriate risk groups and areas targeted?
   ii. Is the intervention strategy culturally/economically appropriate for the specific risk group/area?
   iii. Was the intervention acceptable?
   iv. Was the necessary level of effectiveness achieved?
   v. How is the effectiveness of the intervention strategies measured?
   vi. Is the existing public health system and community structure a part of the intervention scheme?
   vii. Is the strategy cost-effective?

9. Key elements for successful intervention
   i. Mobilization of political will and commitment
   ii. Good surveillance
   iii. Learn and adapt from past experiences
   iv. Unified national planning
   v. Multisectoral response
   vi. Rapid implementation
   vii. Focused intervention; e.g., involved, marginalized and high-risk groups
   viii. Access to intervention tools; e.g. condoms, testing, drugs
   ix. Early education
   x. Community involvement
   xi. Reduce barriers to intervention
      a. Restrictive cultural norms
      b. Stigmatization

10. Evaluation of intervention strategies
    a. Some logical interventions are unsuccessful
    b. Continuation of ineffective interventions prevents implementation of other interventions, which wastes money and personnel
c. Elements of evaluation

i. Are the appropriate risk groups and areas identified and targeted (e.g., HIV/AIDS vaccine)?

ii. Is the intervention strategy culturally and economically appropriate and acceptable to the target group and the community? (e.g., township health workers in China and changes in blood collection strategy)

iii. How is the effectiveness of the intervention strategy measured?

iv. Is the existing public health system and community structure a part of the evaluation scheme?

v. Is the strategy cost-effective?