importance of data collection to Public Health research.

1. We can use predictive data analytics to leverage seemingly unrelated data to predict who is most susceptible to birth complications or chronic diseases or where and when a virulent outbreak is most likely to occur.

2. We can  leverage data and history to make smarter, more targeted decisions.

3. Predictive models may help determine the allocation of resources and prioritize home inspections in high lead poisoning risk areas (an active approach), instead of waiting for reports of children’s elevated blood lead levels to trigger an inspection (the current passive approach).

  4.  There is a great opportunity in public health to use analytics to promote data-driven policies. We need to use our data better, share it with the public and our partners, and then leverage that data to create better policies, systems and environmental changes.

 5. The link between problem identification and public health response is well established for many of the communicable diseases. An outbreak of a communicable disease usually leads to an investigation and appropriate public health action (e.g., removal of food product, exclusion from school, vaccination, treatment of water supply). Surveillance and analytical data may also be used to target or modify education, immunization, and other risk-reduction program.

 6. The link between chronic disease surveillance and public health programs is less well characterized. In part, this reflects the immaturity of most chronic disease surveillance efforts. In part, it also reflects the nature of chronic diseases and the time frame in which a response is appropriate. Rather than warranting an acute response, changes in chronic disease occurrence are more likely to result in initiation of new community intervention programs which may affect disease occurrence in 10 or even 20 years

2.

### **Interview:**

Interview as a technique of data collection is very popular and extensively used in every field of social research. The interview is, in a sense, an oral questionnaire. Instead of writing the response, the interviewee or subject gives the needed information verbally in a face-to-face relationship. The dynamics of interviewing, however, involves much more than an oral questionnaire.

Interview is relatively a more flexible tool than any written inquiry form and permits explanation, adjustment and variation according to the situation. The observational methods, as we know, are restricted mostly to non-verbal acts. So these are understandably not so effective in giving information about person’s past and private behavior, future actions, attitudes, perceptions, faiths, beliefs thought processes, motivations etc.

Advantages

* It provides flexibility to the interviewers
* The interview has a better response rate than mailed questions, and the people who cannot read and write can also answer the questions.
* The interviewer can judge the non-verbal behavior of the respondent.
* The interviewer can decide the place for an interview in a private and silent place, unlike the ones conducted through emails which can have a completely different environment.
* The interviewer can control over the order of the question, as in the questionnaire, and can judge the spontaneity of the respondent as well.

Disadvantages

1. Conducting interview studies can be very costly as well as very time-consuming.

2. An interview can cause biases. For example, the respondent’s answers can be affected by his reaction to the interviewer’s race, class, age or physical appearance.

3. Interview studies provide less anonymity, which is a big concern for many respondents.

4. There is a lack of accessibility to respondents (unlike conducting mailed questionnaire study) since the respondents can be in around any corner of the world or country.

**Role-play**

Is a technique that allows students to explore realistic situations by interacting with other people in a managed way in order to develop experience and trial different strategies in a supported environment. Depending on the intention of the activity, participants might be playing a role similar to their own (or their likely one in the future) or could play the opposite part of the conversation or interaction. Both options provide the possibility of significant learning, with the former allowing experience to be gained and the latter encouraging the student to develop an understanding of the situation from the ‘opposite’ point of view.

Participants are given particular roles to play in a conversation or other interaction, such as an email exchange, typical of their discipline. They may be given specific instructions on how to act or what to say, as an aggressive client or patient in denial, for example, or required to act and react in their own way depending on the requirements of the exercise.

Role-play is a very flexible teaching approach because it requires no special tools, technology or environments, for example student could work through a role-play exercise just as effectively in a lecture hall as in a seminar room. However, technology can provide significant advantages, and even new possibilities, for using the approach as a learning activity.

Advantages

1. Students immediately apply content in a relevant, real world context.

2. Typically students claim to remember their role in these scenarios and the ensuing discussion long after the semester ends.

3. Students can transcend and think beyond the confines of the classroom setting.

4. Students see the relevance of the content for handling real world situations.

5. The instructor and students receive immediate feedback with regard to student understanding of the content.

6. Students engage in higher order thinking and learn content in a deeper way.

7. Instructors can create useful scenarios when setting the parameters of the role play when real scenarios or contexts might not be readily available.

Disadvantages

1. Teachers have to do heavy preparation for setting up the background, contexts, and learning goals for the role play activities.

2. Data and background information about the role played character may need to be prepared and distributed to the students to help them with the assigned roles.

3. It may be quite difficult to assess proficiency of the students on their role play performance.