

Basics of Health Promotion and Education Intervention
Dr. Arista Lahiri
Dr. B C Roy Multi Speciality Medical Research Centre
Indian Institute of Technology, Kharagpur

Lecture - 40
Health Impact Assessment

Hello everyone. So, today is the final lecture of this course and we will be discussing health impact assessment. You see it is a very intriguing concept because through this course we were discussing on how to develop good health promotion education materials, how to provide the intervention, how to assess all these things so, why do all the intervention part why develop intervention why test them.

It is ultimately to have certain impacts. I remember we discussed different types of outcomes; we discussed the different parts of impact also. So, this brings us to this lecture of health impact assessment because here will be basically understanding the concepts behind the health impact and the assessment procedures.

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So, we will be covering the basic idea of health impact assessment then we will be having certain discussions some discussion about the HIA techniques. The different impact assessment tools because there are certain tools, we use during health impact assessment which are taken from other impact assessment methodologies. And will be giving us certain examples.

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KEYWORDS

- Health impact assessment
- Screening
- Scoping
- Appraisal
- Monitoring
- Risk assessment
- Cost-benefit analysis

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What is Health Impact Assessment?

- Health Impact Assessment (HIA) is a **practical approach** used to **judge the potential health effects** of a policy, program or project on a population, particularly on vulnerable or disadvantaged groups.
- Recommendations are produced for decision-makers and stakeholders, with the **aim of maximizing the proposal's positive health effects and minimizing its negative health effects.**
- Can be applied in diverse economic sectors and uses quantitative, qualitative and participatory techniques.

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So, what is health impact assessment? From here on I'll be I mean saying health impact assessment as HIA only. So, HIA is basically you see a practical approach, it is not completely theoretical, it is in practice, it is a practical approach used to judge the potential health effects of a policy program or project on a population particularly on vulnerable or disadvantaged group. So, here you have three important parts.

First is, it is a practical approach, next you have it is used to judge the potential health effects of all the policies, programs that are running that are directed towards improving the people's

health. But a more interesting way to look at it is to understand on whom we are going to see all these impacts or on whom we are going to apply all the approaches. These are on a population particularly on a vulnerable or disadvantaged group.

So, it may be for the community at large but if we focus more on the vulnerable or disadvantaged groups HIA brings about more results or more meaningful results. Now the recommendations that are produced for decision makers and stakeholders because from HIA will be providing the recommendations on what to do what not to do and how to do and how the things should not be done.

All these information are important for the policy makers the stakeholders who are involved in the program the community leaders everyone. So, what we want to do? With the aim of maximizing the proposals that here the proposal means the intervention that we are talking about the interventions positive health effect and minimizing the negative effects. Because everything may have certain positive things may have certain negative things.

So, the basic objective of HIA is to balance the positives and negatives in such a way that the final or the ultimate thing that is evolving after HIA is done after the recommendations are incorporated into a sustainable issue or a sustainable intervention. That is why you have to maximize the positivity and you have to minimize the negativity in any case and it can be applied in diverse economic sectors and it uses quantitative and qualitative and participatory techniques.

So, this is a very general term because we have certain quantitative methodology, we have certain qualitative methodology. Here we specifically explicitly say participatory techniques because for health impact assessment for particularly stakeholder engagement participatory technique is the most important part. And that is why we separate this participating technique from the qualitative methodology as a whole.

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How HIA helps?

- HIA provides a way to **engage with members of the public** affected by a particular proposal
- It helps decision-makers make **choices about alternatives and improvements** to prevent disease or injury and to actively promote health: **Consolidated approach**
- It is a key resource for **achieving foresight in societal decision-making**
- It is based on the four interlinked values:
 1. **Democracy** (promoting stakeholder participation)
 2. **Equity** (considering the impact on the whole population)
 3. **Sustainable development**
 4. **Ethical use of evidence**



So, how does HIA help? See we were discussing about stakeholder engagement the community engagement part. So, HIA provides a way to engage with the members of the public. The researchers or the people the policy makers or the program officers through HIA they get to involve with the public or the general population. Then it is a consolidated approach because you will be having certain things like you have the choices about the alternatives and improvements.

And in a way you are also evaluating all those choices and you are also I mean scoping which is the best way out of the situation. So, it is a systematic and a consolidated approach. Next it is a key resource for achieving foresight in the societal decision making. So, when you have, I mean when you have a sound understanding of how things are going to move if you implement certain intervention then you can foresee what will be the effect or the long term effect.

So, that is why it helps in having the foresight in societal decision making its not only about health-related decision making. Remember in HPE we include societal aspects or the sociological parts in the health-related spectrum and that is a very holistic way of looking into health. And through that concept the health impact assessment or HIA it involves this societal decision making through having a I mean through a foresight approach.

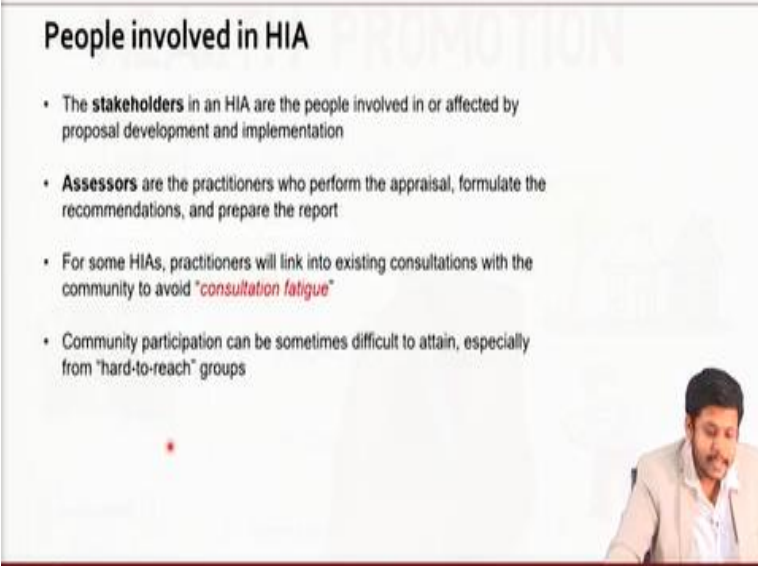
Because you will be given certain situations that this happens if you do this through that you can get a foresight. The values that the that any HIA technique is dependent on a democracy that is

promoting stakeholder participation then equity that is considering the impact on the whole population then sustainable development and ethical use of evidence. Now democracy, equity, sustainable development these are all unnested or integrated issues in HIA.

But what is more interesting here is the ethical use of evidence. Perhaps the ethical use of evidence component is most important in any kind of research but in HIA it being a participatory technique or it being a an all-encompassing involve or rigorous technique. It will generate high volume of data. Now as a researcher or the people evaluating the situation, we have to take care of those data because we have to be very ethical in use of those data.

Having said that the basic purpose of keeping this point here in this slide is to make you aware that for HIA you have to have a clear statement of ethical data use policy. Anyone who is taking up HIA activity may be an individual maybe a group may be a company maybe a firm has to have a clear guideline for this. It is kind of a similar when you take up certain research studies as well, I mean in the field of public health like that.

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People involved in HIA

- The **stakeholders** in an HIA are the people involved in or affected by proposal development and implementation
- **Assessors** are the practitioners who perform the appraisal, formulate the recommendations, and prepare the report
- For some HIAs, practitioners will link into existing consultations with the community to avoid "*consultation fatigue*"
- Community participation can be sometimes difficult to attain, especially from "hard-to-reach" groups

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So, we were discussing about the stakeholders. Now this brings us to this issue of what the people involved in HIA. You see the stakeholders in an HIA are the people involved in or affected by the proposal development and implementation. That is the people who are actually affected or getting influenced by the intervention that is being proposed.

Suppose I am going to roll out an antimicrobial resistance related program. Suppose I am going to the people and I am saying that ok you change your antibiotic consumption practices to this part you do not reuse the antibiotics you take antibiotics only after consulting the doctors like this. Some people may have this behaviour already some people may not have this behaviour practicing. So, the community as a whole will change after this campaign. Now this community is basically the beneficiary for our campaign.

That is why they will be our stakeholders because they are the people affected by proposal development and implementation. Remember in this part it's not only those people who are getting their health behaviour change its also those people who are practicing the particular health behaviour they are also part of this HIA activity they are also the stakeholders. Then you have the assessors.

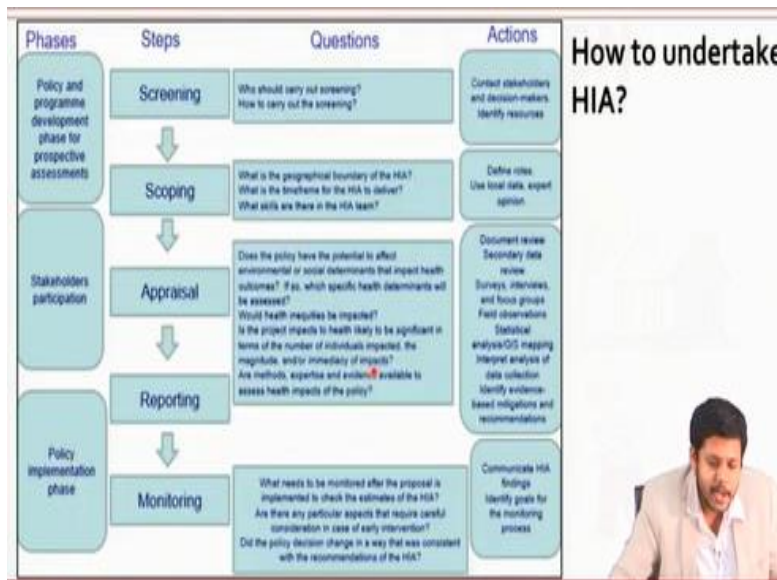
Who are the assessors? Assessors are the practitioners who perform the appraisal formulate the recommendations and prepare the report. Now we will be having the understanding of the stages of HIA but basically, we have an appraisal part and then we have certain report writing and recommendation part will be coming on it just a few minutes from now. This part is taken care of by the assessors.

Now an interesting concept that I have mentioned over here is regarding the consultation fatigue. What actually occurs is see if the practitioners I mean if the existing situation if certain HIA activity is conducted over and over again there may be consultation fatigue. That is what we are mentioning by the term consultation fatigue that the community may become resistant or the community may be a bit reluctant to participate in the research over and over again.

In those situations when a certain thing is evaluated over and over you the as a high practitioner should link what you are seeking for, I mean there has to be something which is other than ordinary which is other than the traditional evaluation part. That is the extra component that you are seeking in but you have to tap into the existing situation. That will help you to overcome the consultation fatigue part.

And the community participation can be sometimes difficult to attain. Although we are saying that the stakeholder engagement is the biggest benefit and also the biggest strength of HIA activity but if you have certain hard to reach areas or if you have certain marginalized population who are very much reluctant to open up to external people or per say to the health authorities as well. So, for them performing HIA in those communities it is kind of a difficult job.

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Now how to undertake an HIA activity? I was discussing that there are certain appraisal report writing this kind of issues. So, here you have a framework. So, just consider the phases with the steps. First phase is the policy and program development phase for prospective assessment and the next one is stakeholder participation. Finally, you have policy implementation phase. What are the steps related?

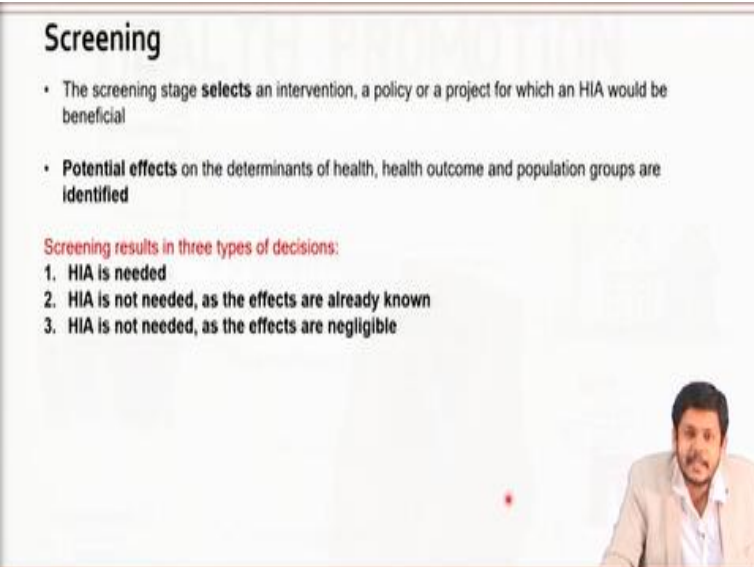
You have screening, then you have scoping, then you have appraisal after appraisal you have reporting that means you have to now write up the report and report to the authorities who have summoned the HIA activity. And finally monitoring whether the changes have been actually committed and whether they are actually done or not. Now I will go directly to the actions component.

See in screening part what are the actions you contact the stakeholders and decision makers and identify the resources then in scoping you define the roles. And in appraisal you do a whole lot

of things because this is the body or this is the main essence of HIA this is where the majority of work is done. You can review the documents you can have the secondary data analysis you can have surveys interviews everything.

Whatever tool you want whatever methodology you want you put it in here and then in the reporting part it is mainly dependent on how you do the appraisal and that is why see the actions are related in a linked way. Monitoring part as I have already said communicate the HIA findings that you will get from the reporting part then identify the goals for the monitoring process. Because monitoring will go on for identify those goals and you keep on checking whether they are achieved or not.

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Screening

- The screening stage **selects** an intervention, a policy or a project for which an HIA would be beneficial
- **Potential effects** on the determinants of health, health outcome and population groups are **identified**

Screening results in three types of decisions:

1. HIA is needed
2. HIA is not needed, as the effects are already known
3. HIA is not needed, as the effects are negligible

Now let us discuss in brief about each of these steps. What do we do in screening? Now in screening stage we select an intervention a policy or a project where HIA may be required. Now by means of may be required we mean we have some benefit may be the intervention is beneficial may be the population is of importance because we are doing in a study in the heart rate areas like this. So, we have to identify the intervention or policy.

Then we have to identify the potential effects on the determinants of health, health outcome and population groups. See here it is not only the potential effects on health it also includes the potential health on the determinants of health. And that is how health impact assessment it moves

beyond only the health term itself. It moves beyond health to environment to our society to psyche in fact the psychology part, economics as many as you can count.

So, screening results in three types of decisions. We do all these things and then we reserve we culminate into three types of decisions. First HIA is needed because its beneficial and it also has certain outcome and it is an important issue and we have also identified the markers or we should not say markers we have identified this part the potential effects what we are seeking HIA is needed. Next HIA is not needed as the effects are already known.

Now see remember the part with consultation fatigue because we are doing the evaluation over and over again over and over again. So, in that case HIA would not be needed if we are seeking that the same evaluation again so for that his futile its only wastage of resources. Because we already know what is going to happen and what are the effects. Then another situation for HIA is not needed is because the effects are negligible.

When the effects or the benefits are very less then there is no point again involving so many resources in doing an HIA activity.

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Scoping

- **Planning of the HIA and identifying** what health risks and benefits to consider.
- Scoping involves **bringing together the major stakeholders** of the proposal by creating a **steering group** and developing and **adopting terms of reference** for the HIA.
- In the development of the HIA to reduce the risk of presenting only one side of the evidence, it is important to be **systematic**

So, now with all these three findings let us think that we have chosen this dimension that HIA is needed. So, we move on to scoping part. We have screened his needed now we move on to

scoping part. Scoping is basically planning of the HIA and identifying what health risks and benefits to consider. Here you are identifying what factors you want to study basically. It involves bringing together the major stakeholders the people who are getting affected by your intervention.

And you have to use a steering group for it and developing and adopting terms of references. See the terms of references and the steering group these are the basic kind of difference from HIA with a routine research activity. Because you are involving people and you are also taking their opinions and making I mean taking all these data so for that you have must have a steering group which may again involve certain stakeholder population as well.

And then you have to adopt certain terms of references these will be your guides the protocol on how to do things in HIA. Then the development of HIA is to reduce the risk of presenting only one side of the evidence. And therefore, you need to be systematic because as a program evaluator I may be compelled or I may be blinded in a way that I find that my program is the best program. So, that is my view!

In reality that may not be the case, so, in order to understand what is the ground situation or what is the reality as a whole we take up the HIA activity. And for HIA we must be certain that we are taking account or we are considering views from both the sides from the program evaluator side from program implementer side and also the stakeholder side. And perhaps this is the major reason why stakeholders are an integral part of an HIA activity.

Because you want to have the community need assessed as well and all those issues you have to keep in mind in a systematic way in order to plan for a good HIA.

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Appraisal

- An appraisal is the **core** of any HIA activity
- All the **data and evidence are gathered and analyzed, affected populations are identified, and health impacts are estimated**
- The **impact estimates** allow giving suggestions and recommendations for actions that promote positive health effects and minimize negative health effects
- Depending on the context, an HIA can be conducted with a **rapid appraisal** or with a **comprehensive appraisal**



Then comes the appraisal part, I have already told you that appraisal is basically the core of HIA activity it forms the heart of it. What happens here all the data and evidence are gathered and analysed and then the affected populations are identified and the health impacts are estimated. You get gather data you understand who are the population or what the target populations or beneficiaries and you also measure the effects.

So, basically this is what HIA is about but this part this major part is conducted under appraisal component of HIA. Then you have the impacts estimates which allows giving suggestions and recommendations that how health promotion activity can be achieved because without a particular value or without a particular data you cannot say that this intervention in this way is going to help this much.

Suppose the benefit or suppose by virtue of an intervention the obesity prevalence of a community has reduced by 1.5 as in 1.5 times reduced. So, in that case through HIA you can say that the odds of reduction in the prevalence of obesity is 1.5... this may be one of your metrics this we call as a matrix. This estimate is going to help you advocate for the changes. Now then depending on the context an HIA can be conducted as a rapid appraisal or with a comprehensive appraisal.

See if you have a binding issue or a major issue which needs immediate resolution then you have to do it in a rapid way. You have to generate the protocol very fast and you have to act on it. But if you have an issue which you can take some time for that then you should better go for this comprehensive appraisal part because you have more time you can generate a better protocol and you can move along with that protocol.

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After the appraisal part is implemented now you have reporting. In reporting you have to prepare or you have to present the results very clearly to both community or the stakeholders who are getting actually affected by the decisions and also the decision makers or the policy makers. Because this will ultimately bring in the change if at all needed. The contents of a report should include all these parts.

The description of the scope because we were already doing a scoping part see here, we are not including the screening because its only after screening the HIA is approved. So, we kind of understand that screening is already done and its screened HIA is needed. So, we start with the scope then we have the priorities identified at the beginning of the process as we have seen in appraisal that we have to start doing understanding the benefits.

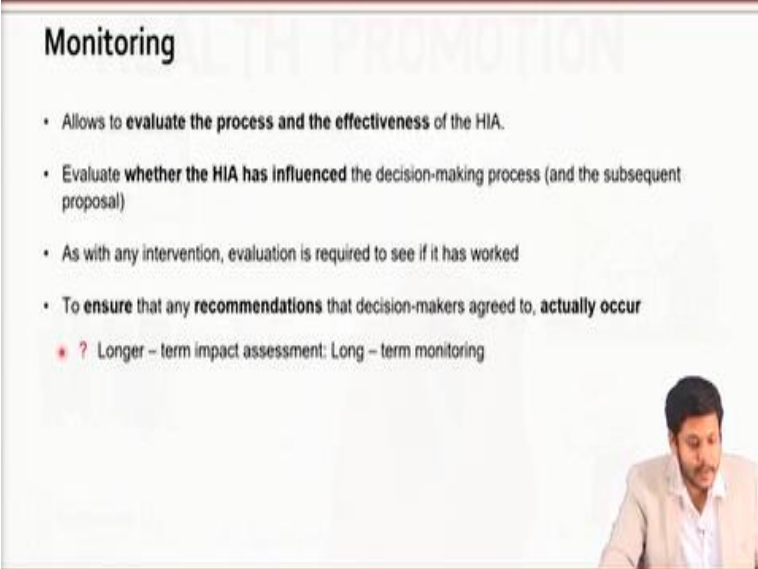
Then the views expressed by the stakeholders those are the data the data we have to represent then the evidence available from various other sources. Because see here in this diagram you see

we are using these methodologies as well like document review secondary data review we are doing all these as well apart from surveys interviews or focus groups. So, other sources evidences available from various other sources this is also important.

Then we have to summarize the overall finding. Here we will be having an integration of all the findings and we can kind of have a triangulated result because what we are getting what the other resources are saying and what the stakeholders are reporting. We can triangulate all these findings to arrive at our final result or our final diagnosis. It may be a community diagnosis in fact and from there on from our findings from our diagnosis we move to any recommendations that we want to give.

If the situation needs the substantial change or the intervention needs some modifications, we clearly communicate what are the modifications only based on the evidences that we have. Here remember in reporting part we do not report anything or we do not recommend anything which may not be supported by your evidence. So, the whole objective of doing HIA is to bring on an evidence based change.

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Monitoring

- Allows to evaluate the process and the effectiveness of the HIA.
- Evaluate whether the HIA has influenced the decision-making process (and the subsequent proposal)
- As with any intervention, evaluation is required to see if it has worked
- To ensure that any recommendations that decision-makers agreed to, actually occur
- ? Longer – term impact assessment: Long – term monitoring

Now this leads to the step of monitoring. This is the final step in HIA, it allows to evaluate the process and the effectiveness of HIA. The whole process is now evaluated how HIA was done and whether HIA itself was effective or not. HIA was done to understand how the intervention

was effective and now monitoring helps us to understand whether HIA is effective or not. Now evaluate whether the HIA has influenced the decision making process.

Because see in reporting we clearly recommended some things in monitoring we want to see whether those recommendations are translated into action or not. Then we have as with any intervention evaluation is required to see if it has worked. So, in monitoring if we want to monitor or understand whether the HIA process itself work we have to go on with the evaluation studies. Now the purpose of monitoring is to ensure that any recommendations the decisions maker.

Those who have actually agreed... those agreed to change... that actually occur... that is the basic purpose of monitoring. So, if we want to understand long term effect then we do a long-term monitoring part as well. But remember HIA can be long term it also can be a short-term process. It depends only on how long we want to evaluate the impact of the intervention what is the duration. On that we will understand is it a short term HIA or is it a long-term monitoring kind of thing.

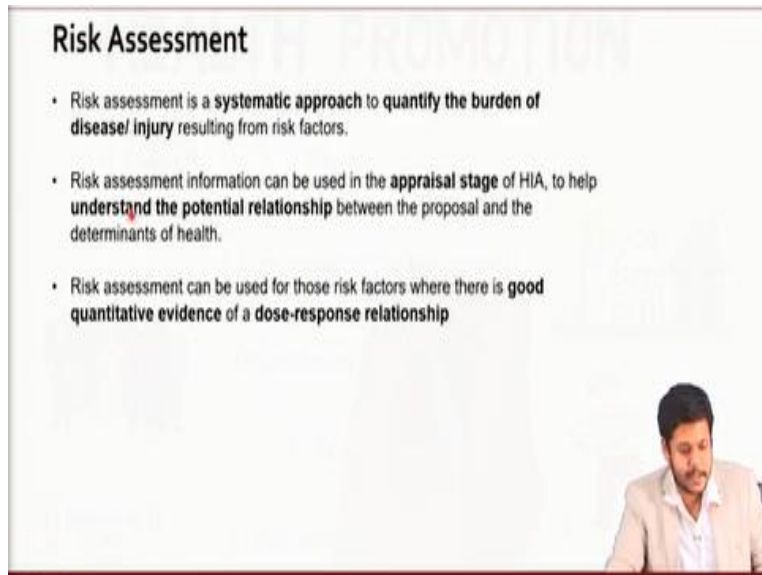
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So, what are the different tools that we use under HIA? We have risk assessment technique and also, we have cost benefit analysis. Remember there are certain other tools under HIA because HIA essentially employs the impact assessment tools. HIA means health impact assessment so

essentially it employs the impact assessment tools to understand the health impact. The major tools I have mentioned these are the most commonly employed you can say it is a methodology you can say it as a tool is that the risk assessment and the cost benefit analysis.

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Risk Assessment

- Risk assessment is a **systematic approach** to **quantify the burden of disease/ injury** resulting from risk factors.
- Risk assessment information can be used in the **appraisal stage** of HIA, to help **understand the potential relationship** between the proposal and the determinants of health.
- Risk assessment can be used for those risk factors where there is **good quantitative evidence** of a **dose-response relationship**

Now what happens with risk assessment? Again, it is a systematic approach it is as in HIA it has to be a systematic approach to quantify the burden of disease or injury. Here we quantify things quantify the risk. Then the risk assessment information can be used in the appraisal stage of HIA because that is the core of it to help understand the potential relationship between the proposed intervention and the determinants of health, that the intervention is going to change or is actually proposing to change. So, the relationship part or the core research identification.... it is done in the appraisal stage through risk assessment technique. Then you also have to understand that the risk assessment can be used for those risk factors where there is good quantitative evidence of a dose response relationship. Without those response relationship risk assessment can be done.

But its best if you have a DRC established because then the greater grading or the quantification will be more meaningful.

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Cost-benefit analysis

- Building on the risk assessment work that quantifies the burden of disease, cost-benefit analysis of interventions is undertaken to **help identify interventions that will reduce the burden of disease**

Cost-benefit information can be used in the **appraisal and recommendations** stages of HIA:

- ✓ To help understand the **potential relationship** between the proposal and the determinants of health
- ✓ To help **identify recommendations** for altering the proposal to improve health.

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Next is your cost benefit analysis. What happens with cost benefit analysis? As a name suggest it analyses cost versus benefit. How much do we invest? What are the resources invested and what are the benefits gained? So, the basic use of CBA is to help identify the interventions that will reduce the burden of disease and the CBA part is not only used in appraisal phase. It is also used in recommendation space because often the recommendations are based on the CBA itself.

Because the interventions that is going to minimize the cost or resource involvement and maximize the health benefit is going to be selected. So, here also we understand that relationship and here also remember by relationship we have the dose response how much change is going to happen how much resource we are spending and how much to what extent improvement in health status we are getting like this.

So, this is how CBA is going to help in understanding the recommendations in choosing the particular intervention.

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Now with all that discussion let us have some interesting I would say rather unorthodox examples. Why unorthodox? Because we are discussing about health but see the examples that are provided these examples these are not directly related to health that is what I was going to say these are not directly related to health. Health impact assessment is not essentially for those interventions which are for health impact or particularly directly health related issues.

It can be something or it can be all those things which have health impact as a secondary outcome I mean it is not necessarily primary outcome it can have a secondary outcome like take this example of clean energy options. If you have clean energy like green energy what we say nowadays that the green energy option it will reduce the emissions it will reduce the greenhouse effects emission of the greenhouse gases and the all those issues.

And this will ultimately help... have some health benefit because pollution will be reduced, the health status overall will be improving and then perhaps who knows the UV radiations, they may get reduced. And the hazards that are accompanied with radiation they may also be reduced. So, see clean energy simple thing can have so many health outcomes. Though they are not direct but it can have certain things.

So, you can have an HIA on clean energy options and in HIA will be focusing outcome you will be focusing as health-related events only. If you are focusing on overall outcome that will be

impact assessment not HIA. But for anything I repeat you can do HIA when you are focusing on the health-related outcomes only. Similarly, for planning for green spaces similarly in case you are wondering about zoning of walkability you can use zoning of a walkability for a number of benefits like.

You can use it to reduce the accidents you can use it to improve physical activity status of a community there may be so many benefits. But see these are not directly health related interventions. I am repeating this information again and again because this is a very intriguing part and you must understand this part.

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CONCLUSION

- Health Impact Assessment (HIA) is a **practical approach used to judge the potential health effects** of a policy, program or project on a population, particularly on vulnerable or disadvantaged groups.
- It is a key resource for **achieving foresight in societal decision-making**
- HIA is based on the four interlinked values: **Democracy** (promoting stakeholder participation), **Equity** (considering the impact on the whole population), **Sustainable development**, and **Ethical use of evidence**
- Steps involved in HIA: **Screening, Scoping, Appraisal, Reporting, and Monitoring**
- **Risk assessment and cost-benefit analysis** are common approaches included in the HIA process

So, in conclusion HIA is basically a practical approach that I started with to judge the potential effects of the interventions or the policy what is being done. There is a key resource for achieving foresight in societal decision making I have already told you that and the linked values remember democracy, equity, sustainable development and ethical use of evidence. Ethical use of evidence be very sure to ensure that you are using the evidence ethically.

Then there are the steps I have mentioned remember that appraisal is the core of HIA activity and in reporting you have to report responsibly the findings and from there on you have to recommend in monitoring phase you monitor whether the recommendations which the policy

makers told that, yes we will implement those things you have to monitor whether those implementations are done or not.

And finally, the most commonly used methodologies are tools during this appraisal part are during choosing and picking and choosing of intervention part risk assessment and cost benefit assessment. While risk assessment you can do it during the appraisal phase the CBA part you can do it in the appraisal part and also, I mean in the later parts as well.

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RESOURCES

- Health impact assessments [Internet]. Who.int. [cited 20 April 2022]. Available from: <https://www.who.int/tools/health-impact-assessments>
- Joffe M, Mindell J. HEALTH IMPACT ASSESSMENT. Occupational and Environmental Medicine. 2005;62(12):907-912.

So, these are the resources for this lecture. I hope you have enjoyed this course and it was kind of a newer course in this NPTEL platform, thank you.