

Education for Sustainable Development
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Lecture - 18
ESD for Sustainable Healthcare

Welcome viewers welcome to this NPTEL course on yes Education for Sustainable Development. So, today we will start a new topic that is what is the role of ESD for Sustainable Healthcare services.

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So, we will let us begin with some of the common themes of sustainable development and healthcare. Healthcare sustainable wellbeing and sustainable health and wellbeing it comes actually under the SDG 3 that is the sustainable health and wellbeing.

So, these are some of the pictures that we can see. So, here we have already discussed about what are the we have discussed about triple bottom line dimensions of paradigm of sustainability. Here we can see there are more there are 5 paradigms.

Here first thing is people then prosperity then here added the peace is another domain and partnership and planet here it is a we can say it is a 5 pillar; 5 pillar sustainable development paradigm. So, here we can see then quality of life how quality of life depends on environment, economy as well as the human health and wellbeing.

So, these are some of the clips for related to health sustainable health and sustainability as all of us we know is about the taking care of our society environment society that is human resource as well as the economy. So, this is the basic parameters, but then we can also add like other parameters other things like peace and prosperity and partnership etcetera depending on our objective depending on our goal.

So, here again the sustainable quality development how it is a cyclic process starting from the knowledge development to you know to the employment, thinking etcetera then again you know using the knowledge in the individual practice then again reflect being reflective and again. So, and reflect on these and the change bring the change.

So, this is the cycle learning cycle similarly sustainable quality improvement can be done in the in this cyclic way. And this is the sustainable promoting the health promotion of sustainable development it is also related to other SDGs.

So, all the SDGs are interrelated all the SDGs are interrelated because it is related to human being it is because it is related to our planet; planet earth, it is related to our economic system, it is related to our even animal planet.

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SDG 3- Good Health and Wellbeing

- Education in our contemporary world is expected to instill the **set of knowledge, skills, values, and attitudes in learners** to thrive in increasingly **diverse and rapidly changing societies**, and provides them with a moral compass, purpose and meaning, and thus contribute to **individual and collective well being** (UNESCO,2021)
- Since its inception, **UNESCO has been promoting the transformative power of education** to make the **world a better place to live** through both individual and **societal transformation**.
- This includes essential **'transversal' competencies**, such as **critical thinking, creativity, empathy, collaborative problem-solving and systems thinking**.
- Thus, education allows learners to learn about and shape who they are and what they want to be, to relate to their heritage, remain open to other ways of being and willing to learn throughout life.

So, now we will focus on the dimensions. So, sustainable good health and wellbeing sustainable that it comes under the SDG 3 that is good health and wellbeing, see here again we will discuss about how knowledge education can play an important role. So, it also requires the

contemporary world it requires it expects a set of knowledge, skills, values and attitudes in case of the learners to thrive in an increasingly diverse and rapidly changing society.

As we know all of us with globalizations although everything is moving very fast is changing very fast so, how to adopt our self in this environment in the fast changing environment with right kind of knowledge, skills, values, attitudes etcetera being the global citizen.

So, that it can so, that we can provide the it can we can provide some access, some opportunities, some sources of service something like with the meaningful service purpose etcetera towards the individual as well as the collective wellbeing.

So, all these set of knowledge, skills, values, attitudes etcetera we have to transform it into the service in the service orientation into our adaptability skill in our resilience, to our resilience etcetera that is to with intention to serve the community serve the community so with so, that we can achieve this individual and collective wellbeing that is the UNESCO declaration by 2021.

So, therefore, UNESCO has been promoting this transformative power of education ESD education should be transformative in nature that it can bring 300 degree transformation in any domain it works in any domain it applies. So, UNESCO has been promoting the transformative power of education to make the world a better place to live and for the social transformation for the individual and the societal transformation.

So, the transformation means across the globe across the planet in all aspects of human life. So, how this transformation can happen can take place? So, ESD has that power. So, ESD has that power and ESD should be offered, ESD should be imparted, ESD should be provided in such a way that it can bring the total transformation and transformation in peoples live in the society and in the economic domain also.

So, therefore, this includes and transversal competencies again this requires this therefore, education requires the transversal competencies. What are these transformational competencies? All these higher order thinking skills like the critical thinking, the creative thinking we have already discussed about empathy being empathetic, collaborative problem solving, system thinking, then you know collaborative problem solving then attitude of cooperation collaboration.

So, being techno savvy, so being empathetic; empathetic is means that it is different from being sympathetic, empathetic in the sense that you can a feel the same thing the other people are feeling in their problem situation in their normal situation or in their happy in their happy situation.

So; that means, you can also feel in the same way as the people other people they are feeling they are going through they are experiencing the whole situation. So, this transversal competency; that means competency which can bring transformation in our thought, in our behavior, in our life, in our knowledge set and attitudes.

So, critical thinking you know all of us we are know we know that critically whatever it has been given to us we need to reflect on this and critically evaluate it. Its feasibility, its usability, its utility, its cost effectiveness, its relevance for future, its everything we should critically evaluate it then we accept it.

And creative thinking out of this critical analysis then maybe that we can add something new something more that is the that is the with creativity and innovation something new that we can add on. Being empathetic so that we can feel we can understand others problems, being collaborative in solving that problems, being caring about the society about the society, about the animals, about the about our environment and systems thinking.

That means we can; that means, we can have we can develop this systems thinking in the sense way in the larger way with a planning and in a planning in a planning in a very effective way with all kinds of logical thinking logistics and the implementations implementation etcetera.

So, systems thinking that is not in a smaller unit, but in a larger unit as a how to bring the changes in the systems. Like when we talk about the health system it is not just about one disease or one service or one patient it is about the whole system health system. So, in the larger perspective how we are going to think innovatively critically analyze it innovative think innovatively then collaborate with others in solving the problems and being empathetic to those.

So, here all kinds of stakeholders are working together, it is not just about the client, it not just about the clinician, it not just about the direct stakeholders or investors, but is all of us all of us are either direct or indirect stakeholders of this system.

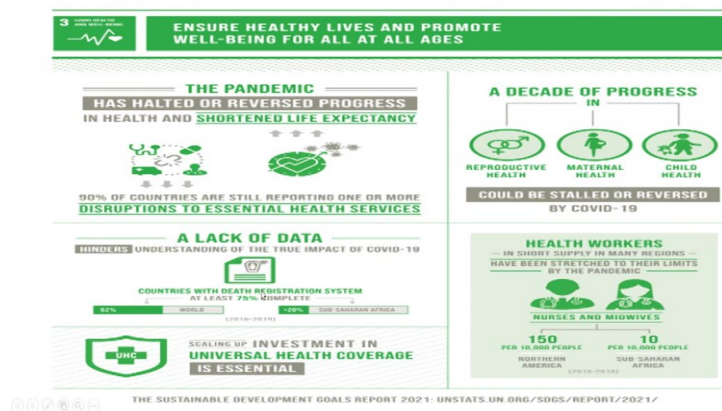
So, therefore, education allows the learners to learn about and shape who they are and what they want to be, how they can relate to their heritage, how they can remain to other ways of being and willing to learn throughout the life and continuous learning and again always kind of you know service orientation and attitude within us like.

For example; that means, we definitely we have got some opportunities and why not to learn something new, why not to acquire different skills and competencies. And as a result how in which way we can contribute to our society, in which way we can help our people, in which way we can make our planet our country our planet better place to live in not only for present, but for the future.

So, that should be our motto that should be our objective.

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- The Sustainable Development Goals (SDGs) provide us with planned courses of action to ensure equality among people across the globe in all forms.
- The SDG 3 aims at providing proper and adequate importance to all dimensions of health and leading to overall development.



So, now this is some of the clips of like for example, how to ensure the lives and promote the wellbeing for all at all ages these are some of the clips the decade of the progress like, you know initially how it was emphasized on the reproductive health and maternal health and then child health how it is the progress, how the health domain how the progress has taken place.

And how the health workers they are working then and then also a lack of data whereas, wherever it is lack of data and like investment in the universal health coverage is essential a lack of data is there so, countries with death registration system how the investment is required.

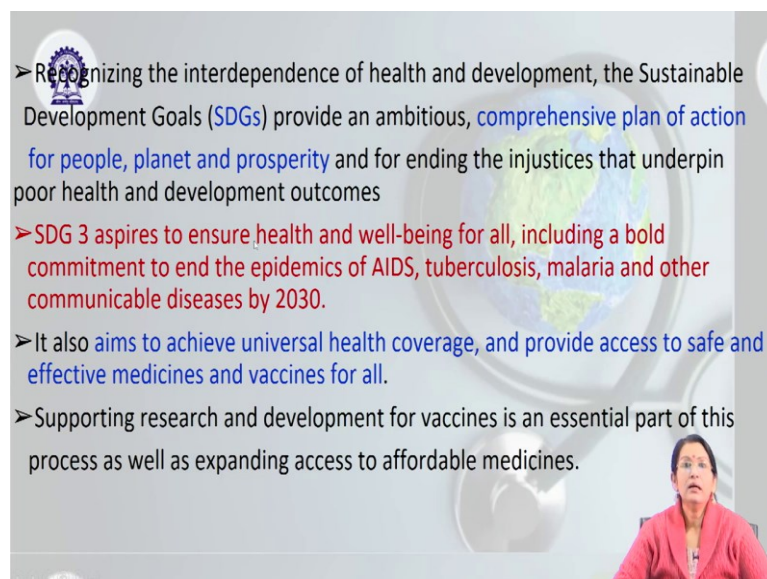
Then here again the pandemic; pandemic has halted or reversed the progress so, in health domain and shortened expectancy also. Pandemic how it has affected in a affected negatively in our society almost the whole planet whole world. So, how to; that means, how what are its impact, what are its results and what we have learned out of this, how can we build up this resilient system. So, to face this kind of pandemic in future. So, all these things we will issue.

So, therefore, SDGs provide us with the planned course of actions action to ensure the equality among people across the globe in all norms. The SDG 3 aims at providing the proper and adequate importance to all dimensions of health. Here again one more importance is there one more importance is that SDG 3 has clearly elaborated on the different targets on the different like what are its objectives it has mentioned clearly in 1 2 3 4 all the targets are there every SDG has its own targets.

So, here in SDG 3 also UNESCO has clearly mentioned what are the objectives. So, it is it makes us easier to deal with every aspects of the health domain. So, again another thing is that not only to enhance the quality of our health services, but also equality all the citizens should get equal access to that health services that is also important.

So, how we are going to use ESD to generate the awareness in our health system. So, that equality and quality can be possible can be achieved by everybody.

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- Recognizing the interdependence of health and development, the Sustainable Development Goals (SDGs) provide an ambitious, **comprehensive plan of action for people, planet and prosperity** and for ending the injustices that underpin poor health and development outcomes
- SDG 3 aspires to ensure **health and well-being for all, including a bold commitment to end the epidemics of AIDS, tuberculosis, malaria and other communicable diseases by 2030.**
- It also aims to achieve **universal health coverage, and provide access to safe and effective medicines and vaccines for all.**
- Supporting research and development for vaccines is an essential part of this process as well as expanding access to affordable medicines.

So, here we can say UNESCO has already given a comprehensive plan of action. So, it aspires to ensure the health and wellbeing for all across the ages ok including a bold commitment to end the epidemics of AIDS, tuberculosis, malaria and other communicable diseases by 2030.

Its equal access quality health services then ensure the health and wellbeing for all equality equal access to health services and a commitment to end the epidemics like AIDS, tuberculosis, malaria and recently you know recently also all these kinds of pandemics we should be better prepared with the to face this kind of pandemics.

Therefore it aims to achieve the universal health coverage, it is not just for one country developing country or developed country etcetera, but it is for the universal health coverage that is by 2030 so, that we can provide the access to safe and effective medicine vaccines for all also.

So, this is also and to back off to back this kind of these services that to a creation of vaccines and effective medicine etcetera research and development for the vaccines is also an essential part. So, continuous research and development in the health domain also should go on should move on to facilitate the efficacy and effectiveness.

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• Human activity (both healthcare & economics) is a subsystem of the global ecosystem

• Human health and survival are understood to be completely dependent on the presence of intact ecosystems and biodiversity

• Sustainable healthcare-

The objective of outcome-focused healthcare systems is to deliver better patient outcomes at the same or lower cost... relying on quality outcome data as starting point to improve care cycle

Holistic approach

Prevention, Diagnosis, Treatment, High-quality outcome data, Patient, Care delivery, Care management, Health system, Quality improvement, Patient and family, Cost, Outcome = Value

Environment

Society

Economy

any sustainable.

• They are responsible for multiple negative environmental impacts including greenhouse gas emissions, waste generation, air pollution, water consumption and pharmaceutical pollution, and as a result are unwittingly contributing to human morbidity and mortality

So, this is can you can say again sustainable health care system, these are some of the clips like for example, economy is important economy then there after the largest scale is the society

then the environment. So, this is the; that means, how these three domains are very much important and the and form the health domain.

So, this is again the cyclic way that you can go through and here suppose it is the holistic approach again in other domain also we have already discussed about the holistic approach or whole institution approach here. Similarly in health domain also we can have an holistic approach.

Like here patient is the client is the nucleus of the whole thing, but at the same thing at the same thing service hospital service, then medicines, then the doctors, then the equipments, then the advisory board, then you know all kinds of and all kinds of outsourcing things everything should be should be should be equally available given importance for the holistic approach.

Here we can say how much value we can add to our system. So, here the outcome divided by cost is equal to value this is the basic formula; that means, how can we rate how can we map we measure the value of our health services, if we are going to begin with any kind of entrepreneurship in the health domain.

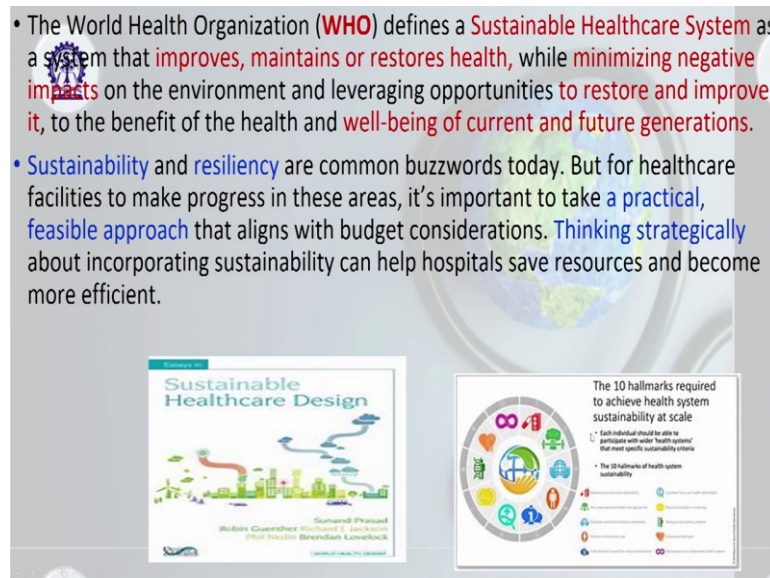
So, here so human activity; that means, both healthcare and economics is the subsystem of the global ecosystem and human health and survival depends on the presence of the intact ecosystem and biodiversity. So, we cannot ignore our ecosystem and biodiversity because we are staying in we have to adjust we have to take into account the climatic change, climate, environment biodiversity what is there in and around us.

So, we cannot ignore along with these systems then only we can have we have to build a robust and resilient health system. So, because there are so many other impacts also in the with when as because in ecosystem we are also exposed to different kinds of impacts. Like negative environmental impact you know like greenhouse emission, the waste generation, air population, water constellations then pharmaceutical pollutions and industrial wastage so, many things we are exposed to.

So, we have to take into account this environmental impacts ecosystem impact. So, that is why ecosystem takes a larger space in the health domain because it contributes a larger domain. So, and again moreover society is there economy is there how to make a balance how to make a balance and how can we build a sustainable health system.

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- The World Health Organization (**WHO**) defines a **Sustainable Healthcare System** as a system that **improves, maintains or restores health**, while **minimizing negative impacts** on the environment and leveraging opportunities **to restore and improve it**, to the benefit of the health and **well-being of current and future generations**.
- **Sustainability** and **resiliency** are common buzzwords today. But for healthcare facilities to make progress in these areas, it's important to take a **practical, feasible approach** that aligns with budget considerations. **Thinking strategically** about incorporating sustainability can help hospitals save resources and become more efficient.



So, here WHO has already defined that sustainable health care as a like on as a improves the maintains or restores the health while minimizing the negative impacts of the environment on the environment and leveraging the opportunities to restore and improve it, the benefit of health and wellbeing of the current and the future generations.

So, here three things are there for like just WHO defines as a health sustainable health care first thing it must improve and maintain the restore of health and wellbeing. At the same time minimize their its negative impact on the environment ok that is all the waste management or the you know depletion of resources.

All these things should be taken care of and leveraging the opportunity to restore again it has to create the opportunity to restore and improve it for the benefit and benefit health and wellbeing of not only the current generation, but the future generation that is the UNESCO's definition of sustainable health ok.

So, here sustainability therefore, sustainability and resilience are the two common key words we can say. So, sustainability should go along with resilience is not that independently sustainable sustainability can be can be can be purposeful can be meaningful or can be achievable.

So, sustainability and resilience we have to we have to be tolerant, we have to be resilient to face all the challenges to mitigate all the challenges and get the solutions and the solution should be sustainable in the way that it can take care of our future things ok.

So, but so, therefore, the health care facilities to make the progress in these areas we need a very practical approach, very feasible approach, very cost effective approach. Yes, of course, cost effective does not mean that we are compromising our budget, compromising our economic aspects in the health sector. But yes we are we must be prepared to spend money we must, but it should be in a cost effective way there should not be wastage..

So, therefore, it has to be practical again practical in the sense that we have to develop a blueprint that who are the stakeholders. As earlier we have already discussed in which location we are going to set up and what are the people what are the people those who are who resides in and around that area.

Then who will be the stakeholders, who will be the investors and who what about the manpower. Then when you are recruiting the manpower like the nurses, the doctors then other consultant's etcetera again we have to search for because it is very specialized kind of domain. So, we have to really do a research preliminary research a survey then only we can go for a health system.

So, practical and physical approach that aligns with the budget consideration as well as the other facilities and resources available. And how to again how to moreover how to leverage the resources available in that area may be that the manpower is available there, but it is they are not so much trained and then we can train them through our training college to make them prepared for nursing staff for supporting staff or technical staff etcetera.

So, therefore, thinking strategically is very important. So, thinking strategically about the incorporating sustainability can help the hospitals to save the resources and become more efficient. So, here two things like any organization two things are important one is the effectiveness and efficiency. How efficiently they can serve the purpose, they can serve deliver the services and again how efficiently and at the same time what is this going what is its overall impact on the society, how much benefit it incurs.


So, that is the effectiveness and efficiency. So, we so, for any organization is important similarly for the health system also how to think strategically design the schema then blueprint

and manage the resources in such a way that so it enhance it can enhance its effectiveness and efficiency.

So, these are some of the models of the 10 hallmarks are required to achieve the health system sustainability scale these are some of the things that you can find out in the internet also, these are some of the things that 10 parameters that we will be discussing also.

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- **Sustainability** requires **evaluating systems** — including building infrastructure and organizational practices—and implementing measures in line with proper budget planning.
- A healthcare facility needs to have **reliable** and **resilient engineering systems** to **ensure safety** for its patients
- A genuinely sustainable healthcare system would not only meet immediate healthcare needs and promote population health with **minimal financial costs**, but also **safeguard the health** of future generations, by **conserving natural resources** and **minimizing ecological damage**



So, here sustainability it again simultaneously it requires a feedback system it monitoring system and evaluating system including the building infrastructure and organizational practices to implementing the measures line everything for every system for every organization evaluation system should be there.

A feedback mechanism should be there, monitoring and evaluation continuous monitoring evaluation is very much required then only the. Again the healthcare facility also need to be very transparent, very reliable, very resilient engineering system to ensure safety for the patients ensure safety for the doctors nurses. And again working hours also justified working hours that doctors and nurses they should not be overburden over they should not be over tired, they should not be overloaded with the work.

So, proper distribution of work, working hours and resilient system so, ensure safety of not only of the patients, but also for the supporting staff and the doctors. So, therefore, a genuinely

healthcare system not only meet the immediate healthcare needs, but also promote the population health minimal with the minimal financial cost in the sense that affordable cost.

Some of the some of the hospitals are coming up like with the where the poor people can also get the good services better health services. So, therefore, there is a demand for this kind of hospitals so, how everybody can get the services equal kind of services quality services with the minimum cost like depending on their affordability.

So, also safeguarding the health for the future generation like for by conserving the natural resources, minimizing the ecological damage and through research and development creating the creating and innovating different kinds of vaccines medicines because this pandemic has already taught us so many things so, these are the things.

So, this in the in this picture we can discuss about what causes the health. Health and wellbeing yes as we have already discussed this is related to social sustainability like healthy and healthy people, healthy and resilient people and communities, environmental sustainability like living with the planetary limits, biodiversity and environmental ecosystem.

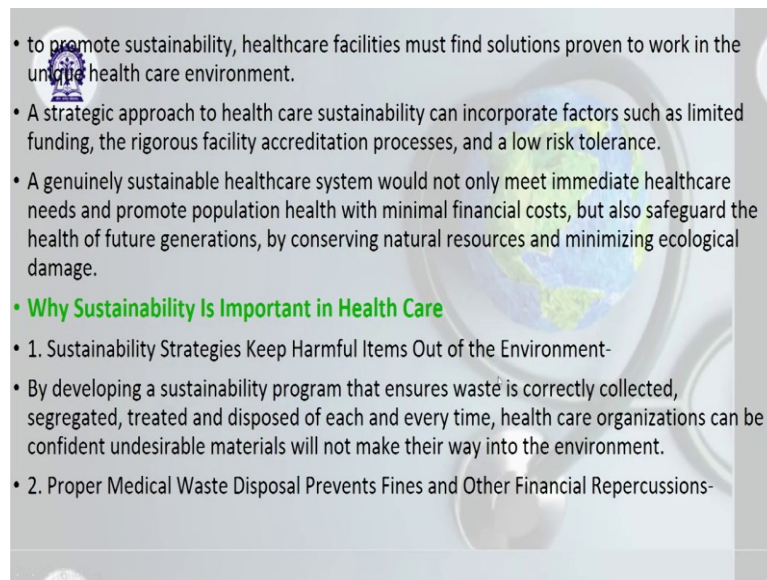
Then economic is economic sustainability that is a fair and sustainable economic system that is good investment in the health domain for the with the good with the good value and ethics and attitude to serve the people may be that it also it can also happen with public private partnership also, it can also take place as a CSR unit from the companies and the MNCs.

So, it is a so, here we can say the healthcare is again all is interrelated is all connected all the health domain to our environment, to our agriculture, to our health care, to our society, to our people, to the planet, to the plants, to the forest everything is interconnected here.

So, the all the almost all the SDGs are interconnected because it deals with people, deals with the society deals with the planet, but even healthcare is also related to individuals farmers; that means, our agricultures; agriculture because the food we are taking that also has an impact. So, environment we are living the air quality pollution all kinds of things that also measures and healthcare facilities available.

So, all these domains are all interconnected.

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- to promote sustainability, healthcare facilities must find solutions proven to work in the unique health care environment.
- A strategic approach to health care sustainability can incorporate factors such as limited funding, the rigorous facility accreditation processes, and a low risk tolerance.
- A genuinely sustainable healthcare system would not only meet immediate healthcare needs and promote population health with minimal financial costs, but also safeguard the health of future generations, by conserving natural resources and minimizing ecological damage.
- **Why Sustainability Is Important in Health Care**
 1. Sustainability Strategies Keep Harmful Items Out of the Environment-
 - By developing a sustainability program that ensures waste is correctly collected, segregated, treated and disposed of each and every time, health care organizations can be confident undesirable materials will not make their way into the environment.
 2. Proper Medical Waste Disposal Prevents Fines and Other Financial Repercussions-

So, so for all these reasons that we can say that how important is the health care services and how we can have a strategic approach to health care sustainability and to incorporate the factors such as funding is the source of funding is there, rigorous facilities are there, tool infrastructures are there, technology their low risk tolerance is there, support service is there everything all these are you know all these are very essential component.

So, why this sustainability is important for health care ok? So, the main question is that why the sustainability is very important for the health care? Because sustainability strategies keep the harmful items out of the environment because we have to be very vigilant from time to time in evaluating the impacts effects of each and every medicine to the you know medicine to any all kinds of the taste and the labs and the all kinds of things we have to be very vigilant about its harmful impact.

That may be positive impact at the same time what are the side effects and how it affects the environment human life as well as the environment. So, similarly by developing the programs, now that ensures the waste is correctly collected. Like for example, yes hospitals in the from the hospitals only the maximum if almost around 40 to 50 percent waste is being created. How these waste are being managed that is again that is again an very important issue.

So, waste is correctly collected, segregated, treated and disposed etcetera. Waste management is very very important in health care. So, health care organizations can also be very confident; confident about the about or confident or ensure that this undesirable material should not

pollute the environment hospital environment health or the patients patient care system etcetera.

So, medical waste disposal prevents it so that is the most important thing that the proper medical waste is disposal prevents the fines and other financial repercussions also.

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• It is critical to instill a comprehensive medical waste disposal program that ensures your staff consistently and correctly segregate all **medical, hazardous, sharps and drug waste**. The program should include clear processes for **addressing different waste streams** to make sure they are rendered harmless.

• 3. Health Care Organizations Are Part of a Community-a strong sustainability program entails **reducing the organization's carbon footprint**, making sure harmful substances don't get into landfills and water systems and managing internal **operations to conserve resources**, such as by employing reusable containers where possible, engaging in **robust recycling**, developing programs that **mitigate the risk of environmental contamination** and so on.

Sustainable healthcare

Improve Outcomes
The starting point is to focus on improving patient outcomes

Reduce overall costs
Better quality of care is often less expensive over the long-term

Increase value
Better quality care at equal or lower cost leads to higher value in the system

$$\frac{\text{Health Outcomes}}{\text{Cost of delivery}} = \text{Value}$$

Diagram illustrating the Patient-Centered Care Model:

- MedTech
- Health information
- Medicines
- Care management
- Care delivery
- Patient

So, this is about so when we talk about the when we talk about the medical hazards; medical hazards like the drug was the that is hazards and the drug wastage then side effects of the drugs and addressing the different waste system these are some very crucial issues.

And crucial issues and so, therefore so, because ultimately it affects the environment, it affects the human life etcetera. So, reduce first thing is hospital that mean management in the thatwaste management ok and then reducing the organizations carbon footprint because so much of energy is being invested there. So, the outcome of these things would minimize the organizations carbon footprint.

Making sure that making sure the harmful substances do not get into the landfills or it not should not mixed in the water system to manage the internal things. So, how this water purification and pollution control and again operations to conserve the resources again such as the you know employ employing the reusable containers etcetera, engaging the robust recycling process, then mitigating the risk of the environmental contamination these are very very important issues in health sector.

So, sustainable health care again it has the three domains one is improve the outcomes, reduce the overall cost and increase the value, these are the three basic objectives or values of the. How to improve the outcomes? Like starting point is to focus on improving the patients outcomes how that will serve health services patient care system and how the patients has come out of the hospital with a good health and wellbeing and satisfaction.

So, they reduce the overall cost like better quality of care is often less expensive over the long term. If the proper strategic planning is being done then definitely this cost effectiveness can be balanced, then increase value better quality of care and equal or the lower cost leads to the higher value in the system like affordability of the patients affordability; that means, it should be compatible to all not only all ages, but all people from all economic status socioeconomic status.

So, the poor can also afford the better quality services that is thing. So, that in that way then it adds to the value to the system. So, health outcomes divided by the cost of delivery that is equal to value ok. So, that is equal to value and these are the things the how these are how this patient care is important, like the how this healthcare is patient is the main major factor the nucleus of the whole system definitely his satisfaction his health and wellbeing is most important.

At the same time it is also directly related to health related information's. Now, nowadays these all the technology latest technology with technology this ehealth and ehealth services digital platform digital technology how information can be updated can be quickly informed that the how the patient can be apprized about his own health status quickly through the digital platform.

Medical technology medicines are there, care management that patient care system, care delivery and overall along with the quantitative facilities or the infrastructure for everything then the quality of service is important. And above all the human lives because above all our patients our clients our human life.

So, quality care service quality health services means it includes all the empathetic aspects all the emotional attachments all the positive thinkings of happiness all these things. It is not just you have just mechanically you are serving the peoples hence in the healthcare most important thing is the human interactions care for care and concern.

And how to empathize with it, how to be, how to be patient, how to be tolerant, how to be how to be caring towards the other, not only about towards the patients, but the patient caretakers of the patients or the guardians of the patients also.

So, this is this much we will discuss right now then we will continue in the next class. Now, just we have just gathered the overview of the sustainable health system then we go into the other details.

Thank you very much.