

Summer Training Report

By

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Part-1

IMPACT OF COVID-19 ON LABORS IN INDIA

Introduction

Corona Virus disease (Covid-19) is an infectious disease caused by a newly discovered coronavirus. It was first identified in December 2019 in Wuhan and has resulted in an ongoing Pandemic. The virus that causes Covid-19 is mainly transmitted through droplets generated when an infected person coughs, sneezes or exhales. Common symptoms include fever, cough, fatigue, shortness of breath and loss of smell and taste. While the majority of cases have mild symptoms, some progress to acute respiratory distress syndrome. The incubation period may range from two to fourteen days. Recommended measures to prevent infection include frequent hand washing, social distancing, quarantine, covering coughs, and keeping unwashed hands away from the face.

India's large working population is the part of the unorganized sector that is over 94 percent. The Indian labour market is divided in two segments that is organized or formal sector and other is unorganized sector which is also known as informal sector. Organized sector in India is that sector which are registered as well as pay tax (income tax, sales tax) or which are licensed organization. All self-employed, unlicensed or unregistered economic activity such as rural traders, handicrafts, farmers and owner manned general stores etc.

In India the unorganized labor is divided into four sections as per the India's Ministry of labour. The Indian unorganized labour force has been divided into following sections nature of employment, occupation service segment and 47 especially distressed section. The unorganized nature of employment category includes attached agricultural labourers, migrant workers, bonded labourers, casual and contract labours. A separate category of occupation group which includes landless agricultural labours, share croppers, small and marginal farmers, fishermen, weavers, leather workers those engaged in animal husbandry, labeling and packing, beedi rolling, building and construction workers, salt washers, artisans, workers in oil mills, workers in brick kilns and stone quarries and workers in saw mills. Another separate category

dedicated in service workers such as, domestic based workers, vegetable and fruit sellers, barbers, pavement hawker, newspaper sellers, and handcart operators. The last unorganized category labour includes especially distressed that is scavengers, toddy tapper , drivers (animal driven vehicles), loaders and un-loaders. The condition of the unorganized sector is not so good in India which has low productivity as well as bad living and working condition and also have low wages. Unorganised sector is the one of the biggest sector of the Indian economy.

Household worker or a domestic worker is a person who works within an employer's household. Household workers maybe paid on hourly, daily, weekly, or per-job basis. Some common examples include : babysitters ,cleaning people, maids, caretakers. It is estimated that there are over Four + Million domestic workers in India. Their wages are, on average, only a third of those in other sectors, they have very limited social protections, and commonly suffer poor working conditions, exploitation, abuse and slavery.

- Olivier Coibion, Yuriy Gorodnichenko and Micheal Weber these three conducted different surveys to view the labor markets during the Covid-19 crisis. The arrival of Globally pandemic Covid-19 virus have led to unequalled numbers of initial claims for unemployment since early 2020. The conclusion of these surveys are they provide additional evidence on this decline in employment, pointing to a 20 million decline in the number of employed workers. They find a much less than proportional increase in unemployment indicating that most of these newly unemployed workers are not looking for new work.
- Tomaz Cajner, Leland D. Crane, Ryan A. Decker, Adrian Haminspuertolas and Christopher kurz these people used the previous data and conducted various indexes to track the labor market development during Covid-19 pandemic. The result was in the coming months, labor reports will capture both the depth and breadth of the current employment losses. The responsiveness of policymakers over the past weeks has been given rise by an understanding of how rapidly the Covid-19 has effected the economy. In addition to the monthly and weekly employment indexes, we are currently generating a set of diffusion indexes, measures of entry and exit, size and industry

class measures, and an employment index solely comprised of individuals with weekly paychecks.

- Marek Kapicka and Peter Rupert. They have studied how a Covid-19 like pandemic spreads through the labor market and what it implies for the dynamics of wages and unemployment rates. They also characterized the efficient allocations and optimal policies. The conclusion was for this is that the labor market separates the recovered and susceptible individuals. The epidemics has two opposing effects on wage formation : the reservation wage increases because labor market activities make one more likely to get infected, but the value of the match decreases because job tenure is shorter. The second effect dominates before the pandemic is at peak, while the first one dominates during or after the peak, so the wage first decreases and then increases.

Rationale

To study the effect of Covid-19 pandemic on the Labors.

Research question

What effect does Covid-19 have on the Labors?

Objective

To study the impact of Covid-19 on the Labors.

Chapter Two

Methodology

Study Design: Review study of various reports, journals and papers of identified areas.

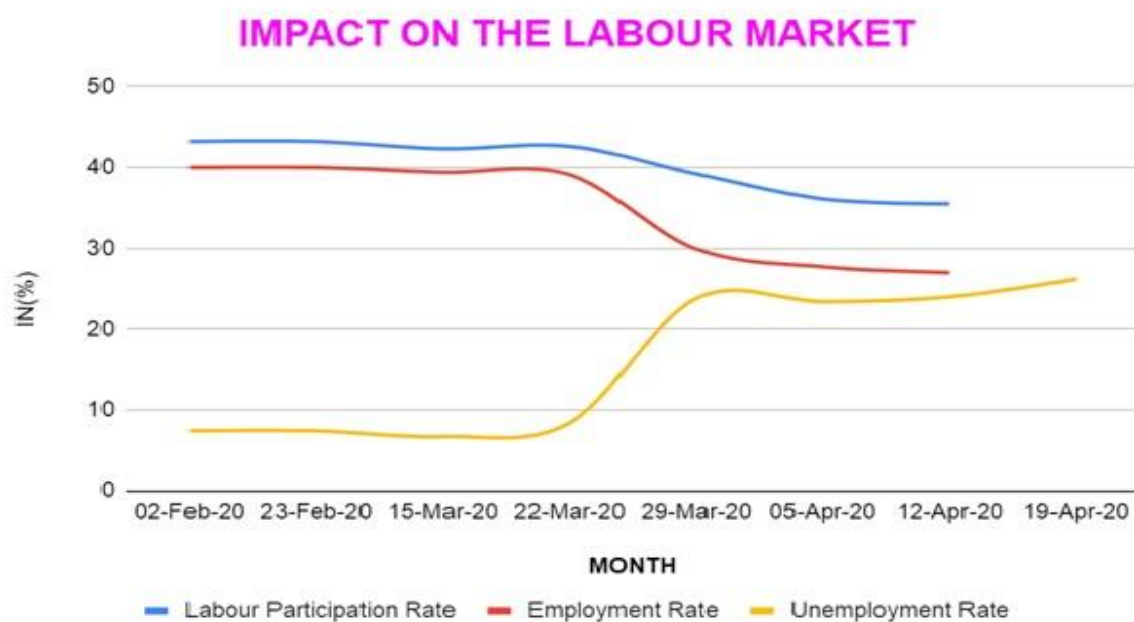
Duration of the study: 20th May 2020 to 30th June 2020

Sample: Review study, journals, papers.

- Large scale survey of households called Nielsen home scan survey – Potential participants where those in the home scan, which is a panel of 80,000-90,000 households who track their purchases on daily basis. They were asked job related questions.
- Track the microdata from ADP with weekly payroll employment series. These data are available in real-time and allow us to track both aggregate and industry effects. Used two measures of employment (i) active employment, which corresponds to the number of individuals active in the payroll system regardless either they were paid or not in a given pay period; (ii) paid employment, which corresponds to the number of individuals issued paycheck in a given pay period.
- Mortensen- Pissarides, model of a frictional labor market and incorporate aspects of a epidemiological SIR model. A framework to study how labor market responses in terms of wages and unemployment rates. There are two ingredients in the model: (i) In standard SIR models, the probability of getting infected depends on the number of infected people in the economy. (ii) The probability of getting infected is higher if one participates in the labor market.

Results and Discussion

It is reasonable to think that this will result in the financial crippling of the labors. The labor may also need a longer time to rebound from the Covid-19. The labor or the domestic worker is going through a lot right now because the only way for them to work is on daily wages since we are going through this pandemic they were also losing their daily wages. We had lockdown in our country, and they had no work to do. They were sitting at home with no work because everyone was so anxious about catching Covid-19. Day by day there is increase in unemployment and According to me Covid-19 have a huge impact on labors. I personally documented several facts : First, Job loss is larger in this year as compared to past few years. Second, many of those who lost their jobs are not given a new job. Covid-19 is far more than a health crisis. The economic crisis in whole wide world and especially for developing countries like India. India's problem of rising job loss and unemployment may accentuate the problem of poverty. Around 400 million workers employed in the unorganised economy are at a risk of falling deeper into poverty during the crisis. The impending recession will lead to job losses, lower incomes, and increased poverty. For instance, job losses affect future earnings due to interruptions. This will lead to earning declines that persisted for several years.



Conclusion

The arrival of the covid-19 virus has a huge effect on our lives since early 2020. Job loss is the most severe impact of covid-19 crisis with lowering the economic growth and rise in inequality. According to the International Labor Organization 400 Million people in India risk falling into poverty.

We all are in this together as we all are going through this situation. And we need to help each other in these difficult times. We should work with each other hand in hand in this hard time. Everyone is going through same mental pressure. We should consider labor's condition and help them during this pandemic.

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Part-2
eHealth : More than just an Electronic Record
Offered by : The University Of Sydney

Course duration : 16 hours

Introduction

eHealth refers to the use of several technologies to improve health, healthcare and well being. An emerging field in the intersection of medical informatics, public health and business, referring to health services and information delivered or enhanced through the Internet and related technologies. eHealth enables us to provide the best care to our patients by enabling all members of the care team to have access to patient information wherever they are and at whatever time. It means an ability to gather data around my health, both biological and lifestyle. The ability to use that data to build models of what my health should be in the future. eHealth is about the use of new technologies to create new models of care. So e, to me, is enabling. How technology is enabling a new delivery of health services, health efficiencies, and overall improvement to health quality. eHealth is basically the use of technology in medicine and engineering and any sort of field that has to do with helping people, helping people with their health. It ranges from everything from FitBits to surgical robots and helping doctors to perform surgeries using robots. eHealth is an effective way to deliver healthcare to a variety of people.

A model for eHealth – There are three overlapping domains.

1. Health in the hands of consumers. This includes the growing use of wearable devices, apps and social media to monitor and report on our health and wellness.
2. The impact of new technologies on how health professionals communicate with patients, as well as how they communicate with each other. Traditionally this has been referred to as Telehealth but is much more than simply video conferencing for rural patients. It also includes emerging areas such as health coaching and maintenance of fitness.
3. Data records in the quantified self. This includes how we store data in traditional medical records through to how we store data associated with devices and apps.

The overlapping nature of these e-health domains is perhaps obvious, and it's important not to draw too tight a boundary around each of them. Where e-health has perhaps the greatest impact is in the sweet spot where the three domains intersect. Ideally any program being developed should consider or combine one or more aspects of these three domains for maximum health impact.

Objectives of the course

eHealth can be used as tools to accommodate the challenges of health ageing and universal access to health services all over the world in the context of the increasing burden of the diseases.

The objectives of the course were :

- To Improve access to a broad range of services at all the levels of health care. Covering conditions such as mental illness, cardiovascular diseases, diabetes mellitus, trauma and cancer.
- To Promote care at individual level at lower cost.
- To Enhance efficiency in decision making and prescribing through easier communication between health care providers.
- To Promote the adoption of healthy lifestyle and self care.
- To Develop new markets by means of new eHealth applications and medical services, thereby strengthening the health industry.
- To Simplify the medical, administrative and billing processes.
- To Improve institution-spanning transparency of information for the treating health professionals about retrospective history and actual health status of patients.
- To contribute to innovation occurring through the Health Innovation Partnerships.

One of the biggest trends nowadays is wearable devices that now interact with apps. After just two years in the market of each country, fitness bands are already at the same levels of adoption as tablets were in 2012. So. It can be expected that health

professionals will see an increasing consumer led drive for them to be responsive to personal health data and mobile technologies. So wearable devices is also a bit of motivation, because everyone can see how fast you've been running and how many steps a day.

70% of people use mobile apps on a daily basis to track health related information.

Course Content

eHealth use of digital technologies and telecommunications, such as social media and mobile devices, to facilitate health improvement and health care services. Social media is being used by government to promote health information as well as gather data. So it can be used to provide healthy information on a range of conditions or answer medical related questions. Social media in health care is an emerging field and a big new frontier in health care. Nurses and healthcare professionals, really using the social media space to share the information. And increasingly, patients are starting to use it. Patients using particular sites where they can share their information and share their experiences of being in healthcare.

eHealth grew out of a need for improved documentation and tracking of patient's health and previous procedures performed on patients. Previously, we used paper records on the history and status of our patients. But due to rise in health care costs and technological advances encouraged the development of electronic systems. Many terms are used to describe how we use technology to enhance communication in healthcare. These include telemedicine, telehealth, mobile health, teleconferencing and video conferencing. Regardless of the terminology or technology platform we use, the key to using technology in communication is how we integrate this into our existing models of care. Or more importantly, how technology support new models of care. One of the key and perhaps yet to be realised opportunities in eHealth, is how technology enhanced communication, can streamline care and support coordinated and multidisciplinary care. The most crucial point in eHealth right now is bringing the health communities together, to understand that this is a unified vision, and that there's a benefit to every single discipline in health. And that the collaboration has to be done with not just health, but technologists, engineers, scientists but in all those discussions, we need to engage the community more. I think the community is so diverse and so unaware of what we could do that more education programs need to be put out into the community and it needs to start young. And their rights and responsibilities to have a happy, healthy life. And if they can do

that early on through simple health education programs, they're going to inform the scientists, inform the practitioners of what they need and want, which better focuses our development of that technology in the future. I think the other barrier is people's attitude. So not all clinicians are fairly tech savvy, there will need to be training, for clinicians, generally, to get familiar with those technologies. But also there's this major issue with interdisciplinary care and the fact that people are still working in silos. There's still speech pathologists do the speech pathology, physiotherapists do the physiotherapy, occupational therapists do the occupational therapy and they don't talk to each other about what they're all doing.

And what eHealth offers is the opportunity to create some synergy and some connections between and across the range of disciplines that deal with all the complex problems that we deal with. But that's not happening at the moment, the systems aren't in place. So I think that's also something that is going to change, I think in the next decade we won't even recognize the sorts of systems we're dealing with. I think having a good MyHealth record where we can all be on the same page and know what Someone's had what their history is and what their preferences are. I think having joint access to a system like that is certainly a good start, but I think there's a lot more to be done with that. If you're going to develop a really advanced eHealth system, the very place to do it is in an environment which is already inherently multi-disciplinary and inter-disciplinary. Where specialists are working one with the other towards an ultimate aim to improve health, and to use eHealth and technology as part of doing that.

When we talk about the challenges of implementing eHealth solutions

The devil is in the detail, it's the implementation of these great ideas that can get really difficult. The digital world disruption, explosive technology change, those aren't words that the health system is used to dealing with.

So we've got a whole culture change happening inside health, to allow this eHealth journey to occur. eHealth is a potent catalyst for change in healthcare delivery. We have to be right up there with our education.

There are a number of challenges from the health care provider perspective. Some of them are around this is the way we do it, and we've always done it this way. So it takes a mind shift to think differently about how we're delivering care. I think one of the biggest challenges is taking what our patients expect, seamless, connected, coordinated care, and really delivering that. And eHealth has the ability to make those transitions seamless. One of the biggest concerns that society has nowadays I believe is how all this big data we are collecting about people's appearances about people's behaviors, about people's social connections, will be used

currently and in the long term future. This is such a difficult issue with so many possible answers.

Historically people would build backings of computer systems and then thought about what the interface should be like and we've seen a revolution where we think first of the interface, and then we worry about how to make the rest of it drive the interface. From a user's point of view, the interface is the system. And so what the interface looks like is absolutely essential.

So human computer interaction is about creating interfaces that people can actually use effectively and that they'll enjoy and that will perhaps even sometimes delight them, do things they had never expected, and certainly fit well into what they really want. And so often we need to create little prototypes, simple versions of an interface. And then see how people use it in order to do this co-design where the person designing and building the interface shares their vision, in a way, with the potential users. And the users are then able to understand the questions that are being asked of them.

And so there's this cycle where you are studying the user, sharing ideas, and then moving on to actually building systems. And the cycle continues, because once you build something, you need to bring people in again in, to try it out.

To find out whether they can do what they need to do. eHealth is moving towards using devices in our every day life. Therefore, we need to think about how these tools will have an effect on the way we live, on our psychological well being. This is what we call positive computing, the design and development of technology to support psychological well being and human flourishing. Positive computing builds around different factors as psychologists know support psychological well being. One of them is autonomy, compassion, competence, connectedness. The way we relate to each other. All of this are elements, these are constructs that psychologists know will support mental health and well being. So let me tell you a little bit about a project we're working on with Asthma Australia. This is going to be an app to help young people transition to adulthood. And young people with asthma need to remember to take preventer inhalers that reduce the likelihood of them having an asthmatic attack. Now, we can design the apps in different ways. We can design it, for example, using GPS trackers to make sure how much activity they have done. Or in the case of the inhaler, put sensors that show that they have taken or not taken the inhaler. And if they don't, we set up a trigger, an alarm, that sends an SMS to the mother, for example, or the doctor, so in that the person has not taken the inhaler in let's say 24 hours.

The use of health data has massive implications for how healthcare is delivered and how we manage our health. The whole healthcare industry is undergoing a huge reformation,

whereby access and utilization of vast amounts of data is becoming more and more accessible. In the middle ages, the printing press transformed the way information was disseminated and consumed. And I wonder, if the smartphone is playing a similar role into today's new healthcare reformation. How we manage data has enormous potential along with some large challenges for healthcare professionals, organizations that deliver healthcare, patients, and consumers of information, which, of course, includes us all. While much of our focus on data relates to the medical record, perhaps the most exciting and challenging aspect to managing health data relates to how we link the data from all the devices and apps we use with mainstream data stored and shared with our health professionals. In this brave new world, we need to address a whole range of issues. Who holds our health data, who owns the data, who can use it, and for what purposes.

Digitizing paper records is clearly beneficial. It enables a patient's medical history to be tracked over time. To alert patients for routine or follow up consultations, to monitor patients' vital signs. And overall, to improve the quality of care. In addition, aggregate medical records can be used to provide regular downstream information on individual team or organization performance. And to link with quality improvement programs. In spite of the obvious potential for medical records to improve care. The creation of digital information has presented massive challenges across all health jurisdictions. In spite of the billions of dollars being invested globally into medical records, health is still perhaps decades behind financial travel services. In terms providing access to data and ensuring compatibility across systems. Consequently many health systems still focus on basic services such as providing health professionals with accurate information. The ability to use digital information to transform care is yet to be achieved. The terms real-time, patient centered, efficiency, wherever and whenever, are commonly used when describing electronic health information systems. All though electronic health records offer many advantages, its clear that the implementation of such systems is immensely challenging. The fundamentals of health, lie at the interface between the biology of an individual and their environment, their lifestyle. And that, I think we've treated rather too rudimentarily at the moment. We tend to talk about lifestyle as in calories eaten and steps walked. And they're important aspects of our lifestyle but they really don't capture yet, the detail we need to really start to endeavor to predict better and in a more personalized way; or if not necessarily in an entirely personalized way, in a stratified way or a precise way, the way we deliver healthcare. So, so-called precision medicine. So what is the complexity of that relationship between biology and environment.

We have as individuals, I don't know, approximately 20,000 genes, so our genetic makeup is a key component of our biology. Those genes produce all manner of different products that can be in different states according to our development. So, our so-called epigenome adding huge complexity. Our genes, through their products build our metabolism, and our metabolism is the fundamental interface between our genes and our environment. Metabolism is a vastly complicated network via chemical processes and those processes form very complex systems. If you take a particular pathway, you can have many and unanticipated outcomes, so that's our metabolism. That interfaces with our broader physiology, our behavior, the way we think about the world, our cognitive function and ultimately, psychological and behavioral outputs. So all of that is just our humanity but we're not just a single entity actually, biologically. We're also host, in fact to 90% of the cells in our body which are not human. Most of those live in our gut, so there's at least a thousand species of bacteria that live in our gut. They interface with our diet and our metabolism in really precise ways that can impact our health. So we have 20,000 genes. We have thousands of pathways in our metabolism. We have a thousand species of organisms living with us as part of this community, which ultimately determines our health. It's all fed by what we eat and our diet is more than calories. Our diet comprises dozens of separate nutrients which have to be present in appropriate amounts and relationships, ratios in our diet, for us to function appropriately for our stage in life, for our genetic make-up and our environmental circumstances. And all of this ultimately impacts on the way that we build our environment and service our food needs, our exercise, and sleep is another component of our critical environmental biological interface. So, you can just get a flavor from that of the huge complexity in data. That we're dealing with to have a better understanding of our health. Calories in, Steps walked, Eat less, Move more, have not worked to stem the tide of obesity, diabetes, and cardiovascular disease. We need a better understanding of a complexity of that biology. But we can't be overfaced by it. We need to somehow simplify it into terms that are more tractable. So that's really the challenge of e-health at that level is, to help us manage the relationship between our biology and our environment. We need to do that to collect new sources of data about ourselves. About what we're eating, our levels of activity, and our sleep and we need to be able to distill that down. Using sophisticated data analytic procedures to a form that's tractable for designing new interventions. For example, predicting a person's health given their biology and their lifestyle. In terms of new bio markers for example, that can help prevent health problems, or

provide opportunities for early treatment of those health problems. So that to me, in combination, is the challenge for eHealth into the coming decades.

Learning Methodology of Course

The learning methods were used in this five week course are lectures, notes, graded quizzes and peer-graded assignment after end of the particular week.

This definitely increased my knowledge regarding eHealth.

Key Learnings from the course

Overall the course was great because of the concepts.

1. Can start all the advance treatments early. And we can send the nearby nurses for the treatment in the small sites and they can deliver excellent care.
2. It will fundamentally change the way people work, the way they contribute and the way we manage their care.
3. It can allow us to teach people remotely.
4. The technology allows for immediate access of information.
5. Healthcare professionals can now have the flexibility to work from anywhere and still be able to continue their caseload.
6. Compare definitions of eHealth from both health consumers and professionals
 - a. Recognize an eHealth model which illustrates how key eHealth domains intersect to impact on health care
 - b. Develop an insight into the fundamental principles of eHealth
 - c. Appraise your own awareness of eHealth in current practice

Interpret the current and future challenges of eHealth for both health consumers and health practitioners

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