

**Seventh Annual Conference of  
Indian Health Economics and Policy Association (IHEPA) on  
Strengthening Public Health Systems in the Context of Universal Health Coverage**

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**Address by the Conference President**

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**Deconstructing Universal Health Coverage**

**A) A Word of thanks**

Let me first of all thank the **Indian Health Economics and Policy Association (IHEPA)** for bestowing this honor on me of being the first Conference President of the Association. I gather that this young Association is growing in strength with around 250 paper submissions this year out of which about 70 are being presented these two days. I wish them well.

A special word of thanks to Prof James, Secretary IHEPA without whose efforts it would not have been possible for me to obtain the conference visa, and to Prof Narayana, Vice President IHEPA without whose persuasion I would not have been here.

**B) We all value the idea of Universal Health Coverage**

We all value the idea of Universal Health Coverage (UHC). Clearly, there is a global consensus about the social value of UHC and the need for more equity in health. We are friends of UHC!

There is no doubt that UHC has the potential to improve people's access to health care and well-being, that it does benefit those most in need, and that the benefits might not be superseded by other global approaches.

Also, we generally agree that our health systems are structurally inequitable, that they contribute to reinforce social inequalities, and that the duty of modern societies is to offer equal opportunities for health to all. Therefore, we should not (and I will not) contest the principle of UHC, nor the need for our societies to be fully engaged in its implementation.

At the same time, UHC comes with an incredible set of challenges and difficulties. And we should not sweep them under the carpet. In a recent issue of the Lancet, my colleague Dr Agyepong from Ghana wrote:

**SLIDE2** *“ [UHC] could prove a major breakthrough or a great white elephant for low-income and middle income countries depending on the balance between global-level and country-level leadership, institutions, ideas, interests, and resource priorities. Strong leadership as well as administrative capacity is needed within countries to determine contextually relevant approaches and drive implementation” (Agyepong, 2018).*

I guess these words would find some resonance in the minds of several of us here.

We, scientists, policy makers, and implementers should be mobilized to support social arrangements that allow populations to have access to services that are affordable and of acceptable quality that alleviate the economic burden of disease on the vulnerable, and improve their health. But it is also our duty, I believe, as health economists, scientists and friends of UHC, to question its foundations and its impacts. Let us remember that “The complacent plays all kinds of roles, except that of a sincere friend.” (Simon de Bignicourt)

### C) Some questions for health economists

**SLIDE3:** Have we been able up to now to build a body of knowledge that is effectively helping policy makers and implementers to support their actions in relation to UHC? Were we able for example, to provide strong evidence to feed decisions related to investments to be made in UHC, pooling mechanisms, packages of services, beneficiaries, rhythm of implementation, etc.

I do believe these questions are critical in the light of information needs to set up properly such a broad basket of actions, the efforts and financial costs of implementing UHC, and the consequences of government engagement for UHC on our health systems and the allocation of resources within health systems. UHC is a steamroller! When it is there, every single department, program, service and provider is impacted in some way! For better or worse!

### D) Three potential information gaps and three related questions

Imagine a skeptical decision maker who asks us for advice. She comes up with three simple questions:

1. **Can it work?** Our interlocutor argues that there are plenty of social and health inequities to correct, and that needs exceed available resources by a large margin, and she should ensure allocation of scarce resources to the most effective social policies. She says she should be confident (if not certain) that efforts devoted to the implementation of UHC will be successful, and be translated into tangible health gains for the targeted populations. Basically, she needs to be reassured about the technical efficiency of UHC.
2. **Does it work?** Our interlocutor is also risk averse! She has read Dr. Agyepong’s warnings about a possible and certainly undesirable “white elephant”, and she is worried. She asks whether we should slow down a bit the implementation of UHC till our health system corrects its major deficiencies, rearrange some conditions for success (i.e.: leadership, and administrative and technical capacity standards of quality), and as suggested by Dr Agyepong, be able “to determine contextually relevant approaches and drive implementation”.
3. **Is it worth it?** Our interlocutor also read Dr Richard Horton’s recent editorial in the Lancet. She is convinced that UHC is not a panacea. She tells us: UHC cannot address all the needs of our societies. Pneumonia, obstetric complications, malaria, unhealthy diet or tobacco consumption are also creating considerable social and economic damage in our populations. They are disproportionately affecting the poor and the disadvantaged groups in our societies, and these issues deserve strong actions and the allocation of significant resources from our societies. She values Dr. Horton’s opinion that: “Strong vertical programs, not UHC, have been

responsible for turning the tide against AIDS, malaria, and child mortality. Make no mistake. It is not a choice between universality and verticality. It is the judicious combination of both.” Based on this, our skeptical officer wonders how much she should allocate to vertical programs and how much to UHC.

**Let us see how these questions resonate in the minds of health system researchers! SLIDE4**

1. **Question 1** is an efficacy question<sup>1</sup>: Beyond enhancing access and affordability of services, the research questions become: what is the magnitude of health gains attributable to UHC? Will UHC increase health outcomes by 5, 10, or 20%? Will these effects be heterogeneous? Will average effects on the poor exceed the effects on the non-poor? What is UHC’s comparative advantage over other health / social policies that are already implemented or have already proven their added value? In other words, what will we gain out of it?
2. **Question 2** is about practical effectiveness. What would be the marginal effects of UHC in a given health system, knowing that this system is already acting / providing a given set of services. When is UHC effective and when it is not? How does the context limit its effects? What are the “ingredients of success”, and what are the clues for a successful implementation of UHC?
3. **Question 3** is about allocative efficiency. If UHC proves to be effective, “how much” energy and resources should we invest in it. What would be the real benefits and costs of UHC? Would rapid implementation be more costly than a more gradual approach (or the reverse)? How much additional resources should we be allocating to UHC now, and what would be the allocation formula to apply to allocate resources between UHC and other services or programs?

Of course one can argue that it is virtually impossible to gather enough evidence to cover properly this set of questions before implementing UHC. Waiting for unequivocal answers to all questions is not an option as it certainly is the best way to kill the initiative and paralyze the action of the decision makers.

Maybe we can respond that the UHC is “valuable in its essence”, that even though we cannot be sure what will be the magnitude of its outcomes, the implementation of such a policy is driven by broader principles of social justice and collective choice. It corresponds to a vision that is nationally and globally supported by populations, stakeholders and decision makers, and that these principles supersede economic / scientific considerations. And I do believe this is a good argument. But I do believe that we need here the help of science!

### **E) Sparse evidence**

Currently, there is limited evidence on the contribution of UHC to improve population health- our knowledge about the efficacy, the practical effectiveness and the efficiency of UHC is sparse (I am sure we will know more by the end of the conference!)?

This is not the place for an extended literature review. I am going to be brief and highlight some knowledge gaps.

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<sup>1</sup> GERTLER: studies carried out in a specific setting under closely controlled conditions to ensure fidelity between the evaluation design and program implementation.

### Question 1 on efficacy:

We do have some indications that increased public health spending and expanded insurance coverage are correlated to better health outcomes; especially for the poor. But such studies are infrequent and results are somewhat inconsistent. The bulk of the studies have focused on output measures and intermediary outcomes such as access to health care, utilization of services or the incidence of catastrophic expenditures. Moreover, as a couple of reviews have demonstrated, gains vary with contexts. They are subject to the influence of various local modifiers.

So we do know that UHC is good, but how good exactly it is, is still beyond us. One can hardly tell a decision maker what would be the magnitude of the impact of UHC in her population. Nor the specific contribution of the various components of a UHC policy on health and welfare.

One can find this surprising given the importance of the subject, and the amount of efforts and resources already devoted to UHC. There are good reasons for this, and I will go back to it in a moment. But one can regret that existing local, regional or national initiatives are barely accompanied by robust impact evaluations. And when evaluation is there; it often tends to focus on outputs or intermediary outcomes. Which is certainly not as convincing as evidence on end outcomes.

### Question 2 on practical effectiveness in relation to implementation

First, as we mentioned, impacts are variable and depend on health systems and social contexts. Although we know that limited implementation fidelity, health system inefficiencies and many organizational and contextual factors constrain UHC, the extent of their influence on the effectiveness of UHC is at best, quite vague. Some interesting case studies have been conducted recently on this matter. But there is still a lot of gap in the knowledge regarding the impacts of these modifiers. Scientists do not have much advice to offer at this point to decision makers. Each country, each initiative has in some ways to find its own trajectory.

In sum, (1) UHC's performance appears contingent. UHC can hardly be considered as "intrinsically" effective or less effective, equitable or less equitable; (2) Practical effectiveness might possibly be quite distant from efficacy. Depending on local contingencies, a UHC package might contribute to an improvement in health outcomes by say, 30, 20 or 10%. It can also be zero percent. It depends on the context, health system arrangements, and implementation. History often reminds us that practical effectiveness might be far, very far from efficacy.

### Question 3 on allocative efficiency:

To my knowledge, we have not been very good up to now in providing answers and useful propositions to policy makers. This is certainly a very large research agenda for health economists...!

Basically, UHC promoters and decision makers have to rely on the hypothetical benefits of UHC.

#### **F) More evidence on impacts of UHC: yes of course, but...**

Let us admit that we are ready to commit, to marshal our forces, and decide to act effectively for more sound evaluation of UHC.

Easy to say, less easy to do! There are many reasons why science at some point of time doesn't produce enough evidence on a subject, as well as reasons why it accelerates at some other point of time and becomes highly productive. I do not pretend here to review the numerous factors at play. I am just going to spend a few minutes to share with you general thoughts in relation to methods, and essentially on Question 1.

Let me raise a couple of concerns here.

### **Concern 1: Impact of what? Is it clear? Do we really know what are we going to evaluate?**

**SLIDE5** Although we probably all share some common understanding of UHC, it means different things for different people. It is operationalized differently in different settings, offers distinct packages and serves different social groups. Most of the time, the UHC package involves a mosaic of policies and actions influencing through various mechanisms the way a health system is funded, regulated and organized, and the way health services are provided. Mechanisms such as health insurance, subsidies or pooled funds, can themselves be composed of another mosaic of coexisting arrangements. Each component, each mechanism and each arrangement may have more varied impacts on health outcomes or their main determinants. So at the end:

- What is the “cause” that is the object of our impact analysis? Is it the whole set of programs implemented in a given place? Is it one or some components? If so, which components?
- Are we interested in the overall social and health arrangements set up in our country/ province/ state as part of our social protection system?
- Are we measuring the impacts of pooled funds, insurance schemes, and government subsidies? Among insurance schemes, are we interested in the impacts of privately provided health insurance? Social security? Community health insurance?
- Are we hoping to disentangle the influence of the mechanisms added to the national UHC package at some point of time? If so, are we interested in average effects? Marginal effects?

UHC: this three-letter acronym masks in reality, a complex set of intertwined social arrangements that can all be considered as causes in an impact analysis. That is why, the question about “impact of what?” seems to me so crucial.

I do not have the answer. Enough to say that we might decide to be prudent about scientific inference when we do evaluate the components of UHC. Whether a given component improves or not the health condition of our population doesn't say much about the overall impact of the UHC package.

### **Concern# 2: Impacts on what? Do we really know which outcomes are relevant?**

**SLIDE6** Having decided not to evaluate UHC on the basis of changes in access, utilization or quality of care, what should we do? What should be the markers of success of UHC? Again, this is a serious issue whose complexity is often underestimated.

- First, social arrangements typically included in UHC packages cover a wide range of wellbeing outcomes. One social arrangement might ultimately be effective in reducing morbidity in the general population, another would limit the incidence of disease related

poverty in a vulnerable group; another in preventing unnecessary mortality of the rural population etc.

- Second, to make things more complicate; (1) these social conditions are themselves interrelated and influence each other in recursive and complex ways; (2) result chains are complex and not necessarily obvious.
- Third, changes appear at different periods of time. Some are immediate, others are delayed. Some are permanent, some are temporary. Some are linear in their progression, some are not. **SLIDE7**

These features complicate our lives and we have to be able to capture the right change at the right point of time. Absence of impacts in an outcome analysis too often means that outcomes were not considered at the right time!

**SLIDE8** So, what would be the right outcomes to consider? Should it be positive health or wellbeing (i.e.: quality of life, human development), should it be morbidity (episode of illness or any measure of health imbalance), should it be mortality (IMR, life expectancy, etc.)?

Estimated effects, and therefore, our final judgement, will be closely influenced by the nature of the outcome chosen.

- For example, I have been conducting an impact evaluation of free care on children's health in Burkina Faso. The evaluation covered a period of 5 years and a population of about 9 thousand children aged 0 to 10 years. Every child was visited once a year each year. A number of socio-economic, anthropometric, biologic and medical information was taken during each annual child visit.
- Question: what should have been the outcome or the main outcomes to be considered? I will delve more on the results in a moment. But let me say that it took days, if not weeks of literature review, consultations, and meetings to agree on what would be the most appropriate measures of outcomes.

So, the choice of outcome measures is not something that can be scribbled down quickly on the back of an envelope! If we had chosen mortality, there would have been no chance at all of identifying a significant causal effect! Fortunately we did not and we found interesting things!

### **Concern # 3: Which theory of change?**

How will we link causes and effects? What are the causal pathways to which our impact evaluation refers to? How do we anticipate when will changes appear? Whose outcomes will be measurable first, second, etc.? **SLIDE9**

These tasks are part of the evaluability process to be conducted in the pre-evaluation phase. This modelling process is standard practice for the identification of a robust research design. As professional and meticulous evaluators we will certainly not jump into an impact evaluation without having carefully reconstructed the "theory of change" a kind of overall framework that specifies causal pathways, context influences and modifiers. It is this framework that will serve as a basis for the identification of the hypotheses of change, the outcomes indicators, as well as the potential sources of heterogeneity.

There has been some interesting attempts recently to try to identify some of these causal chains. For instance, in a paper in the Lancet, Moreno-Serra has suggested the following interesting causal pathway. **SLIDE10** The figure helps to identify a couple of stimuli, modifiers and outcomes.

But although this kind of conceptualization is helpful, we also need to go far beyond in the identification of a detailed theory of change. Again, this doesn't make our lives any easier, and we still have to conduct an important conceptual effort in order to better capture the causal links at play.

#### **Concern #4: What counterfactual? What design?**

**SLIDE11** We are talking here about complex natural experiments whose causal effects are not easy to disentangle. So what is the counterfactual and what would be the proper research designs?

- First, most of the time, UHC is implemented gradually, and in an iterative way. Some measures are initiated this year, some others next year, etc. Policies are adjusted, modified, and complemented as they are implemented. As a consequence, (i) subjects are confronted to time-varying exposures; (ii) any subject might be in an arm at one point of time, and in another one at another point of time! Cross sectional designs or even two-points in time designs are of little value in such situations, and one has to be able to set up designs that allow to control for treatment heterogeneity, and include an appropriate number of measures of time-varying exposures and outcomes. I repeat: in such a situation, cross-sectional designs will be poorly informative and lead to somewhat partial, if not wrong conclusions.
- Second, there is a complex system of potential causes at play, which will produce different outcomes at different times. As I mentioned earlier, changes might appear at different periods of time. Some are immediate, others are delayed. Some are permanent, some are temporary. Some are linear in their progression, some are not. Responses of subjects vary overtime. Again, longitudinal designs are necessary to properly capture these response. And the windows of observation has to be large enough to allow the intervention to be “routinised”, and produce its main outcomes, and to the “responses” to be stabilized overtime.
- Third, UHC packages are often implemented on a territorial basis, from “coast-to-coast”, leaving little room for the identification of comparable control groups. In addition, as it has been said earlier, the interventions are very much rooted into their reality and shaped by existing health system arrangements. Therefore, even though comparative designs are possible, finding external controls to be used for counterfactual analysis is certainly not an easy task!

#### **G) Advocating for population-based research platforms and observatories**

So how to design our impact evaluations, if full experiments are not an option, and quasi-experiments are quite constrained?

We have to be creative here and try to come up with enhanced designs, find ways to multiply contrasts and internal comparators, and offer robust and convincing analytical methods. This is where impact evaluation becomes art and science rather than a technical process!

**SLIDE12** *India has one of the world's largest community of economists active in development economics. India has also the advantage of being large and diverse. With this reservoir and its unique settings, India combines a unique set of ingredients to become a champion in health outcome analysis.*

But “how”: I am not sure I have the answer to this question. However, I do believe that impact evaluation could strongly benefit from longitudinal population based research platforms.

There is a long tradition all over the world of setting up population-based observatories.

**SLIDE13** *A ‘population observatory’ is a study in which a whole population of a defined geographical area (usually marked out by roads, rivers etc.) is monitored over a long period (several years or decades), and information on the events that happen (births, deaths, marriages, migration) is collected on a regular basis ( Pison 2005).*

Some of these observatories (also called HDSS, Health and Demographic Surveillance Systems) are members of an international network called INDEPTH. There are 46 INDEPTH HDSS field sites. The three in India are: Ballabgarh N-India, Birbhum W-Bengale, and Vadu, Pune.

HDSS have been successfully used as a major source of information on mortality, demographics and morbidity in developing countries. Observatories are also used by their promoters to pilot test some innovative approaches in health care.

But up to now, they have been infrequently used to evaluate external interventions, such as national or state policies. I firmly believe that this is the best secret in the developing world’s evaluation community. Observatories offer exceptional opportunities for the evaluation **of natural experiments**. More than the DHS, more than the LSMS, the MICS surveys, etc., ! Here are some of their advantages: **SLIDE14**

- Because they cover the whole of the population, issues related to selection bias and extrapolation to a reference population are minimized.
- Data collected regularly include a wide range of social, economic and health conditions, including rare biographic events such as mortality.
- Observatories are usually ruled by experienced and rigorous teams, and produce data of good to extremely good quality.
- Numbers are usually large enough to be able to conduct sound analysis, including an in depth exploration of heterogeneity of effects.
- Observatories are set for years and their data might cover large time windows.
- Instruments used to collect data are usually validated and stable over time.
- Additional information might be collected at some point, if needed (i.e., for the measurement to exposure to some public action)
- Individuals are surveyed regularly. The panel approach allows to use fixed effects models and control for time invariant confounders.
- Finally, from what I saw to date, their promoters are generally open to collaboration with other scientists (i.e.: Indepth has a data repository)

Once an observatory is implemented, it may be used for the evaluation of any incoming natural experiment, with pre-intervention observations serving as baselines!

And with a small network of such observatories using similar frames and measures, one can build a unique infrastructure for comparative time series and longitudinal designs. Between sites comparisons are also greatly facilitated.

Longitudinal population-based research platforms can be extremely useful to support robust impact evaluation. Where else health economists have the opportunity to plan robust longitudinal designs, using large representative, longitudinal and well maintained data sets. At almost no cost!

- Dr Narayana and I tried to set up such an observatory years ago in a rural Panchayat in Wayanad, Kerala. All households and members of the Panchayat were included in the panel, and we had a 4-year window of observation. **SLIDES 15-19** That experience led to extremely interesting results and a dozen papers were published in international journals. It also provided data that helped set up one of the first women's community based health insurance (SNEHA). But it did not go far owing to lack of support. **SLIDE20**

## H) Impacts of free health care on children's health

My experience with our longitudinal observatory in Burkina Faso that had opened the door for relevant and sound evaluations of natural experiments and the impacts on health of national policies (malaria interventions, and financial support for care) may be cited here.

The observatory is nested within the Kaya HDSS. Dr Kouanda who initiated the DHSS in 2007, has chosen to explicitly include policy evaluation in the mandate of the observatory:

**SLIDE21** *The main purposes of the Kaya HDSS are to study demographic, infectious and chronic disease indicators in the district, to observe changes in health over time, evaluate health programmes and to provide a basis for policy decisions and capacity building in order to enhance the health of the community (Kouanda et al 2014)*

The DHSS covers about 11 thousand households (70,000 individuals). In 2010, we decided to insert an additional module in a subsample of 2,000 households. Information was gathered annually on each child's health condition; history of episodes of illness and episodes of care, complaints, anthropometric measures, laboratory tests for malaria and anemia.

Data collection on this sub-sample of households went on, on a yearly basis until 2016. It turned out to be an extremely useful infrastructure for the evaluation of two natural experiments that were implemented in the subsequent years : free health care for children under five (2011) and (ii) intermittent malaria treatment for children (2015).

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I will show in the next slides the results of our study on the impacts of free health care on children's health outcome. The study uses a dose-effect design. Every child might have been exposed to free care during its infancy for a period that varies between 0 to 5 years.

I will use this presentation as a means to reach three objectives:

- i. To show how useful and cost-effective can be the information provided by a health observatory to conduct robust impact evaluation.
- ii. To illustrate how one can use time-variant exposure as a substitute to a non-existent comparison group.
- iii. To provide estimates of the impact of free health care on the health of children of various social groups

RESULTS IN PPT **SLIDES 22-33**

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### **Concluding remarks**

To what extent UHC improves the wellbeing of our societies? How to ensure that it does not end up being a great white elephant? How to favor contextually relevant approaches and a successful implementation? How much additional resources should we be allocating to UHC?

These questions remain to largely unanswered. It is our duty as health economists to try to fill these knowledge gaps and help support the successful implementation and the sustainability of UHC. It is especially important I believe, to marshal our forces, and be actively engaged in producing robust evidence on the population level benefits of UHC.

I tried in this address to suggest some possible pathways to support meticulously and well prepared studies. Impact evaluation of natural experiments require creative approaches, robust designs, and relevant data. With her unique reservoir of experts and unique settings, India combines a unique set of ingredients to become a champion in health outcome analysis. Of course, this cannot come spontaneously. Longitudinal population-based research platforms and observatories could become extremely useful to support robust impact evaluation.