

# How to Achieve Lasting Impact at Scale

What we can do

What we can't do

and

What we need to learn



# How to Achieve Lasting Impact at Scale

## What do we know?

### Achieving Lasting Impact at Scale

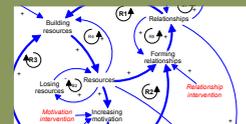
Part One: Behavior Change and the Spread of Family Health Innovations in Low-Income Countries



A convening hosted by  
The Bill and Melinda Gates Foundation  
in Seattle, November 1-2, 2011  
Synthesis and summary  
by the Social Research Unit  
at Dartington, UK

### Achieving Lasting Impact at Scale

Part Two: Assessing System Readiness for Delivery of Family Health Innovations at Scale



A convening hosted by  
the Bill & Melinda Gates Foundation  
in La Jolla, California, March 29-30, 2012  
Synthesis and summary  
by the Social Research Unit  
at Dartington, UK

- Top 10 lessons
- Optimism
- Pessimism
- State of the art
- Inspiration

These slides summarize emerging lessons from several discussions on how to scale impact convened by the Social Research Unit at Dartington. They are the product of the brilliance of many experts whose discussions are synthesized in two publications available at:  
[www.dartington.org.uk/scalingimpact](http://www.dartington.org.uk/scalingimpact)

# Start with the challenge of impact at scale, not with the innovation

The standard model begins with an analysis of risk. It proceeds – methodically, rigorously – to work out how to prevent those risks. It packages the innovation in a form that will ensure fidelity of delivery, exposes it to several experimental trials, and finally turns to the question of how to get the now-proven innovation to the community of potential beneficiaries.

Achieving impact at scale demands that we turn our thinking and our methods upside down. From the very start, the question is: How can I reach the community?

This shake-up means that our standard model is not the only way to go – and maybe not the best way to go. Starting with the challenge of impact at scale also demands radically different approaches to design and evaluation.



## Starting with the community

Community members participate in discussions after watching video documentaries screened by the Self Employed Women's Association in an urban slum. (Ahmedabad, India, 2010)

*Photo: Bill & Melinda Gates Foundation / Prashant Panjjar*

# Scale is not the outcome. Impact at scale is the outcome

Our objective is not to reach a lot of people. Our objective is to create a lasting, positive impact on many lives.

If we want to bring effective ways of reducing infant mortality and improving maternal health to many more families, then reaching lots of families without any impact – or reaching a lot of the wrong families – will not help us achieve the outcomes we seek.



## Meeting families where they are

Every day, about 2,000 children receive polio vaccines as they cross the border from Pakistan into Afghanistan as part of an initiative implemented by Rotary International. The program aims to make a big impact on the right families by meeting them in their daily lives. (Jalalabad, Afghanistan, 2011)

Photo: Bill & Melinda Gates Foundation / Kate Holt

# Perfection is the enemy of the good. We have to act on some informed “big bets”

Let's be honest: we have more ignorance than knowledge about how to achieve lasting impact at scale. We have no prescriptions that will ensure our success.

It's worth taking the time to learn more, and we must support the research that aims to build our understanding. But at the same time, millions of lives are lost, and political will moves on to other problems, while we try to find definitive answers.

In all spheres – the public, private, and philanthropic sectors – successful scale-ups often reflect a couple of “big bets.” Those who have succeeded, like Henry Ford or the creators of universal education – have usually taken a big bet on the value of the product, and a big bet on the process of getting the product to market. And, in those successful cases, the big bets paid off.



## A big bet that paid off

Henry Ford wasn't the first to invent a motorized vehicle, or the first to use mass production, but his big bet on refining assembly line techniques brought the product to the world. Here, the Ford St. Thomas Assembly Plant celebrates its 200,000th Maverick. (Ontario, Canada, 1970)

Photo: Courtesy of Elgin County Archives

# People respond to stories more than they respond to statistics

There is a vital role for science in working out what impacts can be scaled, and how they can be scaled. We need the best quantitative methods that can be devised, applied with care and expertise to the best data that can be collected.

But we also need to know the limits of our numbers.

Numbers have less power to change the behavior of children, families, and the people who support them than well-told stories about real-life situations. To change people's hearts as well as their minds, we need to tell the stories that capture the emotions in which their health choices are entangled.



## Emotional impact for family planning

It was 1970 when designer Jeremy Sinclair, at the advertising agency Cramer Saatchi, created the "pregnant man" poster for the UK's Health Education Council. It aimed to tell a story that men would recognize.

Advertisement: *Jeremy Sinclair*

# Pull beats push every time

None of us likes to be told what to do, no matter how good the advice. Pushing an innovation into place seldom works. Hectoring, scolding, and mandating often backfire.

So we have to work out how to get people to want to pull the innovation into their own lives, until they feel as if they are missing out if they don't get the thing they want.

A “pushed” innovation will die out as soon as the start-up support is withdrawn. A “pulled” innovation will gain traction, and spread, and endure.



## The demand for vaccination

In many parts of the world, the demand for vaccination shows how “pull” beats “push.” In Pantasma, Nicaragua, mothers are willing to wait in line for hours so that their children can receive the rotavirus vaccine – with the result that 80 percent of children in Nicaragua have been vaccinated against this life-threatening disease.

*Photo: Bill & Melinda Gates Foundation / Brent Stirton*

# What do systems do best? They systematize

It's a very useful tautology: the great strength of systems is their ability to systematize. Pathways and routines are established. Activities become embedded in habit. Roles and customs evolve.

Fully systematizing an innovation creates a kind of system-level pull. It produces a form of intrinsic demand, with the system delivering the intervention routinely and without reflection.

This central characteristic of systems is both their vice and their virtue. Once a system is established it is extremely difficult to change – whether or not it produces optimal outcomes.



## A plan foiled by a system

After fire destroyed much of London in 1666, planners envisioned a new city of wide boulevards and long vistas. But the system was too tenacious: Londoners rebuilt their houses and businesses almost exactly where they had been before the fire.

*Image: Christopher Wren's plan for London after the Great Fire of 1666*

# Build a Kia, not a Cadillac

Given a free hand, designers are, quite understandably, prone to building innovations that are a little too beautiful and a little too perfect. If we're trying to reach a mass market, these will be innovations that do more than the market either needs or demands, and the complexity and cost may make them more difficult to scale.

The only way to understand need and demand is to go and ask the potential user.

If people want a reliable small car that will get them from A to B – and do it cheaply – then why not build them a Kia instead of a Cadillac?



## Small, simple, effective

When attending a home birth in rural Nepal, a birth attendant brings a delivery kit the size of a deck of cards: a small bar of soap for washing hands, a plastic sheet to serve as the delivery surface, clean string for tying the umbilical cord, and a new razor blade for cutting the cord. It's cheap and basic, but it helps mothers and babies avoid infection.

*Photo: Bill & Melinda Gates Foundation / Toni Greaves*

# Make a place for insider-outsiders

At every stage in the journey from innovation to scaled impact, there exists a place for “insider-outsiders.” These are often people who work for a catalyst (a funder, an intermediary, or a lead organization in the delivery system), but who operate in a local context (supporting systems, training delivery organizations, or mobilizing community user groups).

In addition to acting as a go-between and translator of ideas for agents in the supply chain, an insider-outsider develops a mastery of the contrasting cultures and contexts that have to fit if impact is to be scaled.

US agricultural extension agents are an excellent example of the insider-outsider role, connecting university science to farmers seeking better yields.



## Brokers of culture and ideas

Jane Otai, a health advisor at Jhpiego, an international non-profit associated with Johns Hopkins University, has a discussion with community health worker Noria Issak while walking through the Korogocho slum. (Nairobi, Kenya, 2009)

*Photo: Bill & Melinda Gates Foundation / Olivier Asselin*

# Catalysis is the key to successful scale-up

Billions of dollars spent on direct intervention will only scratch the surface of a world blighted by infant and maternal death and ill-health. Given the size of the challenges – such as the eight million children under the age of five who die every year – money, science, and political leverage are not enough alone.

But each can be a catalyst, a spark, to start a chain reaction within societies and economies. The chain reaction can do what no individual action can: it can reach people by the millions, by the hundreds of millions.

Be a catalyst: this is the challenge, not just for major philanthropists, but for each of us working to improve child and family outcomes.



## Kangaroo Mother Care

Changing commonplace practices can have a catalytic effect as mothers, sisters, and friends share wisdom – leading, in turn, to more productive families and more prosperous communities. Here, mothers practice Kangaroo Mother Care, wrapping low-weight newborns to their bodies for warmth and bonding. (Lilongwe, Malawi, 2009)

Photo: Bill & Melinda Gates Foundation / Barbara Kinney

# Context is king

Scaling impact means reaching many social, cultural, and political contexts. At a global level, we are seeking to reach children in several continents, from a multitude of religions, living in tens of dozens of nations.

It's easy enough to see the variation in context at a global level. You wouldn't assume that a health program that works in Chicago would also work in Niger, or Guyana, or Bangladesh.

But local variation is almost as intense. It isn't sensible to develop an innovation imagining that it will be evenly received all over Uttar Pradesh, a single Indian state with a population of 200 million, comprising many languages, sects, and tribes.

Aligning and adapting the innovation to what matters in a range of social contexts is an essential ingredient in scaling impact.



## Local variation

An Indian goods carrier's customized truck.

Photo: Hans Selde

# It takes many types of expertise to scale impact

The findings on which this guide is based come from convenings that brought together innovators, funders, and other catalysts from the public, private, and philanthropic sectors; academics from a dozen disciplines; practitioners from two dozen countries; “ad men” and storytellers, logisticians and many others – and still gaps in our knowledge persisted.

Scaling impact requires a diversity of expertise, plus the ability to broker that expertise so that it adds up to more than the sum of its parts.



## Many ways of thinking

Experts with many points of view gathered at the convening on Achieving Lasting Impact at Scale hosted by the Bill & Melinda Gates Foundation in Seattle in 2011, becoming part of a new, growing, and evolving learning community.

*Photo: Bill & Melinda Gates Foundation / Natalie Fobes*

# The groups in which individuals live affect the adaptation of any innovation

People live in groups: in families and communities, in villages, towns, or cities. It's often much easier to think of people as individuals, and to examine the way their individual characteristics affect the way they adopt and adapt innovations.

But the truth is that each individual's group memberships have their own, distinct effect. Each collection of people has cultural preferences, religious beliefs, and ethnic traditions that all have a bearing on the way innovations are received. And because the people in each group are constantly negotiating with each other and influencing each other, this effect is fluid, not fixed.

We also need to consider the group characteristics of the organizations that sit on the supply chain. Every one comes with its own set of constantly evolving organizational cultures, professional expectations, and loyalties.



## The family table

A family shares breakfast, conversation, and laughter. (Nairobi, Kenya, 2009)

Photo: Bill & Melinda Gates Foundation / Olivier Asselin

# People want to know what an innovation will do for them. So we have to mass produce the personal

I have a new smartphone. But it is not just any smartphone: it's my smartphone. It has a picture of my daughter on the screen. It has my collection of apps, representing my needs and my interests. It plays the ringtone of my choice and speaks to me in my language.

To the techies at Nokia or BlackBerry or Motorola or Apple, this may be just another clever piece of kit – and the contents of every box are just like every other. But the fact that I can make it personal is part of the reason I want one so much.



## What will do it for me?

Kamla Devi has a new mini savings account that she can operate via her mobile phone. She has been able to save money for her roadside flower business, and pay for her daughter's wedding. The mobile banking products used by Eko India's customers are standardized, but, for migrant workers, the results are personal. (New Delhi, India, 2010)

Photo: Bill & Melinda Gates Foundation / Prashant Panjiar

**Optimism**



# There's rarely a point of no return

The journey to impact at scale doesn't start with an invention and proceed through a series of well-mapped byways to the golden temple of better global family health. The route is often uncharted.

But if making the map as you go along sometimes feels like a real "minus," it's also a big "plus." The switchbacks and recalculations about how best to negotiate the next leg also give plenty of space for correction and adaptation.

Planning for impact at scale makes use of the best available information. At the same time, good planning allows for errors. If our original bets were wrong, or the situation changes, the journey allows for constant checking-in and re-alignment. We can balance the need to be faithful to the original strategy with the benefits of an informed detour.



Copenhagen docks

*Photo: Paul Capewell*

# Smart collaborations get many minds working to find solutions to common problems

Many people and organizations sit on the supply chain that connects each innovation to impact at scale. Each participant has challenges to overcome.

Done properly, with precision and focus, sharing ideas about solutions to the common problems will not only produce better answers for all; it will engineer commitment to applying those answers.



## 200 conversation-days

In November 2011, the Bill and Melinda Gates Foundation gathered 100 experts for two days of conversation on the challenge of achieving lasting impact at scale. Here, Kristin Tolle of Microsoft Research and Shane Green of the McLaughlin-Rotman Centre for Global Health share ideas with a colleague. (Seattle, US, 2011)

*Photo: Bill & Melinda Gates Foundation / Natalie Fobes*

**Optimism**

# Translation involves more than words. It helps two cultures make sense of each other

Systems and communities working to scale impact are diverse, so they require much translation – translation that goes beyond turning English into Twi, or Hindi into French. It includes helping African partners to make sense of the Western, aspirational, demonstrative, and data-oriented culture that drives the innovation catalyst. It includes helping international funding agencies to comprehend the reluctant-to-criticize, process-oriented, careful-adaptation, story-valuing culture of some delivery systems and user communities.

This is translation as diplomacy. Attempts to scale impact depend on experts able to shuttle between the partners, helping each to make sense of the others and develop a shared view of their shared endeavor.



## Choosing the right language

A female community health volunteer coaches a pregnant woman in preparation for the upcoming birth of her child, using the shared language of pictures. (Nepal, 2009)

*Photo: Bill & Melinda Gates Foundation / Toni Greaves*

# Sometimes orthodoxy works

Not all aspects of the challenge of scaling impact are subject to the intense uncertainty associated with having too many moving parts and too few ways to measure and comprehend them.

Delivery and logistics are a case in point. Experts in logistics have standard methods of measuring and monitoring stocks and flows. They have proven ways to improve poor flow, such as new accountabilities or incentives.

In these aspects of production, delivery, and utilization, well-developed, orthodox models can work wonders.



## Ready to deliver

Sacks of flour are loaded onto a truck at the Luxor Flour Mill. Traditional logistics methods of tracking stocks and flows can help improve delivery rates. (Luxor, Egypt, 2009)

*Photo: Bill & Melinda Gates Foundation / Olivier Asselin*

# Scale comes with the transfer of ownership

The people and organizations who own and are accountable for the success of any innovation will change as impact is scaled. Planning for this transfer at the start increases the chance that the innovation will eventually become embedded in distribution systems and cultural expectations.

Initially, ownership and accountability rests with catalytic systems of scientists, philanthropists, or international intermediaries.

When the innovation is sustained, systematized, and delivered at scale, it will be owned by delivery systems and consumer communities. Accountability for its use then rests with government agencies in regular contact with end users.



## Pass it on

Grace Ngoto teaches members of her community – fathers as well as mothers – about the benefits of Kangaroo Mother Care for premature infants. KMC helped Grace when her daughter was born weighing less than two pounds. (Malawi, 2010)

*Photo: Bill & Melinda Gates Foundation / Frederic Courbet*

# If communities can learn, they can also implement their shared vision

Bringing partners together to develop a common language that is then used to develop a strategy to which all partners can be held accountable: this is becoming a routine part of scaling impact.

Less commonplace, but potentially equally advantageous, is using a learning community to oversee and manage the implementation of a strategy. The learning community can work collectively to adapt, and where necessary to change course or speed, in the light of data on benefits to child or maternal health.

Effective learning communities of all kinds tend to be flexible, changing their membership according to the specific challenge.



## Learning, adapting, implementing

Community members meet with the caretaker on the terrace of a community toilet. (Kandivili, Mumbai, India, 2011)

*Photo: Bill & Melinda Gates Foundation / Prashant Panjiar*

# When it comes to choosing methods, we can be agnostics

No single method is sufficient to determine the definitive way to achieve impact at scale. The great news is that we have many methods from which to choose, and they are suited to answering many different types of questions.

Discovering which inventions or interventions are good candidates for scale may involve randomized experiments and systematic reviews. However, understanding which products and processes can be translated from the laboratory to the real world may call for case studies.

Epidemiology and market research can go hand in hand, as one provides data on need and the other on demand. As people have come to understand the value of small amounts of day-to-day data, they will choose real-time metrics about how much has been delivered, how much has reached the market, how the product is being used by the consumer, and, in the case of global health, whether mothers and children are healthier.



## The right method for the right question

A map in Jalalabad Provincial Hospital of four Afghanistan provinces shows cases of acute flaccid paralysis (AFP) that may indicate polio. Measures of the geographic spread of disease help to target vaccination efforts.

*Photo: Bill & Melinda Gates Foundation / Kate Holt*

# Many radical, new ideas start out as small adjustments to ordinary routines

Many times, scale maestros don't begin with sweeping, radical change as the goal. Rather, they want to take a small idea and make it bigger. So they focus on how people ordinarily lead their lives. They examine the obstacles to change in long-established, deeply ingrained habits.

The result of this work may be as simple a product as a checklist to improve maternal and child health at birth. This product will connect to a simple process, such as a poster campaign or an extra segment in a midwives' training day.

These innovations are ordinary, reflecting the ordinariness of everyday life. It is only when small changes create an impact at scale that it becomes clear how radical and how new the idea is.



## A new use for an old wheel

The pulley – a simple re-configuring of wheels and rope – is one of the all-time great radical ideas. Here, a pulley helps to raise water from a traditional indoor well in a house in Chettinad. (Tamil Nadu, India, 2008)

Photo: [www.ramaswamyn.com](http://www.ramaswamyn.com)

# It helps to be in tune with informal systems

In many contexts in which impact on child and maternal health is most at risk, formal institutions – both public and private sector – are small. The space yet to be filled by formal systems is often occupied by informal arrangements.

These may include networks of volunteer community health workers; a custom of taking in relatives' children when the parents cannot care for them; employing family members and friends; and unrecorded (but not illegal) financial transactions.

Though they may be informal, these institutions should not be discounted. They are systems that will influence the success of any venture, but they operate with different rules and different motivations than formal systems.



## Finding a way to make it work

Maheshwori Devi Bishwokarma rests after giving birth to her second child. She gave birth to her first at age 16 in a cowshed after three days of labor, as the baby was breech. In situations like these, informal systems – the sort that are often overlooked by outsiders – can become a valuable part of promoting health and survival. (Doti District, Nepal, 2009)

Image: Bill & Melinda Gates Foundation / Toni Greaves

# Collaboration doesn't have to be altruistic

It's nice to collaborate. It's good to be sociable and it's only polite to listen to others' ideas and concerns. But the goals and processes of collaboration don't have to be purely altruistic. Perhaps the reason I listen to you so intently is partly selfish: I want to use your good ideas, and the solutions to your concerns, in my context.

One common source of innovation is the transfer of creative ideas from one puzzle to another. Sociologist Brian Uzzi has pointed out that the top Broadway shows are those that introduce a group of newcomers to a group who have worked together before. Maybe the comfort and trust supplied by the old members are balanced by the challenge and creativity supplied by the newcomers – and the result of the new collaboration is success.

Talking to you about your challenges helps me address mine.



## Best of Broadway

Bringing together newcomers and old hands tends to create the most successful productions – in collaborations that are effective, if not necessarily altruistic.

*Photo: [www.broadway.me](http://www.broadway.me) / Mark Runyon*

# Repeating core questions helps maintain focus

Why are we doing this? Who cares?

Implementation inevitably blurs the lines of strategy and logistics that looked so clear in the abstract. Even the most passionate, smartest, and most resilient practitioners will have moments of doubt and confusion.

People whose job it is to scale impact come back, again and again, to core questions asked of themselves and of their partners. Two of the most common are: “Why are we doing this? Who cares?”

Frequent reflection on “why” helps to address the lack of alignment between health care and other systems. Reflecting on “who” is a way of trying to understand which people will be so committed to the innovation that they will add it – and the time and energy to support it – to what they are already doing.



## Simple questions

A participant raises her hand to ask a question during an information session on family planning at a district hospital. (Nairobi, Kenya, 2009)

*Photo: Bill & Melinda Gates Foundation / Olivier Asselin*

# The way in which an initiative is framed can change the world

Every audacious attempt to scale impact changes the world – for either better or worse. The way in which an initiative is framed can help to determine which.

Systems respond to the framing of an initiative when they are collectively working out whether and how to nurture it. A proposal that carries the hallmarks of rich nations will be viewed differently than one framed by delivery systems or user communities.

These framing effects occur at every stage of the scale process, from the presentation of the initial strategy to the marketing of the innovation by the final delivery agent.



Masters of framing

Traditional Japanese gardens are full of windows and nooks, inviting visitors to see the landscape through the garden designer's careful series of frames.

# Good way-stations make for a better journey

Outcomes get us out of bed in the morning, but *outputs* help with a comfortable night's sleep. Although the outcome of better health is the ultimate measure of success, the use of intermediate targets can help to drive progress.

So it will be helpful set a target for the number of newborns who receive postnatal care, or the utilization rate of mosquito nets, or the rate of delivery of folic-acid-fortified flour – even though none of these is itself the outcome in which we are interested.

We are on a journey to scale up impact on child and maternal health. But the outputs of delivery and utilization are essential way-stations on the longer trip.



## What to measure, what to count

A UNICEF community mobilizer examines a girl for signs of polio at the encampment of a nomadic community. The rate of contact with at-risk children is an important output, even when the goal is the outcome of better health. (Patna, Bihar, India, 2010)

Photo: Bill & Melinda Gates Foundation / Prashant Panjiar

# There is no need to fear tension

Every effort to scale impact involves tensions among partners. In fact, here are tensions at every stage in the scale process.

Some of these are conflicts over logic or issues of capacity. Perhaps a potential funder is reluctant to invest. Perhaps a government department fails to follow through on promises. Some of these can be more emotionally charged, as when a regional official seeks a payback (legal or illegal) before allowing an initiative to flourish.

But this is not such bad news as it sounds. Resolving tensions, adapting to them, or creatively altering a trajectory to work around an obstacle: these activities themselves often produce unexpected benefits such as new connections, opportunities, or solutions that can be used in other contexts.

Tensions can cause a headache, but adaptive tension delivers effects more akin to an aspirin.



## Productive tension

It is tension that allows a suspension bridge to span much greater distances than traditional weight-bearing designs.

**Optimism**

# Scale can be big.

## Scale can be small, too

It's liberating to think that scale can be big, such as improving health for millions or billions of the world's inhabitants, and it can also be small, such as improving the health of every potential beneficiary in a single community.

The idea that millions of children die from preventable illnesses immediately draws our minds to the vast scope of the challenge. But a chain of many small successes will deliver similar ends – achieving an impact for all children in this community, and then the next, and the next.



### Just this village

A nurse midwife at the Loni Community Health Center shows doctors the register of all the pregnant women in a village on the outskirts of Delhi. (Uttar Pradesh, India, 2009)

Photo: Bill & Melinda Gates Foundation / Sanjit Das

**Optimism**

# Pessimism



# Using the same words to mean different things handicaps our progress

Experts on impact at scale use many of the same words for crucial concepts: “scale,” “impact,” “diffusion,” “innovation.” However, they apply different meanings to those words depending on their academic, geographic, or sector background.

Using the same words to mean different things gives a false sense of consensus that rapidly disintegrates as the parties discover their differences. While trying to impose a pre-defined dictionary on the broad community involved in scaling effective interventions would be counter-productive, arriving through a series of conversations at a common language could greatly aid progress.



## A matter of interpretation

Language interpreters wait in booths for world leaders to start their conversations at the G20 Summit. (London, 2009)

*Photo: Downing Street / Crown copyright*

**Pessimism**

# If something is going to scale, the catalyst has to let go

We seldom plan to devolve innovations as we should. Perhaps this is not surprising: catalysts often care deeply about the innovation; they try to nurture and guide it; their investment can be deeply personal.

But at a certain point, personal involvement is no longer helpful. I might convince my friend to stop smoking. Maybe if I got good at it, I could convince others. But if I want to persuade the 46 million US citizens or the 400 million Indians who currently smoke, I am going to have to think of a method in which my role fades forgotten into anonymity.



## Two of the 400 million

A couple enjoy a beedi at sunset at the Pushkar Camel Fair. They are among the approximately 400 million Indians who smoke – a number that means that personal persuasion against smoking can only go so far. (Rajasthan, India, 2009)

*Photo: Shreyans Bhansali*

**Pessimism**

# Asking questions about an organization's capacity misses the point

Every organization, however large or powerful, is part of at least one system. And it is the system's capacity that matters, not the organization's.

Moreover, even if one organization has the independent capacity to deliver, asking them to do the job alone may demotivate others in the system, which in turn produces negative feedback for the one selected for the job.

So scale experts think and speak about the system as a whole. They ask whether we have the resources we need.



## At capacity

A heavy-laden truck on an Indian road.

*Photo: Clive Moss*

**Pessimism**

# We need a new palette of evaluation tools to paint the scale canvas

Our traditional evaluation tools allow us to paint a certain picture. Unfortunately, they may not be the right ones to capture success or failure at scale.

We usually ask about need; we also need to know about demand. We measure fidelity to the original design of the intervention; we also need to measure the degree of adaptation. We need to understand the extent to which a broader reach – into groups beyond the original target population, for example – dissipates the impact found in a controlled trial. And determining what works will extend beyond estimating a number that we call an effect size, into a nuanced understanding of the local context.

We need new tools. We don't yet know exactly what they will look like. But we know that our traditional, deliberate, step-wise approach to designing and evaluating effective interventions is insufficient for the complex, non-linear, real-time world of scale.



## Imaging a new set of tools

We know we need new, better tools for evaluation, but we don't yet know what they will look like.

*Photo: Stephanie Watson*

**Pessimism**

# We've lost the "L" in MLE

It's generally agreed that scaling impact demands Monitoring, Learning, and Evaluation. The trouble is that in the rush to discover and explore topics that have previously been neglected, a great deal of data has been collected – sometimes too much data – often using methods that fit ill with the questions that need to be answered.

The result is that we have a lot of Monitoring and Evaluation, but we've lost the crucial central part: Learning.

A new archetype is needed. This new way of thinking will be built specifically for scale impact questions. It will probably demand less data, clearer information about who is doing what and why, and more regular checkpoints at which to pause, learn, and correct the course.

The new archetype will make evaluation more accessible and more useful, without letting go of rigor.



## Listening and Learning

Community members engage in discussions after watching video documentaries screened by the Self Employed Women's Association in the Jadiba Nagar slum. (Ahmedabad, India, 2010)

*Photo: Bill & Melinda Gates Foundation / Prashant Panjjar*

**Pessimism**

# It's too easy to dismiss deviance

The parents who improve their children's diets by feeding them foods that others in their community say are inedible – they're deviants. This is the case in parts of Vietnam, where some parents feed their children tiny crabs and shrimp from the rice paddies. But is their behavior delinquent, or does it illumine a path for others to follow?

Similarly, women from families who have always breastfed can easily be ignored as falling outside a program's target group – or, with perhaps a bit more effort, they can be valued as an important model for other families that have lost the habit.

Those who buck trends can be outliers, statistical aberrations whose unusual habits go no farther than their own circles. Or their behavior may be dangerous and damaging. Or they may be the first glimmering hints of new and healthier norms.

Deviance is, by definition, different. It's not necessarily wrong.



## Galileo the deviant

In 1633, Galileo's unorthodox belief that the earth revolved around the sun was tried as heresy by the Inquisition, and he spent the final decade of his life under house arrest. (Oxford University Museum of Natural History, Oxford, UK, 2008)

*Photo: Garrett Coakley*

# An effective coalition will involve partners who do not always get along

Those who know a thing or two about scaling impact tend to talk in the first person plural. They say, here's how we see the objective, how we can do this, how we can solve this problem.

But each coalition – the effective ones as well as the ineffective – will involve partners who do not always get along. They may compete in other contexts, have reasons to mistrust each other, or have a history of bad relationships.

Every attempt to to build the capacities of a system to scale impact will take into account how changes in Organization A will affect Organization B, and how their changed relationship will influence other members of the coalition.



## Partners in performance

In the daily flag-lowering ceremony at the Wagah Border between India and Pakistan, soldiers from both nations collaborate in a carefully choreographed "standoff" involving marching, high kicks, and stomping. It ends with a cordial handshake.

*Photo: Radicaleye, 2000*

**Pessimism**

# “Fit” is not like a jigsaw puzzle

Successful scaling of impact depends on many different types of “fit.” But this can be a deceptive word. The fit among the components that contribute to scaling impact is not like the fit in a jigsaw puzzle; it is not a matter of assembling 1,000 precision-cut pieces into a coherent picture.

The parts of the scale puzzle jar and grate against each other, developing both healthy and debilitating tensions.



Like the clasp of a gate

Not every fit is seamless. Some are like the bones of an arthritic knee, or the two sides of an old gate.

**Pessimism**

# The injection of an innovation often causes an antibody reaction

When it comes to introducing an innovation into a system, success requires more than finding the right vein for the injection. It means predicting ahead of time how the system or community of users who will receive the injection will react.

As a rule, there will always be some negative reaction, and some attempt to reject the innovation.



## Reaction and counter-reaction

Protesters and counter-protesters demonstrate at the US Coast Guard Academy on the occasion of George W. Bush's commencement address. (Connecticut, US, 2007)

*Photo: Sage Ross*

**Pessimism**

# There is no such thing as starting afresh

The sketch of a plan to scale impact is never drawn on a blank piece of paper. Every aspect of a system brings its own history to its encounter with a scale effort.

User communities bring their own ingrained ideas (“Our culture does not treat the umbilical cord when it is cut”). Organizations bring their bureaucratic norms (“This is not the responsibility of our department”).

History is not always a hindrance. Sometimes a natural fit between the past and the ambition for the future enables fast, smooth scale-up.

But when the bones of the past make it harder to build, the possibility of success is greater when the initial plans are sketched on top of the tracings of what went before. There is a simple mantra: scale is never *de novo*. We never start afresh.



The new is built on the traces of the old

An archaeologist excavates a human skeleton from a prehistoric grave.

**Pessimism**

# Passion is a substance that ebbs and flows

Most scale impact success stories involve remarkable people, passionate and able. Their skills and dedication are invested in the task of optimizing the innovation.

But scale-up efforts that rely on individual passion are likely to fail. By its very nature, impact at scale involves people whose effort must be spent, at least in part, on the not-so-simple tasks of making ends meet, feeding their families, and enduring the drudgery of daily bureaucracy.

Since any scale story will be long, many of the protagonists will have times when they are passionate and times when they are drained. Periods of focus and achievement are followed by days of detachment, demotivation, and treading water.



Some days are tired days

A young girl sleeps under an insecticide-treated net to guard against malaria. (Jendele Village, Tanzania, 2009)

Photo: Bill & Melinda Gates Foundation / Emily Simon

**Pessimism**

# Sometimes we forget to put on the brakes

The word “readiness” implies “ready to start.” But even a system that is ready to start may later be unready to continue. All of the conditions that lead the catalyst to being taking an innovation to a broad market can change. Unanticipated events occur. Sometimes anticipated events don't.

Scale experts know when a lack of ongoing readiness indicates reason to pause, change direction, or stop. Knowing when to put on the brakes or turn the steering wheel is as important as knowing when to put the foot down on the accelerator.



A cyclist's test

A roadside warning in California.

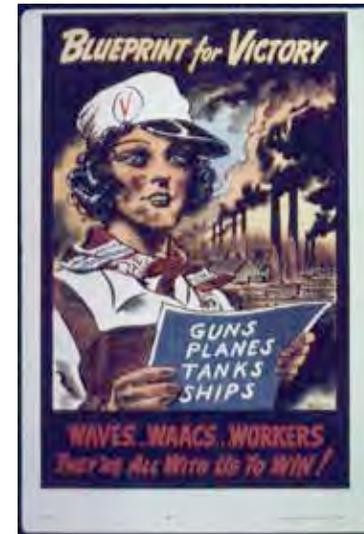
Photo: Steve Jurvetson

**Pessimism**

# We're fooling ourselves when we search for a scale template

We'd like to have a scale template, but there isn't one. Analysis of successful scaling shows many routes to similar ends. Hotels go about scaling differently than automobile companies do. A niche music company takes a different approach than a popular one. Even companies selling similar computer software take different routes – one sells directly to the public, while another sells to computer manufacturers – yet both are successful at scale.

There are many good examples from business, but more can be done to chart the strategies and techniques available to those who are scaling impact on global family health. Better analysis could begin to suggest the relative merits of competing options, and help to match the scale strategy to the innovation and the desired impact.



Any blueprints for our work?

A World War II poster from the US prescribes a "Blueprint for Victory."

Image: US National Archives and Records Administration

**Pessimism**

# It's easy to forget how fence-sitting causes delays

A catalyst's estimate of how quickly an innovation can be scaled should always include an estimate of the delays introduced by prevarication.

When systems, communities, or individual users hear about an innovation that has potential to change their world, they think to themselves, "Is this a horse I should back?" They are what one scale expert calls "fence-sitters."

Their shilly-shallying is not irrational. They may have backed lame horses in the past, and everyone likes to bet on a winner. But it will slow down the process of scale, and (when organizations hide their doubts) give the appearance of agreement and progress where none exists.

Appeasing the fence-sitters by giving two horses a head start may get the race underway, but doesn't often produce the right result.



The cost of keeping everyone on board

An overladen raft sinks in knee-deep water. (Laos, 2009)

Photo: Jeff Lee

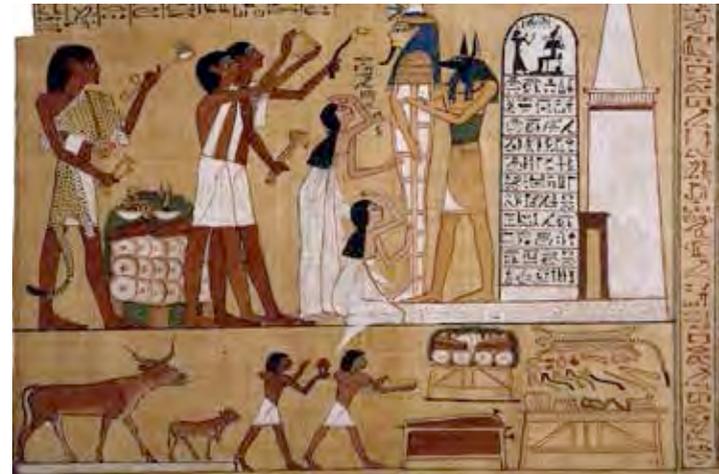
**Pessimism**

# Not all partners in a venture to scale impact will be equal, even if we pretend otherwise

'The lion and the calf shall lie down together, but the calf won't get much sleep,'" wrote Woody Allen. His quip captures a central irony of scale-up efforts: money and influence are critical to making change happen, but the gravitational pull of the powerful can make life uncomfortable for those in their orbit.

Some partners in a venture hold more sway by virtue of their financial investment. Some exert more leverage because of their political standing. Some bear the prestige of their profession. Others bring the pomp and circumstance of large, high-profile organizations.

Sometimes the exercise of power moves the process in a positive direction. At other times it can work against the best interests of the system.

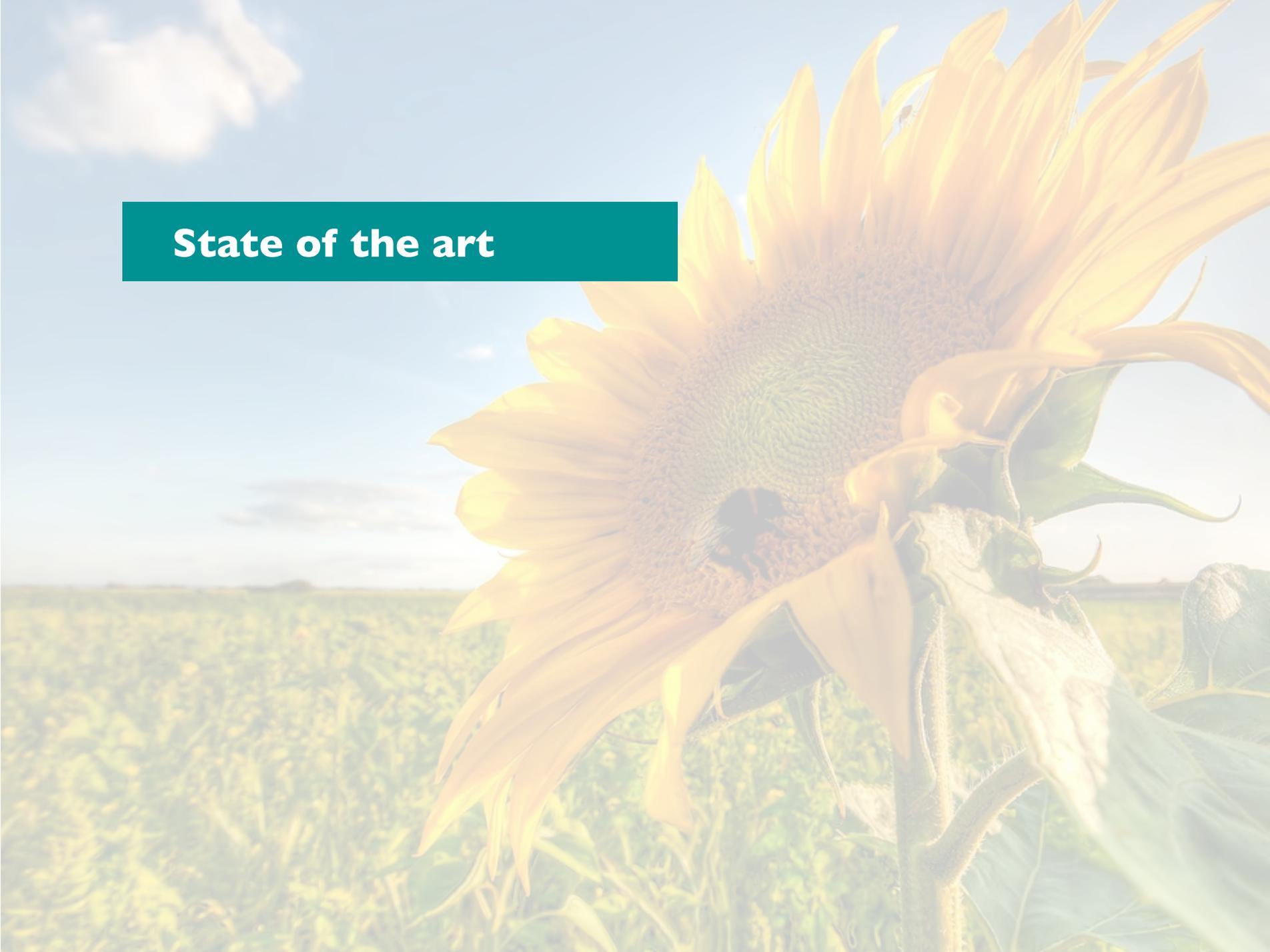


## The power of size

The ancient Egyptians weren't shy about acknowledging money, prestige, and influence in their art: figures were drawn proportional to their status.

*Photo: Funeral scene from the Book of the Dead, c. 1300 BCE, in the British Museum*

**Pessimism**



## State of the art

# Consumers don't need to know how the product works; they just need to know what it will do for them

At the back end of a smartphone is the most incredible technology designed, assembled, and supported by a worldwide community of experts.

Explaining how this miracle works does not send people rushing to buy smartphones.

Telling them it will replace their rolodex, filofax, hi-fi system, camera, office phone, calling card, local maps, encyclopedia, and airline timetable all at the same time is enough to create a stampede.



## Building a better hive

By observing the way bees really live, an English beekeeper has built a nontraditional shape of hive that helps bees stay healthy. However, consumers don't need to know the details of the shape of the hive to understand that healthy bees mean good food crops – and delicious honey.

*Photo: Philip Chandler, The Barefoot Beekeeper. [www.biobees.com](http://www.biobees.com)*

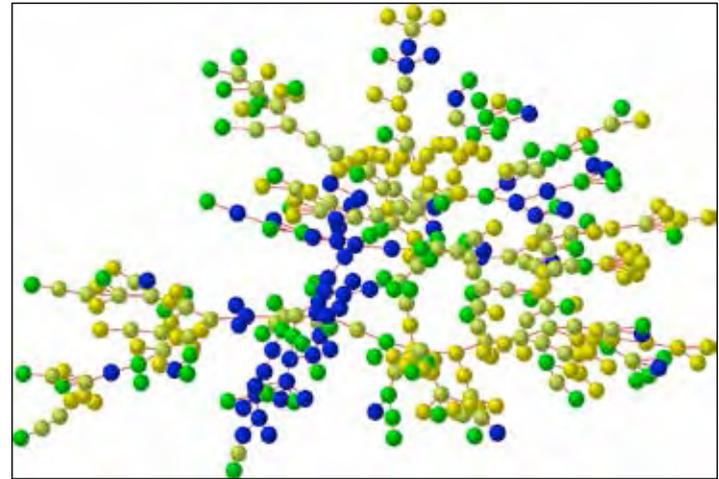
**State of the art**

# We may be able to turn contagion to our advantage

Social life invites contagion of pathogens such as the common cold. But research is increasingly showing how positive forces, such as behavior changes that improve family health, are also “catching.”

We tend to believe that we are each special and unique. In some ways, we are more like sheep, following the flock, doing what those around us do. From friends and neighbors and our community, we “catch” how we dress, where we live, what we think, even how we form our families.

Working out how behaviors move through a social network is similar to working out how a virus gets from one person to another. It’s a key in the door of impact at scale.



Charting contagion

Harvard medical sociologist Nicholas Christakis is one of the foremost researchers and communicators on social networks. He and his collaborators have found that many surprising phenomena are contagious, such as loneliness, altruism, and obesity.

Network image: Nicholas Christakis

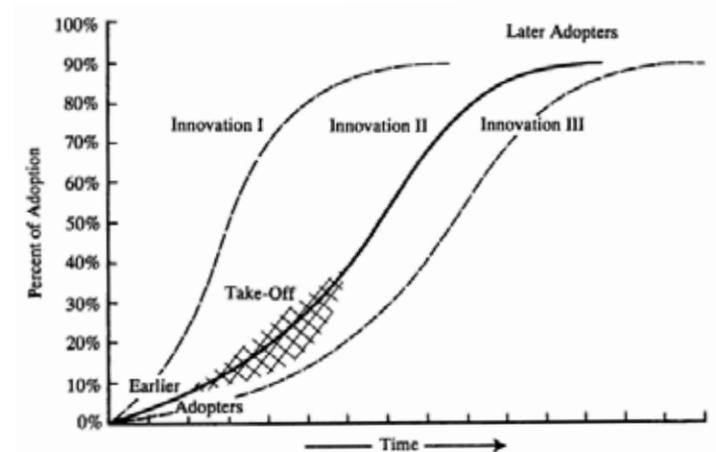
# There is a difference between *diffusion* and *dissemination*

There is a difference between active efforts to encourage people to take up an innovation, which is the process of dissemination – and the uncontrolled spread of the innovation that continues well after the initial impetus is over, which is diffusion.

At the outset, efforts to scale impact will generally push an innovation in the hope that it will be adopted. But this calls for resources of time and money, and risks that the consumer will come to resent and resist the interference.

The long-term goal, then, is to move from the push of dissemination to the pull of diffusion: to generate a demand for the innovation that its initiators can neither predict nor control.

When the catalysts give up the comfortable control of the dissemination stage and allow the innovation to enter the wild world of diffusion – only then does the innovation belong fully to the people it is intended to help. Only then can scale occur.



## The S-curve of diffusion

In 1962, sociologist Everett Rogers set out the ideas of "dissemination" and "diffusion." The S-curve predicts how an innovation proceeds from a trickle of early adopters, to a flood of mainstream users, until only a few laggards remain.

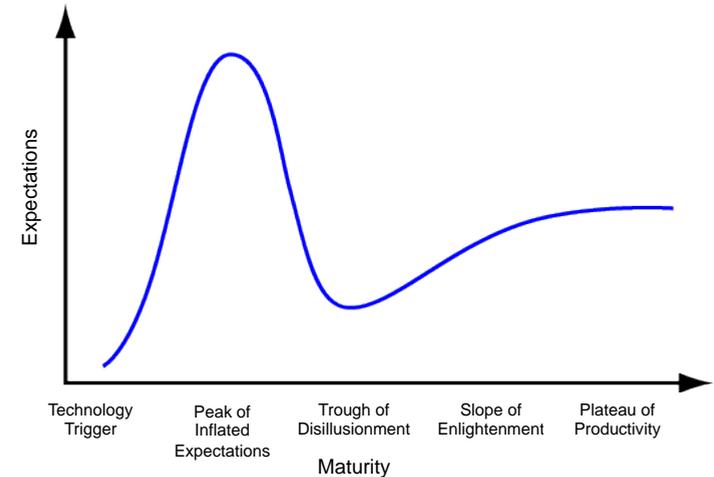
Image: Everett M. Rogers. 2003[1962]. *Diffusion of Innovations*, 5th Ed. New York: Free Press.

# What happens when the S-curve changes shape?

Everett Rogers' S-curve is a bedrock of dissemination science. It shows how the speed with which innovations are adopted depends on early and later adopters – a simple pattern that still applies 50 years after Rogers coined the idea.

But innovations catch on in other patterns, too. To explain the trajectory of new technologies, the IT research company Gartner charted the “hype cycle”: after a product fails to meet consumers' initial aspirations, it slides into the “trough of disillusionment” before settling into more moderate expectations on the “plateau of productivity.”

And there are more patterns, like “Moore's chasm,” similar to Rogers' S-curve but with a gap between the early adopters and the majority; or the “Van de Ven model,” with its messy, non-linear shocks and setbacks, which seems intuitively correct for a lot of global health innovations.



## The hype cycle

What happens when a much-heralded new innovation fails to catch on as fast as the early enthusiasm predicts? According to the hype cycle, this may be a typical stage in the growth of a new product, not a sign of failure.

*Image: Adapted from gartner.com.*

**State of the art**

# Spectacular complexity is often underpinned by hidden uniformity and order

The complexity that surrounds most attempts to scale impact is often the product of many simple interactions.

We can understand this complexity as we understand the snowflake – by looking deeper at the underlying structures. At this level we see that the spectacular complexity of a handful of snowflakes grows from the many repetitions of the same process of crystal growth. But each repetition is very slightly different, shaped by tiny variations in the environment.

Our natural inclination is to examine the entire snowball, or the entire systems of organizations and individuals that contribute to the collective objective. But better understanding can often come from delving deep into the underlying structure, looking for repetitive patterns that can help to predict the potential consequences, intended and unintended, of our actions.



## Emergence

Snowflakes are a classic example of the phenomenon of "emergence". Infinite degrees of complexity and newness evolve from the regular, reliable, intelligible interactions of smaller components.

*Photo: Julian Coltan*

# We have to work out what is core to an innovation and what is adaptable

There is a paradox at the heart of scaling interventions. On the one hand, people want to make a product their own; so adaptation is fundamental to successful scale. On the other, if the delivery deviates too far from the original design, there is no guarantee that it will work; so fidelity is fundamental to successful interventions.

The forces of fidelity and adaptation are in tension, but not opposition. They demand careful analysis – both conceptual and empirical – about what is fixed and what is flexible in any attempt to scale impact.

Building the potential to personalize into any innovation is one of many practical consequences of this paradox.



Mother's new car is a cargo bike

The residents of Christiania, a communal neighborhood in Copenhagen, have long had an affinity for customized bikes – easily personalized but practical to the core.

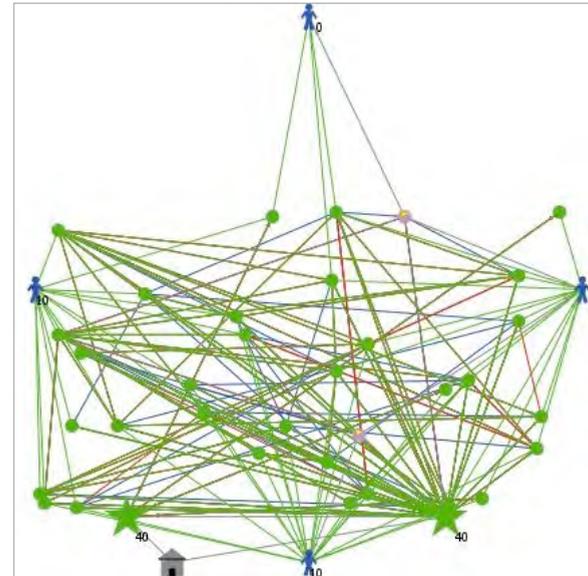
*Photo: Mikael Colville-Andersen*

# Trust ties can both promote and hinder

There is a network of links of trust between organizations in the systems that transmit innovations. These trust ties can both promote and hinder the scaling of impact.

A system full of organizations that are committed to each other will be easier to engage than one where there is a history of mistrust. Too much obligation among a core of members, on the other hand, may create a clique that antagonizes other members.

Asking systems to change threatens their trust ties, and should be handled with care. In the high-risk contexts in which impact on family health is sought, trust can take a long time to condense and a short time to evaporate.



## What does trust look like?

An agent-based model uses computer simulation to map out the links between organizations, and to predict what will happen when a system starts out with higher or lower levels of trust, communication, and motivation.

*Image: Detail of an agent-based model presented at the convening in La Jolla, March 2012*

**State of the art**

# Innovation is not the same as invention

Faced with the size of the challenge, there's a tendency to look to novel, radical responses – for inventions, rather than innovations.

But innovation doesn't have to be new. Taking great ideas and making them better is a different route to the same goal. Developing effective existing health practices and products, or finding smarter ways to package and deliver them: these are innovations, too.

True answers often lie in small alterations and minor enhancements to existing processes and procedures. Much can be learned from the quality improvement movement that seeks to make more of routine health care, such as hospital birth arrangements. Quality improvement aims to cut out redundancy and promote effective practices. These are not new inventions, but they're genuine innovations.



## Innovation and invention

A premature baby is cared for in the pediatric ward of an Addis Ababa hospital. The Ethiopian government has launched programs to train health workers on clean and safe delivery methods – not a new invention, but an important innovation.

*Photo: Bill & Melinda Gates Foundation / Sarah Elliott*

# Prediction is audacious, uncertain, and necessary

Prediction is one of the most audacious parts of the enterprise of achieving lasting impact at scale. We aim to look into the future, to predict how the actions of many actors will combine to create radical improvements in global health. Even if the task were less complex, no such forecast would turn out to be precisely correct.

Despite the inevitable uncertainty, engaging in prediction has many virtues. It sets out the range of outcomes that are possible, plausible, and likely. It establishes a baseline of expectations against which amended forecasts, revised in the light of new evidence and unforeseen events, can be compared.

And the process of building a prediction is one way for partners, by agreeing on important variables and the way they are thought to interact, to establish a shared understanding of the task ahead. It is one way to create a common language.



Climate is what we expect;  
weather is what we get

Or so Mark Twain – sounding like a scale expert engaged in prediction – is credited with saying. Here, Hurricane Philippe sweeps over the Atlantic Ocean.

*Photo: NASA, 8 October 2011*

**State of the art**

# Successful scale requires an estimate of demand as well as need

It is taken for granted that we need to calculate the need for an innovation. Can we identify the health problem? Has the innovation been rigorously tested to prove that it will have an impact on this problem? Have the potential negative side effects been identified? All these questions are answered as a matter of routine.

Less frequently acknowledged is the value of estimating the demand for an innovation. Do the mothers and children who can benefit from the innovation actually want it? Equally, do the people who can supply the innovation to the end user want to do so?

This is the demand part of the equation. Data on demand can, in turn, influence need – because what people want may not be effective, while what is effective may not be wanted. Then there is a new need: to rethink, and to create new innovations.



## Who will buy

Small farmers come to this Tanseed International shop in Morogoro, Tanzania, to buy their maize, sesame, and sunflower seeds. (Tanzania, 2010)

*Photo: Bill & Melinda Gates Foundation / Frederic Courbet*

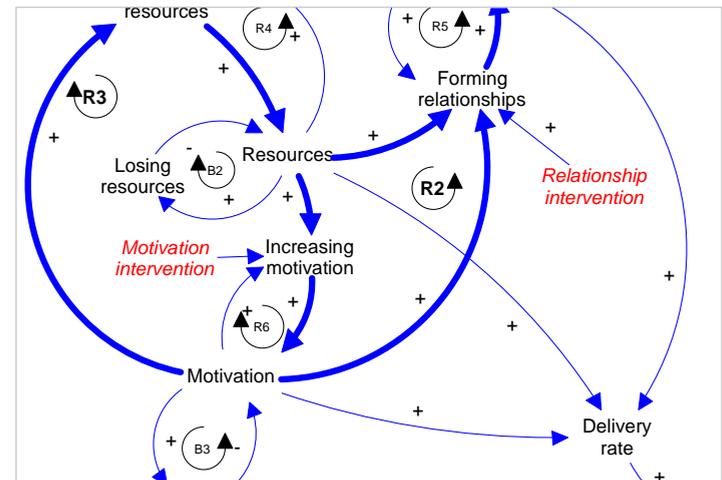
**State of the art**

# Who creates the new palette of evaluation tools?

Many aspects of our world are characterized by disorganized complexity, including large chunks of the journey that begins with a health innovation and ends with impact at scale. New methods are required to guide our actions where causal pathways are non-linear and non-sequential.

There are many candidates for this new palette of evaluation tools – some adapted from other arenas, some newly developing. These methods are quantitative or qualitative; they may use numbers or stories; but they share an appreciation for the way that many factors affect each other almost simultaneously.

But building these new tools doesn't mean we throw out the easel, canvas, brushes, and paints that have served us so well. Orthodox science has achieved great feats: codifying entropy, establishing the origin of species, mapping the periodic table, and establishing a relationship between space and time, to name a few. All aspects of our world are complex – until we organize that complexity.



## Mapping out the relationships

At the heart of a system dynamics model is a map of how various factors are thought to interact with each other, complete with the feedback loops that can product runaway success or failure.

*Image: Detail of a system dynamics model presented at the convening in La Jolla, March 2012*

**State of the art**

# We accept the need for new evaluation tools. We don't accept less rigorous science

Accepting the need for non-sequential evaluation does not mean abandoning the level of rigor that orthodox science has come to take for granted. Our eagerness to create a new palette of tools should not blind us to the need to scrutinize whether those tools work in the way we anticipate.

How do we test for validity and reliability? Do the data speak about the people the innovation is intended to reach? Do they measure what really matters? How generalizable are the results to other contexts? Does the way we are articulating the problem make sense?



## A scientific method

Well-developed scientific approaches come with a set of ideas about evidence that new methods can learn from. Here, a technician prepares rice leaves for DNA extraction at the Bangladesh Rice Research Institute. (Gazipur, Bangladesh, 2009)

*Photo: Bill & Melinda Gates Foundation / Prashant Panjiar*

**State of the art**

# Money is one metric by which readiness for scaling impact can be measured

Because some health innovations benefit from strong government or philanthropic subsidy, it can be easy to forget that a new venture will only succeed in the long run when there is a viable market: total donor outlay, plus the purchase price, less expenses, must add up to at least zero.

Most health innovations, however – those that are developed by private companies – are tested against ordinary market conditions that require a profit at each stage in the supply chain.

Among the many businesslike activities that contribute to scaling impact are these two: first, the regular calculation of revenues from users or public systems as they respond to demand from consumers, and second, an eye for opportunities to increase efficiency and drive down costs.



## How the private sector thinks about scale

Kamal Kant Jha sells paan, tobacco, and sweets at his roadside shop. (New Delhi, 2010)

Photo: Bill & Melinda Gates Foundation / Prashant Panjjar

# Innovation at one point on a supply chain will affect the rest of the chain - for better and worse

The journey from innovation to healthy mothers and children is long. So successful innovators work not in isolation, but with the long supply chain in mind. They acknowledge that what they do will create benefits and pose challenges for all the intermediaries – and indeed for others working to achieve the same end who are part of completely different chains.

Releasing a breakthrough drug that requires refrigeration, for example, poses a challenge to pharmacies and hospitals with intermittent electricity. So scale maestros work toward integrated innovation.

Scale demands more than working out how the end user will accept or adapt an innovation; it requires attention to how others seeking to help the end users will respond.



One link in a long chain

A warehouse worker offloads sacks of locally-grown maize at a World Food Program warehouse. The goal is to buy much-needed food aid from local farmers, benefiting both ends of the supply chain. (Kigali, Rwanda, 2011)

Photo: Bill & Melinda Gates Foundation / Jake Lyell

**State of the art**

# Feedback is powerful.

## Feedback *loops* are even more powerful

An electronic sign by the roadside, telling drivers how fast they are going, will generally cause them to reduce their speed – even though they can read the same information on their own dashboards. Similarly, the information that is fed back to the drivers of a scale impact convoy influences the speed and success of their journey.

If simple feedback has the power to alter performance, feedback loops have even greater creative and destructive power. When a decline in one partner's motivation decreases another partner's motivation, a negative spiral starts. When an injection of resources draws in even more resources, a positive feedback loop is born.



### A run on the bank

Like every other social system, financial markets have feedback loops. When brokers hear of a fall in a stock, they may rush to sell, driving the price down further. In the opposite direction, market bubbles are created when enthusiasm feeds enthusiasm.

**State of the art**

# Those at the ends of the supply chain have different motives than those in the middle

In any supply chain, the people who care the most passionately about impact are those who sit at either end. The catalyst has a great idea, and wants to see it succeed; the end users want to see the benefit in their own lives.

The people who sit in the middle of the supply chain may have a different focus. Although they are critical in moving the innovation from catalyst to beneficiary, they usually have other purposes and motives. A marketer doesn't have to believe in the breastfeeding campaign she is selling; she just has to devote her skills to the selling process. A delivery company doesn't have to believe in the drug its trucks carry; it just has to engage in getting the medicine to the right place at the right time and in the right condition.

Intermediary organizations can add crucial value by looking for efficiencies in the supply chain of any innovation.



## Bees: nature's middlemen

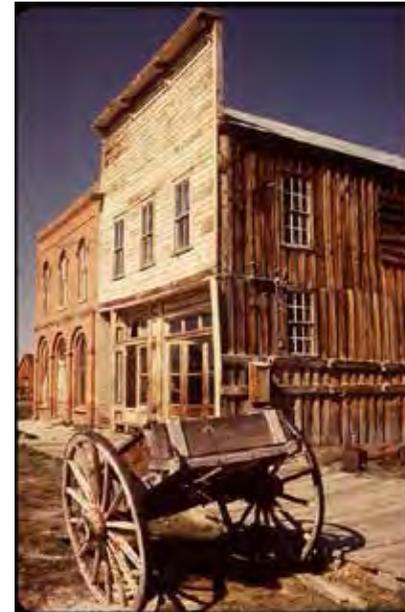
Caring nothing for the plant giving pollen or the plant receiving it, bees are efficient intermediaries – and important ones, indirectly responsible for the world's food supply.

*Photo: Alan Taylor*

# A prediction that is proven wrong is as valuable as one that is proven right

This is especially true when the prediction is collectively assembled by all partners working to scale impact, and based on the best available data. A strong forecast will establish a band of likely outcomes for each link in the chain that begins with the pure innovation and ends with its adapted forms producing widespread impact.

Lessons can be learned from comparing expected outcomes to the real thing, both when everything goes well and when everything goes badly. Analyzing old forecasts may make it possible to identify which factors, or which combinations of factors, have a disproportionate impact on outcomes in a particular situation.



## A prediction gone wrong

New California towns grew and prospered in the late 1800s under the promise of limitless wealth from the gold and silver mines. By 1900, many of these were on their way to becoming "ghost towns." (Bodie, California, US)

Photo: Environmental Protection Agency / Dick Rowan (1972)

**State of the art**

**Inspiration**



# Every great scale-up success combines a product and a process

Many scale-up successes are the result of a plural approach: one part invention, and one part dissemination.

Cyrus McCormick made the harvest reaper that transformed the United States from a country of agriculture to one of industry, but the invention spread only after he found a financial model that allowed farmers to purchase his machine from the increased profits it brought to their farms.

Toyota made the 50-year journey from successful sewing machine producer to the world's most successful motor car company not only with the quality of its products, but also with its method of getting the car to the driver “just in time.”

Henry Ford invented neither the motor car nor mass production. But his ability to combine them made his company the leading automotive manufacturer for more than half a century.



A product and a process transform a nation

The McCormick reaper – brought to farmers by a clever financing process – makes faster work of an Idaho wheat field, circa 1920.

Photo: [www.waterarchives.org](http://www.waterarchives.org)

**Inspiration**

# Logistics is for professionals. So is strategy

The saying goes, “Strategy is for amateurs, but logistics is for professionals.” In truth, the combination of keen strategy and first-class logistics is fundamental to impact at scale.

On one side, it is necessary to have a wide-ranging vision of what could and should happen, but grand plans are not enough to bring health improvements to many tens of thousands of people at the same time.

On the other, first-class logistics without a good and adaptable strategy may deliver a lot of the wrong things rapidly and efficiently to the wrong people.

Bringing blue-sky and ground-level together will increase the chance of effective scale-up.



## First-class delivery

A woman delivers polio vaccines house-to-house. (Sokoto, Nigeria, 2009)

Photo: Bill & Melinda Gates Foundation / Prashant Panjari

**Inspiration**

# Don't expect to start at the beginning. Start several places at once

The route to scale is often inconvenient. It doesn't always start at A, and almost never proceeds in a tidy, step-wise fashion to Z.

The instinct is to start by developing the innovation – the product, process, or platform that must eventually reach millions of people. The best verdict from reviews of the evidence, by contrast, encourages us to start with the user – to ask what the people who are going to adopt and adapt the innovation need and want.

In practical terms, it is necessary to start several places at once, perhaps by bringing a prototype to potential adopters, modifying it or going back to the drawing board, and then back to the users again – while at the same time watching the way all the intermediaries on the supply chain will react.

It's easy to conceive of a simple, linear path. But it's more effective to include loops, multiple starts, and diversions.



Progress is not linear

The labyrinth in the nave of Amiens Cathedral, originally built in 1288. (Amiens, France, 2008)

Photo: Holly Hayes

# We don't know where time starts or ends, but it doesn't stop us setting our alarm clocks

Few of us comprehend the limits of the universe, which may explain our eagerness to put strong boundaries around so many aspects of our lives. We are apt to separate our world into aspects that are understood and predictable, and those that are less understood and less predictable.

When we need to take action – when we need to try to save the lives of eight million children each year, for example – we can help ourselves by focusing on the former and (even as we acknowledge the importance of chance) not losing too much sleep over the latter.

In technical terms, we can talk about this in terms of organized complexity (knotty human problems that we broadly understand) and disorganized complexity (the more impenetrable aspects of our world).



What time is it on Alpha Centauri?

The clock in the Musée d'Orsay. (Paris, France)

*Photo: Roel à Paris*

**Inspiration**

# Adopters are not the only adapters

In classical diffusion theory, a product or practice is adapted by its adopters. In reality, adaptation occurs at every stage of the process. From catalyst, through intermediaries, to the end user – every person will make a change, whether consciously or not.

The process of adaptation is difficult if not impossible to control. It can be nudged, or slowed, or accelerated – but not controlled.

Those guiding the scale-up will anticipate predictable adaptations; they will try to imagine the scope of less predictable adaptations; and they will draw lines in the sand beyond which the changes to the original idea render it incapable of producing the desired impact on child and maternal health.



## Organic adaptability

The sweet potato plant is one of nature's most versatile food crops, adaptable to a wide range of growing conditions. (Nyagatore, Rwanda, 2010)

Photo: Bill & Melinda Gates Foundation/Frederic Courbet

# Constructive collaboration is essential

It is impossible for any single entity – organization, discipline, sector, or even nation – to scale impact successfully on maternal and infant mortality. Collaboration within the global family health community is an absolute necessity.

But the collaboration must be functional; partnerships have to be constructive. In the business world, people speak of competitive advantage: what can a potential collaborator bring to the project that I cannot? This is the logic that connects the collaboration to our ultimate, shared goal of impact at scale.



Many hands

Kerala, 2010.

*Photo: Ranjith Shenoy*

**Inspiration**

# I listen to my line manager, but the consumer is boss

By design, scaling impact on global health involves many large, complex operations. It's true that big bureaucracies can achieve things at scale that no individual or small organization can. But gazing daily into the vortex of organizational dynamics often pulls our focus away from our objective: the improved health of mothers and children.

Does filling in a form, or completing a training program, or changing a supply chain contribute to impact at scale? Yes, each of these can be crucial to our goals. The consumer's needs can be the subtext for every routine action.

That way, I listen to my line manager, but I remember that the consumer is boss.



## The power of bureaucracy

Employees of A to Z Textile Mills manufacture durable mosquito nets – contributing to a reduction in malaria at scale. (Arusha, Tanzania, 2009)

*Photo: Bill & Melinda Gates Foundation / Jake Lyell*

# Public systems are consumers, too

The consumer is boss. But when we follow this guiding principle, we have to remember that the public systems that serve the end users are just as much consumers – and just as much “boss” – as the end users themselves.

In global health, government-funded organizations are usually the ones accountable for the delivery of innovations that have the potential to improve maternal and child health.

Listening to the consumer means listening to the children and families who will use the innovation, and finding out what they want and need; it also means listening to the public systems that may pay for, deliver, and evaluate the impact of that innovation. What does the system want and need?



## Talking with the public system

Grace Kagoudu of WHO goes through the pre-implementation checklist with officials at the Kabuga Health Center before the start of the polio campaign. (Kano city, Nigeria, 2010)

*Photo: Bill & Melinda Gates Foundation / Prashant Panjari*

# A common language makes common effort possible

Each participant in the effort to improve global family health – whether individual, organization, system, or community – has a unique vocabulary to describe the work. But a shared language and ways of framing new challenges will be needed for the shared endeavor of scaling impact.

Common conceptual frameworks that help systems and communities to build a collectively understood, communally owned predictive model will increase the chances of success.

Conceptual frameworks come in many guises, from simple checklists to complex computer-based models. Sometimes a model's usefulness can be judged by whether it predicts outcomes correctly. In the absence of outcome data, their utility can be judged by their ability to bring diverse groups into the same conversation.



## A page for every language

Stacks of volumes at a bookstore in Amsterdam.

# Broad and deep perspectives work together

Many ways of thinking contribute to scaling impact. Some ways of thinking are broad, based on a survey of similarities and differences across many different innovations or geographies. Those who work with “big data” are usually broad thinkers.

Some ways of thinking are deep, like the intuitive, nuanced understanding of an expert looking at the local context she knows best. People with a deep, expert view cannot see the whole system (no one can), but they assemble a picture in their minds from multiple detailed snapshots of the current reality, glued together by their long experience with other, similar systems.

Thoughtful conversations between people who “look broad” and people who “look deep” can provoke both creative tension and progress.



The wood for the trees

English painter David Hockney has a particular “deep” perspective. In his recent monumental paintings of the Yorkshire countryside, assembled from many separate canvases, he paints not what the eye can see (the tops of those trees are not really in view) but what the mind sees.

Photo: © Guardian News & Media Ltd. 2009 / Graham Turner

# Innovations work better when people connect with them emotionally

A community health worker brings skills, expertise, and authority to assist in the delivery of effective health care. But she is also a person to whom mothers and children can form an emotional connection.

Exclusive breastfeeding in the first six months of life, continuing alongside solid foods until two years of age, is proven to improve child nutrition and reduce disease. But it also helps to create and embody the love and attachment that the mother and baby share.

Families choosing products to reduce infection via the umbilical cord look not only at the data on each product's antiseptic properties; they also want a product that represents warmth and care, one that sends a signal to others that the right thing has been done for the new son or daughter.

Appreciating the power of emotional connections is fundamental to scaling impact.



## Medicine made friendly

In Ethiopia, health extension workers walk miles to visit families in remote areas. Tens of thousands of women have been trained as health extension workers since 2006, addressing preventable and treatable diseases such as malaria and diphtheria.

*Photo: Bill & Melinda Gates Foundation / John Ahern*

**Inspiration**

# Scaling impact involves seeking balance between countervailing forces

Running through this *How to* guide are a series of tensions: between innovation and user; between the catalytic systems that sponsor and prod an innovation into the world, and the delivery systems that nurture its long-term growth; between organized and disorganized complexity on the one hand, and a broader palette of evaluation tools on the other; between global pull to improve maternal and child health, and local pulls, with their distinctive, contextual characters.

There is never a point of perfect balance between any of these forces – just a search for maximum opportunity and minimum friction.



## A difficult balance

A village resident prepares to carry part of the lentil crop. (Uttar Pradesh, India, 2010)

Photo: Bill & Melinda Gates Foundation / Barbara Kinney

# Perfection is the enemy of the good. But the pursuit of perfection is the partner of excellence

Many inventions designed to improve human health fail because the time spent perfecting them in the “purity” of lab conditions squeezes out opportunities to adapt them for the messy real world. In this sense, perfection is the enemy of the good.

Paradoxically, this is no reason to abandon the pursuit of perfection. For instance, most scaled products make good use of the best science. There is no reason for innovators not to take advantage of the best practices we have, such as experimental evaluation to ensure effectiveness, implementation studies to hone the efficiency of delivery and meet the desires of the end users, and health promotion to boost take-up.

We can aim to perfect what can be perfected, while accepting that we will need to live with imperfection in order to make an impact.



## The pursuit of perfection

Researchers experiment on cassava plants at the National Crops Resources Research Institute. (Namulonge, Uganda, 2009)

*Photo: Bill & Melinda Gates Foundation/Frederic Courbet*

**Inspiration**

# Sometimes you need to play a little jazz

It's nice to start scaling impact with a well-worked-out score, clear lines of music for every section of the orchestra, a good conductor, and good conditions in which to perform.

But as with the best music, the strongest impact can come from an unexpected interpretation from the maestro or an improvisation on a theme. Scale experts sometimes talk about "playing jazz": working from a strong, well-informed, broadly-supported plan, but learning from many traditions and feeling free to riff on the original strategy.



## Prepared to be spontaneous

An improvisation may be made up on the spot, but a successful one is grounded in years of practice. Here, a trumpeter plays at the Louisiana Jazz Festival.

# Be ready not to be ready

Few of us are ever fully ready for what lies ahead – particularly when the challenge is as complex, with as many unknowns, as scaling impact on family health.

Some say they are ready not to be ready. They are prepared to treat readiness not as an on-off switch, but as a continuous variable that changes over time. They know that the question is not, “Are we ready or not?” but “Are we ready enough?”



## A state of health

If we had a machine to measure readiness, it would be like a blood pressure cuff, offering a range of scores that has to be interpreted, varies from day to day, and may require corrective action. (Coptic Mission Hospital, Lusaka, Zambia, 2012)

*Photo: Bill & Melinda Gates Foundation / Frederic Courbet*