

A SHOT OF HOPE WITH A GAME CHANGING VACCINE

Using Lessons Learnt, A Social Vaccine Can Build Societal Immunity To The Devastating Effects Of Pandemics, Now And Later

Over the initial phase of the national lockdown (March 24 to April 14), India reported a 20-fold increase in confirmed SARS-CoV-2/COVID-19 cases (468 to >10,000), and a 36-fold increase in deaths (9 to 330). Increased testing may partly account for this; but testing is still inadequate and this data represent underestimates. The case-fatality of 2% to 3% is indicative of the large number of deaths India can expect.

Debates about the relative merits of mitigation to “flatten the curve” versus allowing “herd immunity” to build naturally are increasingly irrelevant. The failures in widespread testing for infection or for immunity imply that transmission-chains via asymptomatic, mildly-symptomatic and pre-symptomatic people remain undetected. Most countries, including India, are inadvertently employing hybrid strategies.

The lockdown (an extreme example of mitigation) has been extended to May 3. The dire socio-economic consequences and the scale of human tragedy that play out daily make a prolonged total lockdown undesirable. Alongside infection-control, a strategic plan of action to mitigate suffering and to stimulate economic recovery is urgently needed.

As a series of measures

In a recent interview, the Union Health Minister, Harsh Vardhan, asserted that lockdowns and social distancing are the most effective “social vaccines” available to fight the pandemic. A social vaccine has far broader implications.

So what is a social vaccine? A social vaccine is a metaphor for a series of social and behavioral measures that governments can use to raise public consciousness about unhealthy situations through social mobilization. Social mobilization can empower populations to resist unhealthy practices, increase resilience, and foster advocacy for change. This can drive political will to take action in the interests of society and hold governments accountable to address the social determinants of health by adopting progressive socio-economic policies and regulatory mechanisms that promote health equity and reduce vulnerability to disease.

When applied to pandemics, the effectiveness of a social vaccine is determined by the extent of dissemination and uptake of accurate information about personal infection risk and methods to reduce the risk through consistent core messages disseminated through a variety of means. A social vaccine addresses barriers and facilitators of behavior change, whether attitudinal, social, cultural, or economic, and supplements information, education, and communication (IEC) with targeted social and behavior change communication (SBCC) strategies.

Uganda and Thailand used these strategies effectively during the HIV/AIDS pandemic to bring down the incidence of HIV, before antiretroviral treatment (HAART) was introduced in 1995. They demonstrated how an effective social vaccine helped “flatten the curve” till effective treatments were discovered that dramatically reduced mortality, viral loads and infection transmission.

Lessons from HIV pandemic

The human immunodeficiency virus (HIV) that causes the acquired immune deficiency syndrome (AIDS) is believed to have made the zoonotic jump from monkeys through chimpanzees to humans in Africa as early as the 1920s, but the HIV/AIDS epidemic was detected in 1981 and was a pandemic by 1985. From 1981 till December 2018, around 74.9 (range: 58.3 to 98.1) million people worldwide were HIV-infected, and around 32.0 (range: 23.6 to 43.8) million died (43%, range: 41 to 45%) from AIDS-related illnesses.

The early years of the HIV/AIDS pandemic were also a time of global panic. The cause was unknown (till 1984) and diagnostic tests were unavailable (till 1985). Since there was no treatment, a diagnosis of HIV infection was a death sentence. Widespread fears of contagion rendered many infected people homeless and unemployed. Many were denied access to care. Stigma, discrimination

and violence towards infected individuals, their families, social groups (sex-workers, gay men, drug users, truck drivers, migrants), and even health workers, were common. Criminalizing sex-work and injecting drug use followed. Conspiracy theories, misinformation and unproven remedies were widely propagated. The blame game targeted world leaders and international agencies. The preparedness of health systems, societal prejudices and socio-economic inequities were starkly exposed.

Reducing HIV transmission centered on acknowledging that everybody was potentially infected — even those apparently healthy — and that infection occurred predominantly through sexual transmission and intravenous drug use. The core preventive messages involved being faithful to one sexual partner or 100% condom use during sexual intercourse outside stable relationships; resisting peer-pressure for risky behaviors, and harm reduction for intravenous drug use. These measures conflicted with prevailing cultural, social, religious, behavioral and legal norms. IEC and SBCC activities targeted (and partnered) individuals, families, community leaders, peer-led community networks and social and health systems to change attitudes and behaviors. Religious and community leaders were key change agents. For example, the Catholic Church in Uganda did not initially support promoting condoms for safe sex since its use prevents life. After large numbers of people died of AIDS, their tacit acknowledgment that their religion did not preclude the use of condoms to prevent death was an important turning point. Thailand pioneered the effective use of social marketing of condoms for safe sex and used humour to defuse social taboos about publicly discussing sex.

These strategies and advocacy against stigma and discrimination were successfully adapted in India. These skills and experiences can be innovatively adapted for the current pandemic.

How it can work

The core infection-control messages are available from official sources. Maintaining physical distancing in social situations (unless impossible) and wearing cloth masks or facial coverings in public (especially where distancing is impossible) by 100% of people (and 100% of the time) is key to preventing infection along with regular disinfection of oneself and one's surroundings. Effective and innovative IEC and SBCC strategies should address the barriers and facilitators to implementation. People are more likely to practice these behaviors if all leaders (without exception) promote them publicly and consistently, the whole community believes in their importance, and if proper information, support, and materials are available and accessible. Coercive or punitive methods are invariably counter-productive, as was seen with HIV/AIDS.

A social vaccine also requires people to hold leaders accountable to invest in: rapidly scaling-up testing; meeting the basic and economic needs of vulnerable sections; providing psychological support where needed; not communalizing or politicizing the pandemic; providing adequate personal protective equipment (PPE) to front-line workers in health, sanitation, transport and other essential services; and not compromising the privacy and dignity of infected individuals and their families in the interest of public health. Building trust is key if government-imposed mitigation strategies are to be embraced by the population.

Re-purposing and funding relevant industries and small and medium businesses to produce materials such as PPE, hand sanitizers and medical equipment; community groups to supply cloth masks, soap, etc., and innovative social marketing of these are other essential components of the social vaccine. The components of the social vaccine should be in place before relaxing or lifting the lockdown.

There is still no biomedical vaccine for HIV/AIDS. Considering the limited efficacy and uptake of influenza vaccines, vaccines for SARS-CoV-2/COVID-19 may not provide a panacea. Effective treatments to reduce deaths with COVID-19 may emerge, but till then, and even afterwards, a social vaccine is needed. A social vaccine can build societal immunity to the devastating effects of future pandemics by the lessons learned about addressing the root causes, and our responses to the current one.

Meanings of Difficult Words:

1. **shot** (noun) – injection, inoculation (of a vaccine/drug).
2. **vaccine** (noun) – a biological preparation that improves immunity to a particular disease.
3. **social vaccine** (noun) – a metaphor (symbolic thing) for a series of social and behavioural measures that governments can use to raise public consciousness about unhealthy situations through social mobilisation.
4. **societal** (adjective) – general, communal, collective, social.
5. **devastating** (adjective) – destructive, ruinous, disastrous, catastrophic.
6. **pandemic** (noun) – the worldwide spread of a new disease; The illness spreads around the world and typically affects a large number of people across a wide area.
7. **account for** (phrasal verb) – constitute, make up, comprise, form.
8. **case-fatality rate/ratio** (noun) – in epidemiology, the proportion of people who die from a particular disease compared to all individuals diagnosed with the disease over a certain period of time.
9. **relative merits** (noun) – it is used to determine the benefits of two opposing choices or options.
10. **mitigation** (noun) – alleviation, reduction; lessening.
11. **irrelevant** (adjective) – immaterial, unrelated, not germane.
12. **imply** (verb) – say indirectly, suggest, hint.
13. **transmission chain** (noun) – the act or process by which something is spread or passed from one person or thing to another.
14. **inadvertently** (adverb) – accidentally, unintentionally, mistakenly, without intention.
15. **employ** (verb) – use, utilize, make use of.
16. **hybrid** (adjective) – constituting/having different elements.
17. **dire** (adjective) – terrible/awful, appalling, distressing.
18. **tragedy** (noun) – an extremely sad event or situation; disaster, calamity, catastrophe.
19. **play out** (phrasal verb) – happen, occur, take place.
20. **prolonged** (adjective) – lengthy, extended, protracted.
21. **mitigate** (verb) – reduce, lessen, decrease, make less severe.
22. **stimulate** (verb) – prompt, encourage, trigger.
23. **assert** (verb) – declare, announce, state (confidently).
24. **implications** (noun) – consequence/ outcome, ramification, repercussion.
25. **metaphor** (noun) – figure of speech, figurative expression, symbolic thing.
26. **consciousness** (noun) – awareness, knowledge, attention/observation.
27. **mobilisation** (noun) – the act of bringing people/resources together for a particular cause.
28. **empower** (verb) – authorize, allow, entitle.
29. **resilience** (noun) – strength, toughness; the capacity to recover quickly from difficulties.
30. **foster** (verb) – encourage, promote, develop.
31. **advocacy** (noun) – backing, supporting, endorsing.
32. **political will** (noun) – political intention/ desire (to complete a scheme/project even if it is not admired/welcomed in the beginning).
33. **accountable** (adjective) – responsible, liable, answerable.
34. **address** (verb) – tackle, deal with, attend to, try to sort out.
35. **determinant** (noun) – factor, issue, concern.
36. **regulatory** (adjective) – organizational, governmental.
37. **mechanism** (noun) – procedure, process, method/technique.
38. **health equity** (noun) – “Health equity” or “equity in health” implies that ideally everyone should have a fair opportunity to attain their full health potential (and that no one should be disadvantaged from achieving this potential) regardless of demographic, social, economic or geographic strata (level/class/rank/echelon). (Courtesy: WHO)
39. **vulnerability** (noun) – weakness/ defencelessness, frailty, susceptibility.
40. **dissemination** (noun) – spreading, circulation, distribution.
41. **uptake** (noun) – the action of taking up or absorbing something given.
42. **means** (noun) – method, way, procedure.
43. **attitudinal** (adjective) – relating to attitudes.

44. **supplement** (verb) – augment, increase, add to, boost.
45. **incidence** (noun) – refers to the number of new cases that develop in a given period of time whereas “prevalence” refers to the number of cases of a disease that are present in a particular population at a given time.
46. **antiretroviral** (adjective) – relating to the drugs that suppress/stop a retrovirus like HIV. (retrovirus is a type of virus that uses RNA as its genetic material).
47. **viral load** (noun) – the number of viral particles found in each millilitre of blood volume.
48. **zoonotic** (adjective) – relating to a disease that can be transmitted from animals to people.
49. **diagnosis** (noun) – identification, recognition, detection (of an illness/disease from its signs and symptoms).
50. **contagion** (noun) – the spreading of a dangerous disease.
51. **render** (verb) – make, cause to be, cause to become.
52. **stigma** (noun) – shame, disgrace, dishonour.
53. **discrimination** (noun) – prejudice, intolerance, inequity, unfairness.
54. **criminalise** (verb) – make something (an activity) illegal.
55. **remedy** (noun) – solution, answer, antidote/panacea.
56. **propagate** (verb) – spread, promulgate, circulate, transmit.
57. **preparedness** (noun) – readiness, watchfulness/attentiveness; precaution.
58. **starkly** (adverb) – sharply, evidently, clearly/strikingly.
59. **expose** (verb) – reveal, disclose, exhibit.
60. **centre on** (verb) – focus, concentrate, pivot, be based.
61. **apparently** (adverb) – seemingly, evidently, it appears that.
62. **predominantly** (adverb) – mainly, mostly, commonly.
63. **intravenous** (adjective) – taking place/administered within veins.
64. **peer-pressure** (noun) – social pressure; it is the direct influence/pressure on individual by his/her peers (the people of the same age).
65. **prevailing** (adjective) – existing; current.
66. **tacit** (adjective) – silent, implicit, unexpressed.
67. **preclude** (verb) – prevent, prohibit, block/exclude.
68. **pioneer** (verb) – develop, introduce, create, evolve.
69. **humour** (noun) – funniness, comical aspect, witty remarks, jokes.
70. **defuse** (verb) – reduce, lessen/diminish, ease/mitigate.
71. **taboo** (noun) – a prohibition of social actions based on religious, social, cultural (false) beliefs that performing such actions is either too scared, or too dangerous for the human race; prohibition, ban, non-acceptance.
72. **coercive** (adjective) – authoritarian, overbearing/tough/harsh, high-handed.
73. **punitive** (adjective) – disciplinary, corrective, retributive.
74. **invariably** (adverb) – always, every time/each time; habitually/inevitably.
75. **counter-productive** (adjective) – harmful, damaging, dangerous/destructive.
76. **invest in** (verb) – confer on, grant to, vest in, entrust to (a right or power).
77. **scale-up** (verb) – increase.
78. **first responder/front line worker** (noun) – a person who is among the first to arrive and provide assistance at the scene of an emergency. First/front line workers/responders typically include paramedics, emergency medical technicians, police officers, fire-fighters, sanitary workers & etc.,
79. **embrace** (verb) – welcome, accept, adapt, take up.
80. **efficacy** (noun) – effectiveness, efficiency, power/ability to give estimated results.
81. **influenza** (noun) – it is commonly known as “the flu”, is an infectious disease caused by an influenza virus.
82. **panacea** (noun) – perfect solution, universal cure, cure for all, sovereign remedy.