

DATA CHARTING FOR SCOPING REVIEW

SI No	Authors	Year	Title	Methodology	Key findings-policy gaps	Key findings-implementation gaps
1	Eccleston M et.al (12)	2021	International Collaboration to ensure Equitable access to Vaccines for COVID-19: The ACT Accelerator and COVAX Facility	Analysis of publicly available policy documents on COVAX and Literatures		1- COVAX facility failed to secure sufficient participation due to vaccine nationalism. 2- WHO Allocation system fails due to a lack of preparedness and vaccine utilization infrastructure in LMICs.
2	Liza M et.al (13)	2021	COVAX must go beyond Proportional allocation of COVID vaccines to ensure fair and equitable access.	Analysis of COVAX Allocation mechanisms and suggesting alternative	1- Proportional allocation does not meet WHO's own ethical principles for vaccine allocation.	
3	McAdams D et.al (14)	2020	Incentivizing wealthy nations to participate in the COVID-	Analysis of COVAX documents and other literature.		1- Vaccine nationalism via bilateral agreements is the real threat to reaching global herd immunity

			19 on vaccine Global access facility (COVAX): A game theory perspective			2- COVAX's success or failure depends on the participation of wealthier countries along with the question of whether bilateral deals end up crowding up global vaccine supply
4	Tania M et.al (15)	2021	Expert views on COVAX and Equitable Global Access to COVID-19 vaccines.	In-depth interviews with experts along with literature research.	1- Proportional allocation by WHO ignores needs-based considerations 2- Lack of international agreements on any kind of capping the bilateral deals. 3- lack of consensus to tackle IPR issues	1- Less funding to the COVAX facility than required. 2- Lack of enough technology transfer 3- Obstacles to multilateralism- the proliferation of bilateral deals
5	Florencia Luna et.al (16)	2021	Brief communication International cooperation in a non-ideal world: the example of COVAX	Analysis of COVAX documents and other literature.	1- WHO allocation mechanism should be need-based 2- No enforcement of international cooperation by capping the bilateral deals. 3-Lack of transparency in negotiation with pharma industries	1- Vaccine nationalism is the major obstacle for international cooperation

6	Felix Stein (17)	2021	Risky business: COVAX and the financialization of global vaccine equity	Review of COVAX documents, in-depth interviews	<p>1- Enables members to strike bilateral deals (This weakened the COVAX).</p> <p>2- Supports pharma cooperates rather than working to force the prices down.</p> <p>3- Creation of COVAX AMC as a way to bypass the IPR issues.</p> <p>4- No contract details of AMC APAs.</p> <p>5- Adjustment of vaccination threshold of HIC, UMIC via COVAX from 20% to 50%. (Violation of Equity principles).</p> <p>6- COVAX didn't challenge IPR privileges of Pharma companies but instead subsidizes them.</p>	<p>1- Convincing wealthy countries to join COVAX.</p> <p>2- HICs hit vaccine deals with same companies COVAX was relying which causes further competition, eventually leading to less supply to COVAX</p>
7	Ann Usher (18)	2021	How vaccine shortages change COVAX strategy	Review of COVAX documents and other literature	1- COVAX was forced to distribute vaccines to HIC despite their bilateral deals. (Lack of vaccines to LMICS in constrained supply settings)	1- Supply shortages to COVAX due to bilateral deals

8	Lancet Editorial (19)	2021	Access to COVID-19 vaccines: Looking beyond COVAX		1- Different regions and countries have different vaccination targets. Also WHO target is different from COVAX supply targets.	1- Rich countries paid lip service to COVAX and brought up more vaccines from the market
9	Ann Usher (20)	2021	A beautiful idea: How COVAX has fallen short	World report	1- Optional purchase agreement- against equity principles(ceiling raised to 50% for HICs, made to lure HIC to join COVAX. 2- COVAX running short of vaccines, but still have to give one fifth to few rich countries. 3-COVAX lowered the SFC funding window (lack of funds) 4. Traditional aid financing approach for LMICs. 5. IP issues not addressed.	1- COVAX didn't have funds to compete with HIC to procure vaccines due to vaccine nationalism. 2-COVAX rolls out slower in LMICs than HICs. 3- three dozen countries bypassed COVAX and made huge deals with manufacturers. So not enough SFCs joined to give the collective buying power expected by COVAX. 4- COVAX took time to convince HICs to join and weakened itself. 5- Lag in securing Finances
10	Katherin i T et.al (21)	2021	COVAX and dose sharing	Review of COVAX documents	1- COVAX allocated vaccines to HICs despite shortage of	1- political reality is different that if HICs don't participate, the

				and other literature	supply. 2- Needs based allocation mechanism	alliance would have completely collapsed.
11	Siddharth Sharma et.al (22)	2021	WHO's allocation framework for COVAX: is it fair?	Review of COVAX documents and other literature	1- WHO's fair allocation system is inadequate	
12	Katherini T et.al (23)	2021	COVAX and the rise of Super-Public Private Partnership for global health	Review of COVAX documents and other literature	1- Governance failure- 81 % of representatives from HICs and UMICs. 2- dose sharing mechanism- Only voluntary, with no enforcement.	1- Vaccine nationalism undermined COVAX supply and purchasing power. 2- a long time for COVAX to make negotiations. 3. Instead of joining COVAX for procurement, HICs give money to COVAX AMC. 4- COVAX didn't get timely access to vaccines.
13	Antoine de et.al (24)	2021	COVAX, vaccine donations and the politics of global vaccine inequity	Review of COVAX documents and other literature	1- No enforcement mechanisms. 2- Contractual impediments by pharma companies against donation and sharing of vaccines.	1- delayed delivery of vaccines to COVAX. 2- Vaccines arrived at short notice and short shelf life. 3- donations earmarked

14	GAVI (43)	2021 NOV	Global Vaccination	GAVI official website article		<p>1- Less vaccines available to LMICs.</p> <p>2- Booster doses and vaccine nationalism</p> <p>3- Wealthy countries monopolizing available vaccines</p> <p>4- Export restrictions hinder free flow of vaccines</p> <p>5- vaccine hoarding by HICs</p>
15	GAVI (40)	2021 OCT	Health is a political choice	GAVI official website article		<p>1- Lag of delivering donated doses by HICs.</p> <p>2-Lack of transparency in manufacturing order books of Pharma companies as COVAX face delays and pushed to end of the queue</p>
16	GAVI (53)	2021 AUG	Intellectual property and COVID-19 vaccines	GAVI official website article	1- COVAX supports more for technological transfer/sharing rather than the waiver of IPR	1- Single biggest obstacle of COVAX- vaccine supply

17	GAVI WHITE PAPER (63)	2021	The future of global pandemic security	GAVI at UNGA 76	<p>1- No international treaty to prevent vaccine hoarding.</p> <p>2- WTO failed to put an end to export bans during a pandemic.</p> <p>3- No waiver of IPR.</p> <p>4- Paying to pharma companies from public funds instead of sufficient technology sharing and local manufacturing.</p>	<p>1- Widespread vaccine nationalism and hoarding by wealthy countries.</p> <p>2- COVAX repeatedly deprioritized by the vaccine manufacturers at the end of the line.</p> <p>3- COVAX, since not a pre existing mechanism, took time to raise funds and support.</p> <p>4- Lack of funds at the initial stages of COVAX</p> <p>5- limited number of manufacturing facilities in the world that too predominantly in global north</p>
18	GAVI (52)	2021	The G20 Must Recommit to COVAX	GAVI official website article	<p>1- COVAX facility ought to be able to negotiate and buy its own doses. It was never meant to be a platform for donation. But as vaccine hoarding was more, COVAX relied more on donations from HICs.</p> <p>2- HICs acted only on national priority basis paying lip service to notion of Global vaccine</p>	<p>1- COVAX inability to access doses early owes to- time lag in funding so that wealthy countries locked up all the early vaccine supplies, Export bans, difficulties to upscale manufacturing.</p> <p>2- Even though COVAX has legally binding agreements with vaccine manufacturers, the facility suffered too much delay in accessing them due to lack of</p>

					equity. 3- COVAX was obliged to provide doses to richer nations owing to the structure and arrangement made by COVAX Facility even when the facility faced serious supply constraints.	transparency in 'order books'
19	GAVI (44)	2021	Sharing of COVID-19 vaccines	GAVI official website article	1- Earmarking of shared doses by HICs is contradictory to COVAX principles	1- The second wave in India caused reallocation of vaccines from SII to domestic usage and COVAX faced a shortfall of 190 million doses in June-July 2021
20	Holzer F et.al (25)	2021	Equitable access to COVID-19 vaccines	Analysis of COVAX documents and other literature.	1- Nation states are allowed to negotiate multiple APAs forgoing the participation in COVAX. 2- No global governance mechanism coordinating or sanctioning non cooperating countries in distributive schemes like COVAX.	

					3- MICs are in a difficult position as they are not poor enough to get donations nor have enough purchasing power to buy their own vaccines.	
21	Ingrid T et.al (42)	2021	From vaccine nationalism to vaccine equity	Analysis of COVAX documents and other literature.	1- Vaccine nationalism gives the flawed view of GH and Global economy where vaccines and medications are treated as market commodities rather than public goods.	
22	Maturitas (26)	2021	Global challenges in distribution of vaccines	Analysis of COVAX documents and other literature.		1- Limited manufacturing facilities around the world which is skewed towards HICs
23	Oliver J et.al (27)	2021	Challenges in ensuring global access to COVID-19 vaccines	Analysis of COVAX documents and other literature.	1- The logic of COVAX- no country should vaccinate more than 20% of their population until all countries have vaccinated 20% of the population. Is it even possible that	1- Highly concentrated state of global vaccine manufacturing capacity in global north. 2- Scarcity in supply. 3- Large volumes of pre-orders by rich countries.

					HICs will agree to this?	4- vaccine nationalism. 5- Concerns about reliability of COVAX on timely vaccine supply leading to more self procurement by countries.
24	Ann Usher (28)	2021	CEPI and lack of transparency	Analysis of COVAX documents and other literature.	1- Lack of transparency in negotiations with pharma companies. 2-CEPI negotiates for R&D and GAVI negotiates for prices and doses. In a pandemic, HICs are not price sensitive, so GAVI has little power to negotiate.	
25	Okereke M (59)	2021	Should big pharma waive IPR for COVID-19 vaccines?	Analysis of COVAX documents and other literature.	1- IPR on COVID-19 vaccines unfair as it was mostly funded by taxpayers money. Lack of waiver of IPR obstructs the timely access to affordable vaccines.	
26	Reider K et.al (41)	2021	Balancing national and international responsibilities in allocating	Analysis of COVAX documents and other literature.	1- In reality, will HICs agree to wait to vaccinate their population until	

			COVID-19 vaccines		HCWs or LICs have been immunized?	
27	Li du et.al (46)	2021	Advance vaccine production in LMIC	Analysis of COVAX documents and other literature.	1- discrepancy between vision of supporting COVID-19 vaccines as public goods Vs the reality of access of LMIC to patented technology and relevant knowledge.	1- Less manufacturing capacity of LMICs
28	Zhehan Li et.al (29)	2021	The Inefficient and Unjust Global Distribution of COVID-19 Vaccines: From a Perspective of Critical Global Justice.	Analysis of COVAX documents and other literature.	1- COVAX has no sufficient enforcement power to make governments take collective binding actions	

29	Iris Borowy (45)	2021	Perspectives on COVID-19 vaccines- The incredible success vs incredible failure	Analysis of COVAX documents and other literature.	<p>1- COVAX FW stayed within the conventional forms by keeping the IPR intact.</p> <p>2- Vaccines are priced only for profit maximization and cost recovery.</p> <p>3- IP creates barrier to the production and distribution of affordable drugs in global south</p> <p>4- Bilateral deals promised early supply to countries and COVAX became additional bidder for contracts with pharma companies instead of a coordinating institution</p>	<p>1- The USA under the Trump administration didn't join COVAX which resulted in initial lack of funding.</p> <p>2- More funding to national programs than COVAX (vaccine nationalism).</p> <p>3- Vaccine donations faced logistical challenges- example Pfizer requires UCC.</p>
30	Marguerite M (30)	2021	COVID-19 vaccines access in Africa	Analysis of Literature	<p>1- Market dominance of few nations undermined COVAX.</p> <p>2- COVAX FW was based on philanthropy and will of wealthier nations that will not lead to equitable and fair</p>	<p>1- Despite being financially committed to COVAX, HICs have prioritized national access over global equity- that depleted supply for LMICs.</p> <p>2- Export restrictions of</p>

					access to vaccines 3-Aims to allocate doses for 20% of population which is far less to achieve herd immunity	vaccines and raw components
31	Int AIDS society with Lancet Commission on health and human rights (61)	2021	Human rights and Fair access to COVID-19 vaccines	Analysis	1- The target of COVAX 20 % is insufficient to reach any control over transmission. Will any wealthy country agree to this?	
32	safura abdul karim (62)	2021	COVID-19 vaccines accessibility and affordability	Analysis	1- No mechanisms for Vaccine price controls or regulations that would cap or set the prices	
33	Kyle Ferguson et.al (56)	2021	Love thy neighbor?	Analysis of Literature	1- Despite cosmopolitan view of justice, the relevant actors in COVAX facility are nation-states	

34	Xiolfan fu et.al (46)	2021	The world has a unique opportunity	Analysis of COVAX documents and other literature.		1- Lack of Funding to COVAX
35	Hans Morten Haugen (51)	2021	Does the TRIPS aspect of IPR prevent COVID-19 vaccines as a public good?	Analysis of TRIPS agreement and other literature	1- No international treaties to specify rights and obligations in the context of global public goods	
36	Bawa singh et.al (31)	2021	COVID-19 and Global distributive health	Analysis of TRIPS agreement and other literature	1- TRIPS are one of the major barriers of health care equity. 2- IPR patenting is the major obstacle for developing countries' vaccine manufacturers to enter the market. 3- The lack of availability of vaccines and medicines to LMICs question the global health governance system	

37	Alexandra Phelen et.al (31)	2021	Legal agreements: barriers and enablers of global vaccine equity	Analysis	1- failed to address the potential impact of IP rights on pandemic vaccines. 2- No international treaty agreed to all WHO members for COVID-19 vaccines. 3- No public international agreement on distribution of vaccines. 4- COVAX has no transparency of the negotiated prices with manufacturers.	
38	Fatima Hassan et.al (57)	2021	Pandemic profiteering - crime against humanity	Analysis of Literature	1- Pandemic profiteering is a human rights violation. 2- Basic problems - Free market, profit driven enterprise based on patent and IPR protection, lack of political will	
39	Parsa Efrani et.al (47)	2021	IP waiver for COVID-19 vaccines	Analysis	1- Market driven by profit margins, not public health. 2- WHO C-TAP - no one shared IP protected vaccine	1- Accumulation of vaccines by HICs. 2-Restricted vaccine production by small number of manufacturers

					information. 3- No support for IP waiver from HICs and vaccine manufacturers	
40	Georgios Kalaitzidis (38)	2021	Equitable vaccine distribution-obstacles	Analysis of Literature	1- Failure of developed world to have a structured ethical FW for COVID-19 vaccine allocation and distribution	
41	Saharfa Sekalala (54)	2021	Decolonizing HR: IP and COVID-vaccines	Analysis	1- COVAX was reduced to a charity platform, a far cry from human rights based one.	
42	Elizabeth F peacocke et.al (39)	2021	Influence factors of equitable access of LMICs	Analysis	1- challenging the role of patent holders who determine the distribution of vaccines. 2- Global governance issue- power rest with few pharma companies controlling the supply and distribution of vaccines	1- Lack of political and financial commitments. 2- Limited knowledge sharing from Vaccine manufacturers. 3- HICs bilaterally donated vaccines. 4- USA invoked the Defense production Act which reduces the active pharma ingredient for AZ manufacture. 5-COVAX pooled purchase APAs faced funding challenges

43	Sudhan Rakimut hu (64)	2021	COVID-19 vaccine inequity amidst booster doses	Analysis	Current global health architecture and existing regulations are inefficient to safeguard equity	
44	Shanti mendis (55)	2021	Regional vaccine production is key to ensuring equity	Analysis	1- COVAX AMC depends on donations. 2- no waiver for IPR and patents.	
45	Fredinand C (33)	2021	Asylum seekers and vaccine	Analysis	1- Under representation of IOM and CSOs in COVAX	
46	Ilona kickbush et.al (34)	2021	Can geopolitics derail pandemic treaty	Analysis	1- COVAX weakened by IPR	1- states and companies preferred negotiations between them only.
47	UNHCR (61)	2021			1- Private profit is prioritized over public health. 2-No IPR waiver	
48	UN ECOSO C (35)	2021			1- Vaccine nationalism breached the extraterritorial obligations of states. 2- IP rules of TRIPS	1- Vaccine nationalism resulted in shortage of vaccines

					agreement make it difficult to achieve international cooperation.	
49	Eduardo A. Rueda-Barrera (47)	2021	The waiver of COVID-19 vaccine patents:	Analysis	1- COVAX 20% target don't stop transmission	1- Dependency on most affordable AZ vaccine- India's second wave caused supply delay
50	Kim JH et.al (36)	2021	OVS USA	Analysis		1- Purchases by USA, Japan, EU and Canada of 8.8 billion doses undermined COVAX negotiating ability with companies to reduce costs.
51	GAVI (37)	2021	COVAX slot swapping		1- Companies decide how to prioritize supply between each government. 2- The order of the queue or criteria for prioritization- not made public	1- Wealthier countries ahead in queue causing delays to supply to COVAX
52	GAVI (63)	2021	Pandemic preparedness			1- Limited supply capacity in Global distribution of vaccines
53	GAVI (48)	2021 AU G	Booster doses	GAVI official website article		1- Many of the HICs started booster doses

