Testimony of

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Chairman Moolenaar, Ranking Member Khanna, and distinguished members of the Committee, thank you for the opportunity to testify on the U.S. drug supply chain exposure to China.

My name is Marta Wosińska, and I am a senior fellow at the Center on Health Policy at the Brookings Institution. I am an economist specializing in the economics of prescription drug markets. Before coming to Brookings, I spent 12 years at federal agencies working on how economic incentives and market structure shape drug markets. I have 15 years of experience studying generic drug supply chains, drug shortages, and the economics of drug manufacturing. Over the past year, I have applied that work specifically to vulnerabilities arising from U.S. dependence on China for generic medicines and key inputs.

Today, I am testifying solely in my personal expert capacity. The views I share are my own, with no financial stake in the outcome.

Over those years, I have watched well-intentioned efforts to "fix" drug supply chains fall short because they did not start with a clear problem definition or a realistic view of trade-offs. Popular solutions—onshoring production and "bringing it all home," or narrowly focusing on active ingredients—often sound strong, but they do not always address the actual points of vulnerability, and when they are applied broadly without priorities, they can waste taxpayer dollars while achieving little. My goal today is to help the Committee think through how to target interventions, so they meaningfully reduce risk from China rather than simply appearing decisive on paper.

Introduction

Few things unsettle patients and clinicians more than hearing that a standard treatment "just isn't available right now." Modern U.S. health care runs on a continuous supply of medications, whose production and sourcing are largely invisible, from routine antibiotics to intensive-care medicines, and that dependence means fragile supply chains can quickly turn into real harm when they fail.

More than 60% of U.S. adults take at least one prescription drug, and roughly one in four take four or more. Among older adults, taking five or more medicines at once is now common. Those prescriptions span thousands of distinct drug products and strengths, but the vast majority are filled with low-cost generics rather than brand-name drugs. In retail and mail-order settings, generics account for over 90% of prescriptions dispensed, even though they make up only a fraction of overall drug spending. In 2024 alone, Americans took roughly 187 billion generic tablets and capsules—about 550 pills per person—covering routine treatments for hypertension, diabetes, depression, infections, and many other conditions.

Because these medicines are inexpensive and usually available, it is easy to overlook how dependent modern care is on a reliable supply. When a routine drug goes into shortage, there are often no easy substitutes at scale, and the consequences range from delayed surgeries, substitutions with less effective or less safe alternatives, medication errors, and avoidable deaths.

Historically, drug shortages in the U.S. have mostly affected generic sterile injectables and have typically been driven by manufacturing quality problems in sterile fill-and-finish operations. But shortages caused by geopolitical export restrictions have not historically contributed to U.S. shortages; they are a forward-looking risk. Should major geopolitical shocks occur, I expect they would look very different: they could affect a much broader set of drugs, including oral solids, and would more likely hit earlier stages of the supply chain because that is where geopolitical exposure exists, as I explain below.

Even as concern about these geopolitical vulnerabilities has grown, federal industrial policy has focused far more on other strategic supply chains than on medicines. Through the CHIPS and Science Act of 2022, Congress has committed $52.7 billion in direct incentives and research funding to revitalize domestic semiconductor manufacturing, but it has not provided comparable funding to strengthen the resilience of generic drug manufacturing—even though disruptions in the medicines supply pose more direct and immediate risks of harm to Americans.

Whereas a chip shortage may mean waiting longer to replace a car or phone, a drug shortage can mean that treatment is delayed or missed altogether, with real consequences for controlling seizures, treating infections, or managing severe pain—conditions that do not stand still while supply catches up.

To date, congressional action on drug supply chains has largely focused on commissioning more studies and transparency requirements rather than on decisive investments in the most fragile, high-stakes parts of the market where we already know supply is vulnerable.

In deciding where to act now, it is important to recognize that we cannot “boil the ocean.” So far, Congress has not committed anything close to the kind of money it devoted to the CHIPS and Science Act, and it would be unrealistic to assume that drug supply chains will suddenly receive even close to the resources devoted to semiconductors. If we simply try to onshore broadly without clear priorities, we risk spending whatever we allocate and changing little about our true points of vulnerability.

Given those limits, it matters what kind of China-related risk we are trying to address. China-related risks also depend on *how* China might disrupt supply. Some drugs are most exposed when China competes with us for scarce supply to meet its own needs, while others would be more attractive targets if Beijing chose to weaponize export controls. The rest of my testimony therefore focuses on three questions: where in the supply chain U.S. exposure to China is greatest, which medicines matter most under those different China-related shocks, and how Congress can prioritize tools—onshoring, friendshoring, and crisis planning—so that limited public dollars do the most to reduce actual patient harm.

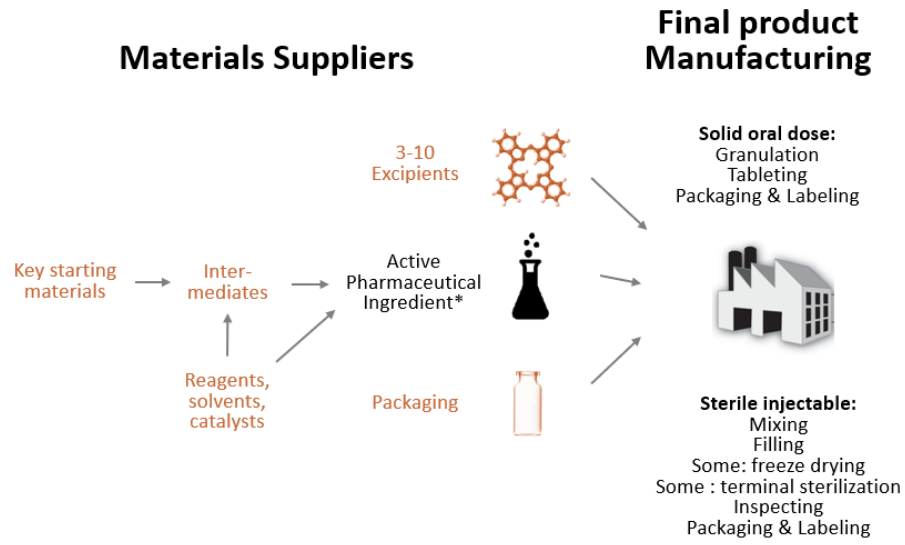
U.S. exposure to China in drug supply chains

To understand where the United States is most exposed to China in drug supply chains, it helps to distinguish manufacturing stages of the drug supply chain.

Production starts with key starting materials and other commodity chemicals such as reagents, solvents, and catalysts. These compounds are chemically synthesized into active ingredients, also called active pharmaceutical ingredients (APIs), the substances that produce the intended therapeutic effect. Sometimes producing active ingredients requires several synthesis steps, with the output of each step called an intermediate.

Figure 1 illustrates these steps from basic chemicals through active ingredients to finished products. In Figure 1, the orange steps indicate upstream chemical inputs that sit earlier in the supply chain and are generally treated as part of the broader chemicals sector rather than as pharmaceutical manufacturing itself—some intermediates do fall under the Food and Drug Administration (FDA) oversight, but many of these inputs are regulated primarily as industrial chemicals—even though active ingredient and finished-dose plants cannot run without them.

Figure 1: Manufacturing steps for small molecule drugs

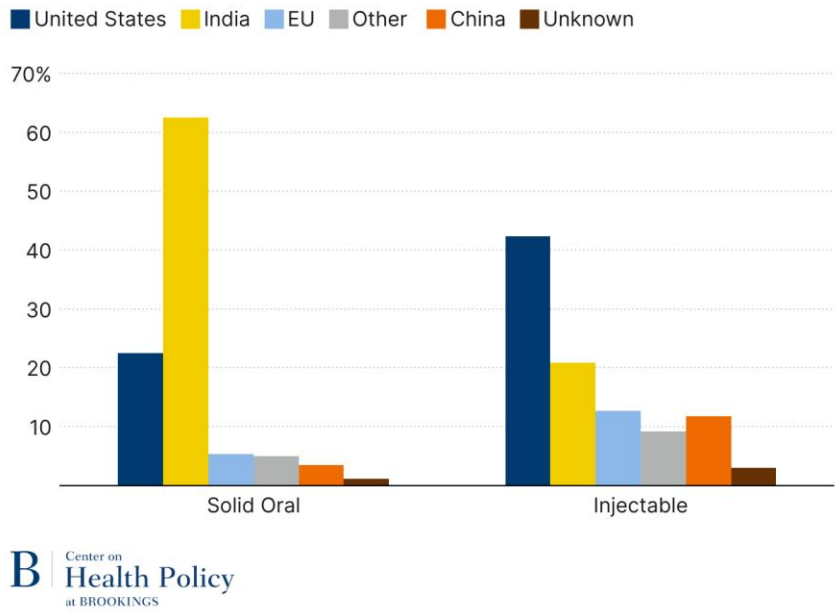


Source: Wosińska (2025) Will pharmaceutical tariffs achieve their goals? | Brookings

The final stages look different. Turning APIs into finished dosage forms such as tablets, capsules, and vials is less about chemical synthesis and more about making a usable product: combining the active ingredient with inactive ingredients like fillers, binders, and stabilizers, then granulating, tableting or filling, and finally packaging and labeling so that patients receive a stable, safe medicine.

China currently plays a relatively small role in finished-dose manufacturing for the U.S. market as Figure 2 indicates. For generic oral solid doses in 2024, India accounts for about 61% of the volume dispensed in U.S. pharmacies, the United States for roughly 22%, and the European Union for about 5%, while China supplied around 3.5%. In contrast, for generic sterile injectables in 2024, U.S. led with 42%, India supplied 21%, Europe 13% and China 12%.

Figure 2: Generic drug volume by location (2024)



Source: Wosińska (2025) Will pharmaceutical tariffs achieve their goals? using USP Medicine Supply Map

The picture changes as we move upstream to the active ingredient stage. In my recent work, I find that Chinese-produced active ingredients are included in perhaps a quarter of the generic drug unit volume sold in the United States—far less than some of the more alarmist claims, but still a substantial share of the generic market. That pattern reflects a steadily expanding footprint. Over the past decade, an increasing number of Chinese firms have notified FDA that they are ready to supply active ingredients for the U.S. market, signaling a shift from commodity chemicals into higher-value ingredients that is unlikely to reverse on its own.

The current footprint masks sharp differences across drug categories. Exposure to Chinese active ingredients is especially acute for many antibiotics, and China also carries a meaningful share of active ingredient production for other widely used small-molecule generics. China is no longer confined to simple commodity active ingredients: Chinese firms are moving into complex peptide synthesis for GLP-1s and other advanced therapies, signaling a shift up the technological ladder that is unlikely to slow down or pause.

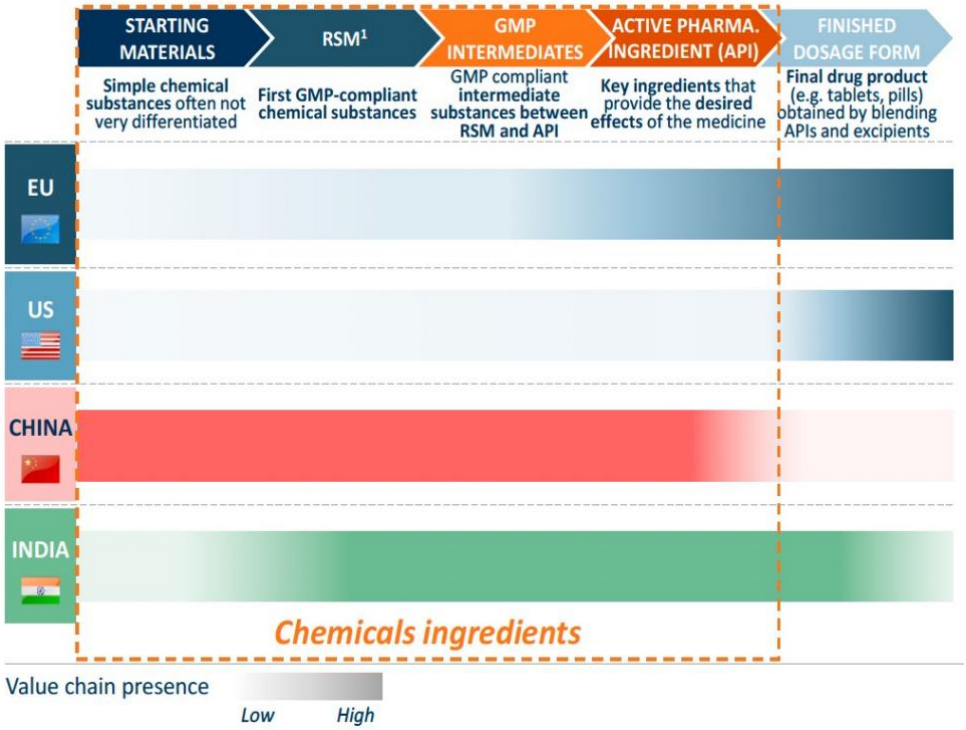
The upstream part of the chain is least well mapped, but there is broad agreement that this is where U.S. exposure to China is greatest. A recent study suggests that nearly 41% of key starting materials used in U.S.-approved active ingredients are sole-sourced from China. But even that understates true exposure because it does not capture the other chemicals needed to make drugs. We know, for example, that India—our main supplier of retail pharmacy generics—relies heavily on Chinese suppliers for the solvents and reagents it uses to make active ingredients, and is likewise heavily dependent on Chinese intermediates for antibiotics as well as major fluorine-rich drug classes such as statins, SSRIs, and key blood-pressure medicines.

Taken together, these data suggest four broad features of U.S. exposure:

1. Our dependence on China is not uniform across all medicines. It is concentrated in particular classes of small-molecule generics and is especially pronounced for the chemical inputs and intermediates those drugs require.
2. Some widely cited statistics overstate U.S. reliance on Chinese active ingredients, often by misreading India's import data or misattributing exposure to wrong production stages, but they nonetheless point toward a real and non-trivial dependence.
3. The most opaque parts of the system—the key starting materials and intermediates stages—are also where China's footprint is largest, making it harder for policymakers to see and manage the real points of vulnerability.
4. China's role is not static. FDA data show Chinese firms moving more aggressively into higher-value active ingredients and, in some cases, finished-dose generics, which means U.S. exposure is likely to increase over time if current trends continue.

Figure 3 provides a visual snapshot of how different countries' presence in the medicines value chain varies by stage. Even though it is constructed from Europe's point of view, where Indian finished-dosage products play a smaller role, the overall pattern is instructive: U.S. capacity is concentrated in finished-dosage forms, while European producers have a stronger footprint in both active ingredients and finished doses, as well as some intermediate steps. China's deepest presence is in upstream starting materials and intermediates on which downstream plants depend, and India straddles the chain—supplying finished generics while still relying heavily on Chinese inputs for key starting materials and intermediates. For the U.S. market specifically, India's role as a finished-dose generic supplier would be larger than this Europe-focused snapshot suggests.

Figure 3: Regional presence across the medicine value chain (EU perspective)



Source: Medicines for Europe, "Overreliance on imports of APIs and key starting materials"

China-related shocks: competition, weaponization and systemic risk

Mapping where we rely on China reveals our points of vulnerability, but policymakers should focus on which of those supply chains are most likely to be disrupted. In that context, it is useful to consider three different scenarios:

- **Competition for scarce supply** – when China retains product to meet its own needs during crises, for example during pandemics or after major natural disasters that disrupt production.
- **Deliberate weaponization of supply chains** – when export controls or other trade restrictions are used to gain leverage over trading partners by exploiting their dependence on key materials or products.
- **System-wide disruption** – when exports from China are broadly curtailed across the board, not just for specific drugs or inputs, creating a generalized shortfall that ripples through U.S. and global supply chains.

Of these scenarios, competition for scarce supply received the most attention during COVID-19, when many countries—including China—restricted exports of a wide range of medical products to meet domestic needs. More recently, concerns have shifted toward deliberate weaponization. China has a track record of using trade and market-access measures to pressure individual partners. That experience raises a natural question for drug supply chains: if Beijing chose to use similar tactics in pharmaceuticals, which drug supply chains are most at risk?

Different products are likely to be salient under the first two channels. For competition over scarce supply, the focus is on medicines that other countries themselves deem essential, because those are the products they are most likely to hold back in a pandemic or other emergency. For weaponization, the most tempting targets are not necessarily the drugs at the top of clinical-essential lists, but products with very high patient reach that leave many people in pain or with noticeably worse symptoms when they are unavailable, combined with a large budget impact that makes it hard to backfill or justify major contingency spending in advance. In other words, competition risk and weaponization risk point to different subsets of drugs, and a one-size-fits-all "essential medicines" list will miss those distinctions.

In thinking about weaponization in this context, it also matters how China has used these tools elsewhere. Much of Beijing's past economic coercion has been murky rather than "in your face": pressure applied through opaque customs delays, informal bans, or sudden drops in orders that let officials deny they are targeting a specific country or firm. By contrast, the recent export controls on critical minerals and rare earths were explicit and not exclusively direct: Beijing not only overtly restricted shipments to the United States, but it also squeezed key allies whose firms are embedded in U.S. supply chains, underscoring that targeting the United States in practice can mean constraining exports to its partners as well.

In pharmaceuticals, by contrast, little U.S. exposure to China is direct. Instead, our dependence runs through intermediaries such as Indian and European manufacturers rather than through large, visible bilateral drug flows, so any attempt to weaponize these links would most likely work by constraining exports of key inputs to third-country producers, making the pressure even harder to see and the bargaining more roundabout than in earlier cases. That pattern also means Beijing would need to exert leverage over the U.S. by restricting exports to allies whose plants supply U.S. markets, forcing any confrontation over medicines to spread beyond a bilateral U.S.–China dispute.

That indirect exposure does not eliminate the supply disruption risk, but it does mean that any serious playbook for drug-supply shocks must run through cooperation with allies whose plants sit between U.S. patients and Chinese chemical exports. These different shock channels are why, in the next section, I turn to how to prioritize which drugs and supply chains to protect first.

Prioritizing where to de-risk

Any serious effort to de-risk U.S. drug supply chain dependence on China will cost money. That money will show up somewhere in the system, either as higher drug prices or premiums for patients, employers, and government programs, or as higher public spending were Congress to appropriate funds or change reimbursement rules. Because any meaningful change in law, payment policy, or sourcing requirements of the kind often described as "Buy American" carries a budget impact, Congress must decide how much we are willing to spend on resilience.

There is no free lunch here, and that reality also limits how far the administration can move on its own without Congress. Onshoring has become a central objective, but it is expensive and slow to scale. Broad pharmaceutical tariffs were one option the Trump administration explored, but without greater certainty that such tariffs would be durable, and without parallel changes to payment systems, they would have done little to create lasting incentives to onshore generics while driving some foreign generic drugs out of the market, increasing shortage risk. The administration is now focusing instead on a narrower effort to stockpile active ingredients for a limited set of top-priority medicines—an important step, but one that still falls short of the broader resilience goals that cannot be met without sustained congressional support.

Given the scale of our dependence on Chinese inputs, and the fiscal reality that drug supply chains are unlikely to receive even close to the resources devoted to sectors like semiconductors, the question is not whether to spend but how to spend wisely. We cannot de-risk every China-exposed supply chain at once, and trying to spread resources thinly across many products risks accomplishing little beyond symbolic onshoring.

Even if Congress moves beyond today's focus on studies and transparency and starts committing real money to de-risking, those dollars will still be weighed against other budget priorities and are unlikely to be appropriated all at once. That means we will face budgetary and operational limits in the near term, no matter what.

With limited dollars and limited operational bandwidth, the problem is essentially one of constrained optimization: we cannot protect every supply chain at once, so we must decide what outcome we are trying to maximize. Congress will ultimately decide what objective to prioritize in that optimization, but my recommendations are grounded in one that focuses on patients: minimizing expected harm to patients rather than minimizing political discomfort when shortages occur.

A useful way to turn that optimization problem into concrete decisions is the Criticality–Reach–Vulnerability framework. In this approach, Criticality captures how severe the clinical harm is when therapy is interrupted, Reach reflects how many patients and settings depend on a product, and Vulnerability reflects how fragile the supply chain is and how easily shocks turn into shortages. Applied to the three shock scenarios I described—competition for scarce supply, deliberate weaponization, and system-wide disruption—this framework points us toward drugs where loss of therapy would cause the greatest harm for the greatest number of people, and toward those supply chains where shocks are most likely to translate into actual shortages.

Crucially, the China-related shock scenarios do not all highlight the same drugs. Competition for scarce supply would reasonably elevate medicines that China and other countries also deem essential for their own patients, while weaponization risk would most likely center on high-volume maintenance drugs that are politically salient in the United States but less clinically acute. A single, undifferentiated "essential medicines" list will blur these distinctions and encourage one-size-fits-all responses that are either too costly or misdirected.

This is where a stratified list becomes important. Rather than a single "essential drugs" list, a tiered structure ranks products by criticality and reach, with higher tiers capturing drugs where loss of therapy causes severe harm and where many patients would be affected. Such a list lets policymakers go further down the tiers as more resources become available—expanding protection without redoing the list—and helps determine how far down that list we can go with expensive tools like onshoring, and where we instead need to supplement with lower-cost tools such as stockpiles or friendshoring.

In thinking about which drugs are most important to protect, it is crucial to distinguish between patients who are affected by a disruption and patients who are harmed by it. Statins are a great example of a political-headache drug: about 90 million Americans use them, so a disruption would touch many people and generate intense attention, but because clinical harm builds slowly, even a year-long interruption would cause far less immediate harm in aggregate than shortages of many acute-care drugs. By contrast, there are medicines with a much smaller number of users—such as certain trauma, critical-care, and resuscitation drugs—where a large share of patients deprived of treatment would die or face irreversible harm within hours or days.

Under tight budgets, investments that protect the latter group typically produce far more health benefit per dollar than broad efforts to insulate high-volume maintenance drugs like statins. A strategy focused on minimizing total patient harm will therefore sometimes skip over a higher-visibility drug when the additional cost of securing it is so high that the same resources could protect several other products with greater combined benefit.

These trade-offs become even sharper in weaponization scenarios. It is in these situations where good policy and political incentives can diverge most sharply: the drugs that generate the most calls to congressional offices are not always the ones where each dollar of resilience spending prevents the most harm.

For political-headache drugs like statins, the return on investment in avoided clinical harm is relatively low, so they are poor candidates for the most expensive tools, even if shortages would be highly visible and politically painful. Pursuing full onshoring for statins would not only crowd out funding for clinically more critical medicines, it also would not meaningfully reduce weaponization risk, because China could quickly shift pressure to another widely used chronic medicine. For these high-volume maintenance drugs, the better path is to rely on lighter-touch interventions that can minimize the risk of disruptive, headline-grabbing shortages without displacing investments in drugs where shortages translate directly into preventable death.

If Congress uses this kind of stratified, China-aware framework to guide spending, it can avoid the temptation to "sprinkle" funds across many visible products and instead concentrate the most expensive tools where they deliver the greatest reduction in expected harm.

Building a smart de-risking strategy

De-risking U.S. dependence on China will require a portfolio of tools, in part because it is neither fiscally nor operationally feasible to onshore every vulnerable supply chain. That portfolio has three main pillars: targeted onshoring of the most critical supply chains, friendshoring and trade policy that shift broader production into allied jurisdictions, and advance planning for allocation and communication when shortages still occur. A realistic strategy uses these tools together under tight budget and time constraints, reserving the most expensive options for the highest-stakes products. The goal is not to eliminate every China-related risk, which is impossible, but to align each tool with the parts of the China-exposed system where it can prevent the most harm.

Onshoring

Policymakers often fixate on "making more API in the United States," but if the key starting materials still come from China, making active ingredients on U.S. soil does little to change our underlying risk. For drugs that rank high on importance and exposure, onshoring only helps if we treat drug manufacturing as a full supply chain problem rather than focusing solely on the visible, later stages that are usually labeled as "drug manufacturing." That means looking beyond finished dose and even beyond active ingredients to critical starting materials and intermediates, many of which are now produced almost entirely in China.

For the earliest, chemical stages of the chain—key starting materials, intermediates, and auxiliary chemicals like reagents and solvents—one option is to rely more on cost-competitive production in allied countries rather than trying to recreate all of China's capacity inside the United States. But for some strategically sensitive inputs, we will still want domestic capability, and here it is important not to imagine that we can simply replay China's old model of cheap, highly polluting chemistry. China undercut Indian and Western producers in part by operating with weaker environmental and workplace protections and by exploiting large economies of scale. Even if the United States were willing to lower standards below India's, we would still face a cost gap because we cannot easily match China's scale.

That is why any serious onshoring strategy for chemicals has to look forward rather than backward, focusing on innovation, cleaner and more efficient technologies, and shared infrastructure instead of stand-alone, legacy plants. Green-chemistry approaches and chemical industrial parks—where multiple firms share wastewater treatment, utilities, testing facilities, safety systems, and logistics—offer a way to support multiple high-priority supply chains while meeting U.S. environmental standards and keeping per-unit costs competitive. Parks also make public dollars work harder: if one producer exits, another can plug into the same infrastructure, protecting the investment and maintaining supply continuity. Over time, technologies like synthetic biology may provide alternative routes to some inputs, but they are not yet at the scale we would need in a crisis, so a pragmatic strategy starts with building innovative, modern chemical capacity now.

For active ingredients and finished doses, the first priority is to avoid losing the U.S. capacity we already have, especially for acute-care and hospital drugs that serve as a backstop in crises. Targeted capital investment support—through grants, tax credits, or loans—for facilities that commit to resilient, non-Chinese supply chains can help preserve and expand that base, and it should also make it easier for new, reliable entrants to scale up. But bricks and mortar alone are not enough.

Those investments will not be sustainable if the drug reimbursement system continues to reward only the lowest price. Generic manufacturers that invest in resilience also need predictable demand and reimbursement that recognizes reliability, not just cost. The Centers for Medicare & Medicaid Services

(CMS) has begun to test this idea—most recently by proposing to pay differently for certain domestically produced acute-care drugs—and that is a welcome step toward aligning payment with reliability. But because CMS's approach is limited to U.S. plants, it cannot by itself support the broader base of reliable, non-Chinese capacity in allied countries that already supply much of the U.S. market.

The bipartisan Senate Finance proposal for add-on payments tied to supply-reliability contracts points toward the broader framework we actually need and deserves to be revisited and further developed, rather than left on the shelf. A reliability-based add-on can be structured to reward both high-performing U.S. manufacturers and those in allied countries, making it realistic for firms to invest in non-Chinese inputs and capacity without assuming that competitors relying on cheaper Chinese chemicals will undercut them as soon as public attention moves on. In other words, CMS's domestic initiative is a useful start, but payment reform ultimately needs to extend to the friendshored suppliers that will anchor many of the most practical alternatives to China.

Friendshoring

Because we will only have the money and bandwidth to onshore a limited set of the most critical supply chains, we need a strategy for the rest. For many drugs, that strategy is friendshoring—shifting and strengthening production in allied countries that are already major suppliers to the U.S. market and have their own reasons to reduce dependence on China.

Most generic active ingredient and finished-dose production for the U.S. market already takes place abroad, so it is Indian and European manufacturers that buy Chinese chemicals and intermediates. Their governments are now moving to reduce that reliance through targeted subsidies and industrial policy: since 2020, India has launched production-linked incentive schemes and bulk-drug parks to rebuild domestic capacity for critical starting materials, intermediates, and active ingredients, while the EU's pending Critical Medicines Act would channel state aid and fast-tracked permits into strengthening supply chains for selected critical medicines with high China exposure. Japan is likewise investing to restart and upgrade domestic fermentation-based capacity for key antibiotics to reduce reliance on Chinese inputs. These moves can benefit the U.S. without the commitment of additional American taxpayer dollars.

Taken together, these efforts create potential non-Chinese supply options for U.S. patients without new American subsidies—but only if buyers are willing to pay enough to keep that capacity viable.

One recent example is Xellia, a Danish producer of critical antibiotic active ingredients and injectables that is winding down its Copenhagen facility and shifting production to lower-cost sites, including in China, because purchasers have not been willing to pay enough to sustain local capacity—even though many of its products are on FDA and European Union critical-medicine lists. From a U.S. perspective, that is both a warning and an opportunity: without changing how we pay for generics, American buyers will continue to default to the cheapest China-linked option, but with the right payment signals, U.S. purchasers could instead help anchor production in allied facilities like these. That argues for reliability-linked payment policies that apply not only to onshored plants but also to friendshored, non-Chinese suppliers, so that de-risked capacity in Europe is commercially viable for U.S.-bound products.

In that environment, U.S. policy needs to work with—rather than undercut—partners that are already doing the hard work of de-risking. India, in particular, should be a central counterpart in ongoing trade discussions, with U.S. policy reinforcing its efforts to rebuild capacity not only for active ingredients but also for auxiliary chemicals for which it now relies heavily on China. Concerns about product quality in

some foreign plants are real, but they are not a reason to ignore friendshoring; they are a reason to pair friendshoring with stronger, risk-based oversight and quality incentives, as I have argued elsewhere. We can and should address quality and China-related dependence as distinct, complementary problems rather than treating them as an all-or-nothing choice between "cheap but risky" imports and "onshore everything."

Deepening that cooperation can expand India's role as a low-cost, non-Chinese supplier of critical steps in the chain, building on de-risking strategies it is already implementing and allowing capacity to come online faster than if the United States tried to start from scratch. A complementary step is to treat Mexico as a friendshoring platform, especially to leverage its significant chemicals capacity. Other partners can play similar roles, provided that trade, regulatory, and payment policies support high-quality, reliable production in those friendshored facilities.

Within that cooperative frame, tariffs can still play a useful role if they are targeted. Right now, there is a 10% tariff on products that use Chinese-sourced active ingredients, but broader U.S. tariff policy remains uncertain, so the signal to manufacturers is weak. A wedge between tariffs on pharmaceuticals with Chinese active ingredients and the same products from other locations can push active ingredient production away from China toward lower-cost allies, creating more friendshoring than reshoring but still reducing direct exposure to China. Having Congress step in to expand and lock in that wedge in statute would make the signal durable and predictable, reinforcing the economic incentive to source inputs outside China rather than waiting to see whether tariffs will be reversed.

Done well, friendshoring takes seriously the fact that if we tried to de-risk chemical inputs from China purely through U.S. production, we would effectively have to move all stages of production onshore, because Indian manufacturers are unlikely to buy U.S. chemicals without China-like prices and low shipping costs. Our allies, by contrast, have their own strong reasons to keep medicines flowing and are already investing in de-risking their supply chains, and we should be leveraging that rather than trying to go it alone. A smarter approach is to use taxpayer dollars to underwrite deeper de-risking for a relatively small set of the most clinically critical medicines, while working with allies so that they take on a larger share of the effort for many other drugs. That strategy stretches public funds far more effectively than an "onshore everything" vision, which may be attractive in theory but is not achievable in practice.

Planning for crisis management

Even with significant engagement on onshoring and friendshoring, the United States will remain exposed in the short and medium term to shortages if China chooses to curtail exports of necessary chemicals and intermediates, especially for widely used maintenance drugs, where full de-risking would be extremely costly and a less efficient use of taxpayer dollars given the lower return in avoided clinical harm. For this reason, we should be prepared for potential disruptions with playbooks that minimize harm when shortages do occur. In those cases, the key tool is not more capacity overnight, but smarter use of the doses we have and clear communication with patients and clinicians about allocation, available substitutes, and what to do when substitutes are limited or unavailable.

For drugs where patients differ sharply in how much harm they suffer from missed doses, planning ahead is especially important. Statins illustrate this heterogeneity clearly: about 90 million Americans use them, so a disruption would touch many people. Yet for most users, the risk from temporarily stopping therapy accumulates only gradually, so even a prolonged interruption would cause far less immediate harm for them than for the smaller group of patients at very high cardiovascular risk—such as those with recent heart attacks, strokes, or severe hypercholesterolemia.

If we want to minimize harm, those very high-risk patients should be first in line for scarce lipid-lowering therapy—if not for statins themselves, then for PCSK9 inhibitors, a newer class of injectable cholesterol-lowering drugs used when statins are not enough or not tolerated. The same logic applies to other "political-headache" products whose shortages are highly visible but clinically heterogeneous: if the goal is to minimize harm, allocation plans should explicitly prioritize the patients and indications where loss of therapy truly changes outcomes, rather than letting first-come-first-served or hoarding determine who gets treated.

Looking back at recent crises, it is clear that we would have benefited from more of this kind of advance planning. Rollout of COVID-19 monoclonal antibodies would have benefited from agreed-upon criteria, referral pathways, and communication tools ready to activate as soon as doses were available; instead the drugs were sent to settings to which COVID-19 patients, many of them in nursing homes, had difficulties in accessing. The recent National Academies assessment on the 2022 infant formula shortage similarly underscored that communication and expectation-setting are part of resilience: agencies need plans for how they will explain shortages, triage rules, and available substitutes to the public and to front-line clinicians, so that panic buying and misinformation do not magnify the harm.

A pragmatic way forward is to treat these structured, clinically grounded use-and-communication plans as part of basic preparedness, much like playbooks that federal and state agencies rely on in natural disasters and other large-scale emergencies. Evidence from disaster preparedness shows that modest investments in advance planning yield a high return in avoided disruption and economic loss, so for selected high-priority drugs, relevant agencies should develop and periodically test such plans in advance, tied to the same criticality tiers I described earlier. In the China context, these playbooks are the main way to manage residual risk for high-volume drugs where full de-risking would be prohibitively expensive or slow, ensuring that when shocks occur, we still allocate scarce supply in ways that minimize preventable harm.

Conclusion

The United States cannot and should not try to buy its way out of every vulnerability in the drug supply chain. Public dollars are limited, and poorly targeted interventions can waste taxpayer money while doing little to keep patients safe. The goal must be to get the most health and security benefit for every dollar we spend—using the most expensive tools sparingly, where they protect the most patients from the most serious harm, and relying on lighter-touch tools elsewhere.

To do that, policymakers need to act on the information we already have, rather than waiting for perfect data. We should use today's imperfect but sufficient map to move quickly on the highest-stakes drugs and supply chains, even as we continue to improve transparency and measurement in the background.

In practical terms, this points to several priorities for Congress:

1. Direct the Department of Health and Human Services to develop and maintain a stratification framework for medicines that integrates clinical criticality, patient reach, and China-related supply-chain exposure, and use that framework to guide de-risking investments and interventions rather than relying on a single, undifferentiated "essential medicines" list.
2. Reserve costly full-chain onshoring—including key starting materials and intermediates—for drugs that HHS identifies as highest tier under that framework, and pair those efforts with payment reforms that reward manufacturers for resilient, non-Chinese supply chains rather than just the lowest price.

3. Give the administration clear direction and tools to work with allies to expand their role as non-Chinese suppliers of critical inputs and finished products by authorizing and funding programs that support trade discussions explicitly focused on de-risking U.S.-bound drug supply chains from China and establishing a durable tariff wedge that favors non-Chinese sourcing, while ensuring that downstream payment rules do not undercut those ally-based supply chains.
4. To ensure this does not simply swap China dependence for fragile or low-quality alternatives, align regulatory and payment policies to reward both non-Chinese sourcing and demonstrably high-quality, reliable production—for example, by tying support to stronger oversight and performance metrics for Indian and other foreign plants, rather than assuming that any move away from China is an improvement.
5. Require relevant federal agencies to develop and periodically test crisis allocation and communication playbooks for selected high-priority drugs with significant China exposure, drawing on that same framework so that, when shortages occur, scarce supply is allocated in ways that minimize preventable harm rather than simply responding to political pressure.

A de-risking strategy built on these principles will not eliminate every vulnerability, but it will shift resources away from symbolic gestures and toward a focused, fiscally realistic effort that reduces the most serious China-related risks to American patients.