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Syringe Reuse and Systemic Neglect: An Urgent Policy Call on Pakistan's Recurring HIV Outbreaks

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ABSTRACT

Background: Between 2018 and 2026, Pakistan recorded at least five geographically distinct HIV clusters, most recently at Kulsum Bai Valika (KBV) SESSI Hospital, Karachi, where confirmed infections passed 120 by mid-2026. Most clusters have been attributed to unsafe injection practices. To use the KBV cluster as a primary case study, compare it with the Ratodero, Sargodha, Taunsa and Islamabad clusters, identify shared structural causes, and propose an implementable national policy framework.

Methods: Peer-reviewed literature, WHO regional publications, hospital inquiry findings, provincial ombudsman records and investigative journalism were searched and synthesized for each cluster, with cluster inclusion based on a documented association with unsafe medical injection practice.

Results: Every cluster examined was linked to syringe reuse or comparable infection-control failures. A 2021 systematic review found iatrogenic transmission was the main contributing factor in five of seven outbreaks recorded in Pakistan between 2000 and 2019. A 2019-2020 survey found 70% of inspected private practitioners in Sindh were unlicensed.

Conclusion: Facility-specific inquiries have not prevented recurrence. Five structural gaps, unenforced injection-safety protocols, absent real-time surveillance, treatment-stock shortfalls, unregulated private practice, and late accountability, recur across all clusters and require a standing, funded, nationally enforced policy response rather than further case-by-case inquiry.

Keywords: HIV outbreak; Pakistan; syringe reuse; infection prevention and control; pediatric HIV; health policy

Background

In October 2025, a pediatrician in Karachi's Pathan Colony identified children with no history of blood transfusion, infected parents, or behavioral risk factors testing positive for HIV after routine hospital visits for conditions such as fever or vaccination. Within months, confirmed infections tied to Kulsum Bai Valika (KBV) Hospital, run by the Sindh Employees' Social Security Institution (SESSI), climbed past 120, with more than 10 500 residents screened in the surrounding neighborhood (1–3).

This is not an isolated event. Pakistan has recorded multiple geographically distinct HIV clusters since 2018: Sargodha's Kot Imrana (2018), Ratodero (2019), Taunsa (2024-2025), a disputed rise in Islamabad (2025-2026), and now KBV, nearly all traced to unsafe reuse of needles and syringes in facilities meant to treat rather than infect the patients who attend them (4–8,18). A 2021 systematic review of HIV outbreaks reported in Pakistan between 2000 and 2019 found that iatrogenic transmission from unsafe injection practices was the main contributing factor in five of seven documented events (23), indicating that this is not a series of unrelated administrative accidents but a recognised, published pattern that the health system has known about for several years without a durable structural remedy. Each new cluster has so far produced a similar sequence: an individual clinician notices an anomaly, screening confirms a cluster, an inquiry assigns blame to specific individuals, and the underlying system that allowed the failure to go undetected is left largely unchanged until the next cluster repeats the pattern. This paper treats KBV as the primary case study and places it alongside the Taunsa, Islamabad, Ratodero and Sargodha clusters to test whether these represent isolated administrative failures or a recurring, systemic gap in Pakistan's infection-control governance.

Objectives

This paper aims to: (i) describe the KBV cluster in detail as the primary case study; (ii) compare it against the Taunsa, Islamabad, Ratodero and Sargodha clusters; (iii) identify structural causes common across clusters; and (iv) propose a specific, implementable national policy framework addressing those causes, specifying for each element a responsible institution, an implementation timeline, and a measurable success indicator.

Methods

Sources were identified through targeted searches of PubMed, Google Scholar, WHO/EMRO publications, and Pakistani and international news media, using terms including "Pakistan HIV outbreak", "syringe reuse", "Taunsa", "Ratodero", "Kulsum Bai Valika" and "Sargodha HIV", conducted in July 2026. Searches were restricted to English-language material, a scope limitation that excludes untranslated Urdu- and Sindhi-language reporting. Peer-reviewed and WHO-verified sources were prioritized where available. The Ratodero (2019) and Sargodha (2018) clusters rest on such literature, reflecting the years since passed for it to be produced. The KBV, Taunsa and Islamabad clusters are recent enough, some still unfolding at the time of writing, that no comparable peer-reviewed epidemiology yet exists; evidence for these three rests on investigative journalism, hospital inquiry findings, and provincial ombudsman hearing records. This asymmetry in evidence quality across the five clusters is disclosed here so the comparative findings can be weighed accordingly. Cluster inclusion followed a single criterion: a publicly documented cluster of paediatric or general-population HIV cases in Pakistan attributed, provisionally or conclusively, to unsafe medical injection practice, applied consistently including to Islamabad, where attribution is itself contested and reported as such throughout this paper.

Results

Case study: Kulsum Bai Valika SESSI Hospital

The first cluster at KBV surfaced in October 2025 (1). Sindh's Health Department Communicable Disease Control team began screening the following day, and an inquiry committee formed within the week, a genuinely rapid institutional response by Pakistani standards (1). That speed was not matched by containment. The initial inquiry confirmed HIV infection in 16 children and two deaths; a subsequent inquiry lifted the confirmed count to 78 cases and six deaths (1). Over the following weeks the count rose again, to 80, then 94, then 120, as further screening and hospital receipt audits identified additional infected children, some from the same family (1,2,9,10,19). Of the 120 confirmed cases as of mid-July 2026, 81 were registered SESSI beneficiaries; the remaining 39, though not covered by the institution, were still receiving free treatment from the provincial government (1,2). A parallel screening drive at SESSI's Landhi facility, roughly ten kilometres away, found ten additional positive cases among nearly 2000 people tested, indicating the failure was not confined to a single ward or a single negligent employee (2,3).

The disciplinary response, while more decisive than in earlier outbreaks, still reads as reactive rather than preventive. Two doctors were suspended after an inquiry committee held them responsible for negligence, maladministration and breaches of medical protocol; a dispenser was removed from his post; show-cause notices were issued to 37 additional doctors, nurses and administrative staff, each given fourteen days to respond (9). Preliminary findings pointed to the failure modes outside observers had already predicted: improper syringe handling, inadequate disposal of medical waste, and an absence of functioning oversight mechanisms inside the hospital (9). The Sindh Ombudsman's office, engaged since November 2025, directed the establishment of a dedicated isolation ward, a comprehensive inquiry, a third-party audit of the facility, and free, high-quality treatment for all affected children (10). At a hearing in July 2026, the Ombudsman's advisers disclosed sixteen newly confirmed pediatric cases and recommended temporarily reassigning experienced physicians from the Sindh Infectious Diseases Hospital to KBV to strengthen its clinical capacity (10). Parents at that hearing raised a further, less-discussed failure: medicine shortages, reimbursement delays, and what they described as inadequate administrative support for families now facing a lifelong illness in a child who had walked into the hospital for something as routine as a fever (10).

Comparator clusters:

Taunsa, Punjab (2024-2025):

At least 331 children tested positive between November 2024 and October 2025 (5,6). The outbreak was first flagged in late 2024 by a physician at a private clinic who noticed an unusual number of pediatric HIV presentations, the same detection pathway that later caught the KBV cluster (5,6). A BBC Eye investigation, filming undercover over roughly 32 hours inside the hospital, recorded ten separate instances of staff reusing the same syringe for the same multi-dose drug vial across different patients, four of which involved the identical vial being administered to different children in succession; separate reporting on the same footage documented staff injecting patients without sterile gloves on close to 66 occasions, despite safe-injection posters displayed on the hospital's own walls (7,17). Of 97 mothers tested for maternal transmission, only four were HIV-positive, meaning the overwhelming majority of infections were consistent with an iatrogenic rather than maternal source; a contaminated needle was cited as the probable route in over half of confirmed cases (7). Provincial authorities suspended the hospital's medical superintendent in March 2025, after case numbers had already passed 100, and announced a public crackdown; months later the same broadcaster returned with insider testimony and further undercover footage indicating unsafe practices had continued largely unchanged (6,16). A microbiologist who reviewed the footage noted that replacing only the needle is insufficient, since the syringe barrel itself can retain and transmit virus, meaning partial compliance with safe-injection guidance can still produce an outbreak (16).

Islamabad (2025-2026):

618 registered cases at the PIMS HIV Centre by April 2026, 210 local residents and 408 who had travelled from outside the city for treatment (8). The federal health minister attributed the rise to increased screening uptake rather than a new outbreak, noting that the highest monthly figures, 41 cases in January and 40 in March 2026, reflected people coming forward for testing rather than a growing cluster (8). Whether or not this constitutes a discrete outbreak in the epidemiological sense used for KBV or Taunsa, the underlying trend is striking against the national backdrop: WHO estimates Pakistan's annual new HIV infections rose approximately 200% between 2010 and 2024, from about 16 000 to about 48 000, with an estimated 350 000 people living with HIV nationally and nearly 80% unaware of their status (14). A rise driven by screening uptake is a different problem from a rise driven by unsafe injections, but both point to the same underlying gap: the country lacks a system capable of distinguishing between the two in real time.

Ratodero, Sindh (2019):

More than 26 000 people were screened and 751 tested HIV-positive by June 2019 (4). A separate assessment covering the same

district found 881 of 21 962 screened children positive, about 4.0%, and identified unsafe injection practices by private practitioners as the predominant transmission mode (23). Only 324 of the confirmed cases, 43%, were able to access antiretroviral therapy, because the country did not hold sufficient stock; existing supplies were calculated to last only until mid-July 2019 for the roughly 240 children already enrolled, leaving little room to onboard the hundreds of others who had already tested positive (4). Infection was only the first failure; treatment access was the second, and it was a resource failure within the government's control to prevent. An infectious disease specialist involved in the Ratodero response later reflected that infection control in Pakistan was poor or effectively absent, and that practitioners often lacked the logistics and supplies necessary to prevent and contain infections in the first place (11).

Sargodha, Kot Imrana (2018):

22 people tested HIV-positive following exposure to an unqualified practitioner administering unsafe injections, a reminder that these events are not confined to Sindh, nor to any single province's health bureaucracy, nor to formal hospital settings (18,23).

Regulatory context

Underneath every cluster documented above sits a workforce and enforcement problem that Pakistan's health departments have measured but not solved. A structured inspection across six divisions of Sindh following Ratodero examined 4315 private practitioners and found that 3022 of them, 70%, were operating without a valid licence, highest in Shaheed Benazirabad division (13). WHO defines a safe injection as one that does not harm the recipient, does not expose the provider to risk, and does not generate hazardous waste (12). A WHO injection-safety consultant, writing after Ratodero, noted that patients often associate injections with effective treatment even where oral medicine would suffice, and providers have a financial incentive to supply them, sometimes reusing syringes to cut costs in poorer districts (15). A 2018 modelling estimate put the global annual toll of unsafe injections at approximately 1.67 million hepatitis B infections, 315 000 hepatitis C infections, and nearly 34 000 HIV infections (18). Pakistan carries one of the world's highest hepatitis C burdens, consistent with the same underlying injection-safety failure now producing headline HIV clusters (15).

Discussion

Five structural gaps recur across the clusters examined. This paper treats each as a policy failure rather than an unavoidable circumstance, an inference supported by the fact that the same failure modes recur across geographically and administratively distinct clusters, which is difficult to explain if the underlying causes were truly unavoidable rather than structural.

Pakistan is not the only country where a poorly resourced health system has produced a large paediatric HIV cluster through unsafe injection practice. In Romania, a nosocomial epidemic uncovered in 1989 eventually accounted for roughly 10 000 infected children, most infected between 1987 and 1991 through reused syringes and unscreened blood given as informal micro-transfusions in state orphanages (24). In Libya, an outbreak at Al-Fateh Children's Hospital in Benghazi in 1998 infected more than 400 children and was, at the time, the largest documented nosocomial HIV outbreak recorded anywhere, later attributed to reused equipment and a shortage of disposable supplies rather than deliberate infection (25). Both cases share the mechanism now visible in Pakistan: infection control breaking down under resource pressure inside institutions meant to protect the patients least able to advocate for themselves. Pakistan's recurring clusters suggest a country still at the point these two examples eventually moved past, treating each outbreak as a discrete scandal to be investigated rather than as a symptom of a system that has not yet closed the gap between having safety protocols on paper and enforcing them in practice.

First, injection-safety protocols exist on paper but are not independently verified in practice. Pakistan has infection-prevention-and-control guidelines for public hospitals; what it lacks is routine, unannounced verification that those guidelines are followed at the point of care. The Taunsa case illustrates this directly: a publicly announced 2025 crackdown did not prevent unsafe practices from continuing months later, as documented by follow-up filming (6). A policy that is not independently audited functions as a statement of intent rather than an enforced standard.

Second, outbreak detection has depended on individual clinicians noticing anomalies rather than on systematic surveillance. Both Taunsa and KBV were identified this way, months after transmission had likely begun, because no laboratory reporting system, sentinel network, or facility-level audit flagged the pattern automatically (1,6,7). Pakistan's actual outbreak-detection capacity is therefore a function of individual physician vigilance rather than institutional design.

Third, treatment capacity has not matched case-finding. Ratodero's 43% ART coverage shortfall in 2019 was a resourcing failure that predates the more recent clusters and should have been remedied as a standing national priority afterward; the recurring medicine-shortage and reimbursement-delay complaints raised by parents at KBV in 2026 suggest the underlying capacity problem, if not identical to 2019, has not been fully closed (4,10).

Fourth, the unlicensed-practitioner base, documented at 70% in Sindh's private sector, sits largely outside the reach of hospital-level reform, and affected the entirely non-hospital Sargodha cluster directly (13,18). Even a perfectly reformed KBV or Taunsa hospital would leave this larger unregulated provider base untouched.

Fifth, accountability has arrived late and landed unevenly. At KBV, disciplinary notices followed only after case counts had already climbed past 90, months after the first infections (9). At Taunsa, a suspended superintendent's facility reportedly continued unsafe practices regardless (6,16). In one account of the Ratodero aftermath, a doctor found negligent was later cleared and returned to practice at another public facility (16). Accountability mechanisms triggered by scandal, rather than by routine audit, arrive structurally too late to prevent the harm they are meant to punish, and are not always durable even once they arrive.

These failures carry a direct human cost that the case counts alone do not convey. A child infected through a routine hospital visit now faces a lifetime of antiretroviral therapy in a system where treatment access has previously failed to keep pace with diagnosis; families in Taunsa described social stigma directly traceable to a diagnosis their children did nothing to bring on themselves, and parents at KBV described bringing children in for minor ailments and leaving with a lifelong illness affecting multiple children in the same family (5,9,10). Every new cluster also erodes public trust in facilities that Pakistan's poorest citizens have no private-sector alternative to: SESSI hospitals such as KBV exist specifically to serve low-income formal-sector workers and their families, and when the safety-net facility becomes the source of a life-altering infection, the population it was built to protect has nowhere else to turn. With an estimated 80% of people living with HIV in Pakistan unaware of their status nationally, the clusters described here are almost certainly an undercount of transmission linked to unsafe medical practice (14).

Table 1 sets out a five-pillar policy framework addressing each structural gap identified above, specifying the responsible institution, an implementation timeline, and a measurable success indicator for each pillar. None of the five pillars requires new technology or unproven methods; every element already exists in some form within

Pakistan's health system, and several, including the Sindh practitioner survey and the Ombudsman's KBV directives, have already been piloted successfully in isolation. What has been missing is the political will and standing budget to convert isolated pilots into a permanent, funded, nationally enforced system, rather than emergency responses assembled anew after each outbreak makes the news.

This paper has limitations. The search strategy was conducted by a single author rather than as a formal systematic review with predefined criteria applied by more than one reviewer, and should be read as a structured narrative synthesis. The English-language restriction means some Urdu- and Sindhi-language sources may not be reflected here. Case figures for KBV and Islamabad were current only as of July 2026 and should be re-verified against current sources given both situations remained active at the time of writing.

Table 1. Five-pillar policy framework for preventing recurrent healthcare-associated HIV outbreaks in Pakistan

Pillar	Action	Responsible body	Timeline	Success indicator
Pillar 1: Unannounced infection-control audits	Unannounced infection-control inspections at least twice yearly at all public and SESSI-run facilities, using a structured checklist; results published facility-by-facility.	Provincial Infection Control Inspectorate, independent of hospital administration, reporting to the Provincial Assembly health oversight committee.	Pilot in Larkana, Taunsa/Dera Ghazi Khan and Karachi's SESSI network within 6 months; province-wide within 18 months.	Falling rate of syringe-reuse and multi-dose-vial violations per inspection.
Pillar 2: National real-time paediatric HIV surveillance	Link paediatric HIV testing data from public laboratories, PIMS-model centres and SESSI facilities into a dashboard capable of flagging clustering automatically.	National AIDS Control Programme, with provincial AIDS Control Programmes, using the existing Global Fund-supported network.	Pilot dashboard for Sindh and Punjab within 12 months; national coverage within 3 years.	Reduced interval between first suspected case and confirmed institutional response.
Pillar 3: Guaranteed, pre-positioned ART stock	Standing buffer stock of paediatric antiretroviral therapy at provincial level, sized to absorb a cluster on the scale of Ratodero or Taunsa without rationing.	Provincial AIDS Control Programmes, with national oversight and Global Fund procurement coordination.	Stock audit immediately; buffer stock within 1 year, reviewed annually.	100% ART enrolment of confirmed paediatric cases within 30 days of diagnosis.
Pillar 4: Crackdown on unlicensed practice	Extend Sindh's post-Ratodero inspection methodology nationally as a recurring annual exercise; pair enforcement with expanded government primary-care hours.	Provincial Healthcare Commissions, with district administrations and Health Departments.	National baseline survey within 18 months; enforcement on a rolling basis thereafter.	Falling share of unlicensed practitioners identified in successive survey rounds.
Pillar 5: Standing oversight of disciplinary follow-through	Statutory authority for provincial ombudsman offices to compel and verify corrective action, with public quarterly reporting.	Provincial Ombudsman offices, with a standing HIV/infection-control unit.	Immediate for KBV and Taunsa; statutory footing elsewhere within one legislative session.	No repeat of a disciplined facility or practitioner resuming unsafe practice.

Conclusion

KBV is not an aberration but the latest instance of a pattern documented since at least 2018. Each cluster has produced a similar sequence: a clinician notices an anomaly, screening confirms a cluster, an inquiry assigns individual blame, and the underlying system is left largely unchanged until the next cluster repeats the sequence. Ratodero taught Pakistan that unsafe injection practices could produce a cluster of hundreds of infections and that treatment stock could not keep pace with case-finding. Sargodha showed the same failure outside a formal hospital setting entirely. Taunsa taught the country that a public crackdown does not guarantee changed behaviour inside a facility. Islamabad's disputed figures show the health system still cannot reliably distinguish a genuine outbreak from a rise driven by screening uptake. KBV is now teaching a version of the same lesson again, at a cost measured in children's lifelong illness rather than administrative inconvenience.

Declarations

Funding: This work received no specific funding from any funding agency in the public, commercial, or not-for-profit sectors.

Conflict of interest: The author declares no conflict of interest.

Ethical Considerations: As this study is based entirely on publicly available literature, hospital inquiry reports, ombudsman records, and investigative journalism rather than direct data collection from human participants, formal ethics committee approval was not required. No new or identifying information concerning affected children, families, or hospital staff is disclosed beyond what is already publicly documented. References to individual clinicians reflect established institutional findings and are presented to illustrate systemic accountability gaps rather than to attribute personal culpability.

Author's note: This paper draws on publicly available reporting, hospital inquiry findings, and ombudsman hearing records current as of July 2026. As the KBV and Islamabad clusters were still active at the time of writing, case figures should be verified against current sources before further use.

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