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Letter to Editor

From Data to Impact: Leveraging Point Prevalence Surveys for Antimicrobial Stewardship in India

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Dear Editor,

Antimicrobial resistance (AMR) has steadily emerged as one of the most pressing public health threats of our time. This is not a distant or theoretical risk—it is already reshaping how we manage routine infections in hospitals and clinics across India. While national action plans and global surveillance frameworks are critical, they often remain out of reach for many low- and middle-income countries (LMICs), where healthcare systems are diverse and infrastructure varies widely. In India, the absence of routine electronic surveillance, combined with heterogeneous clinical documentation practices, makes consistent monitoring of antimicrobial use particularly challenging—especially in secondary and tertiary care settings.

Against this backdrop, one of the most practical tools available is also one of the simplest: the Point Prevalence Survey (PPS). Cost-effective, scalable, and repeatable, PPS offer a snapshot of antimicrobial prescribing that can guide stewardship efforts even in resource-limited environments. That's why, for India and similar settings, PPS represent a vital, actionable approach—translating fragmented data into focused action against AMR[1, 2].

PPS in Practice- Insights from the SASPI Collaborated Study

The SASPI (Society of Antimicrobial Stewardship PractIces) in India-facilitated Point Prevalence Survey stands as a practical model for localized PPS adaptation in India. Conducted across eight geographically diverse tertiary care hospitals—including a mix of older and newly established public tertiary care institutions—the study captured antimicrobial prescribing patterns among nearly 4000 inpatients. Using the WHO PPS framework as a foundation, the team customized data collection tools to reflect local priorities, incorporating variables such as redundant antibiotic combinations and prescriber-intended versus observed indications. Data collection was streamlined using digital platforms (Google Forms), ensuring scalability and ease of use across varied hospital settings[1]. At its core, a PPS is deceptively simple: capture data on antibiotic prescriptions on a single day. But each data point holds up a mirror to clinical realities—diagnostic uncertainty, therapeutic habits, hospital protocols, and system pressures. For instance, in the PPS, nearly half of all prescriptions were empiric, with intensive care units showing the highest usage rates, and prolonged surgical prophylaxis was common—both patterns reflecting actionable targets for stewardship.

The SASPI survey found that 59% of hospitalized patients were receiving antibiotics, with a majority prescribed empirically—without microbiological confirmation. That might seem like sound clinical judgment in under-resourced settings, but it becomes worrying when over half of the antibiotics used fall into the WHO "Watch" category—agents (except some

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deviations at few local sites) that should be reserved for specific, high-risk infections due to their greater potential for resistance. Meanwhile, the "Access" group, intended to be the first line of defence, was underused comparatively. These trends echo a broader global challenge of misaligned antibiotic use in low- and middle-income countries (LMICs) [2].

Key Steps in Conducting PPS: Global Standards and Indian Adaptations

The World Health Organization (WHO) outlines five essential steps in conducting a Point Prevalence Survey (PPS): defining the scope and sample, training data collectors, applying standardized case definitions, selecting appropriate data capture tools, and establishing feedback and reporting mechanisms. These core elements ensure consistency, comparability, and actionable outcomes across settings. In this PPS, these global standards were carefully adapted to fit the Indian healthcare context. The scope included inpatient wards across eight tertiary care centres, with data collectors trained through centralized online sessions. Instead of paper-based forms, user-friendly simple digital tools (like Google Forms and Microsoft Excel) were employed to facilitate data entry and standardisation. Case definitions and antimicrobial categories followed WHO guidance but were supplemented with locally relevant indicators, including redundant antibiotic combinations and rationality assessment by an indigenous tool (AmRAT 2.0)[3]. Importantly, the central coordinating site emphasised practical feedback: preliminary results were shared with sites through meetings, to promote understanding and uptake. Trained Clinical Pharmacologists, Microbiologists, ID Physicians, and Physicians, Resident doctors, and nurses, led the data collection, ensuring clinical accuracy while maintaining feasibility within resource-constrained environments.

But PPS goes beyond just quantifying prescriptions. The strength of the SASPI collaborative study lies in its ability to ask contextual questions: Why are antibiotics being used? What are the clinical indications? Are combinations evidence-based or redundant? These questions led investigators to certain answers, such as common redundant combinations—like dual anaerobic or broad-spectrum gram-negative cover—and detailed evaluation of surgical prophylaxis duration. Although snapshots, these answers provided visibility of local protocols, patient profiles, and institutional practices, enabling a more nuanced understanding of irrational use beyond textbook definitions. This approach transformed PPS from a static audit into a dynamic quality improvement tool.

Importantly, the findings don't disappear into a publication—they go back to hospitals as tailored feedback. This promotes a culture of reflection and evidence-based action. In doing so, the PPS becomes an essential pillar of Antimicrobial Stewardship Programs (AMSPs)—grounding them not in imported frameworks, but in local, hospital-specific realities.

This isn't an isolated success. A recent systematic review from sub-Saharan Africa found a similarly high point prevalence of antibiotic use—64%—with particularly high use in intensive care units (89%) and a predominance of prescriptions for community-acquired infections[3]. The over-reliance on broad-spectrum agents and empiric therapies there parallels what SASPI uncovered in India. These findings from two very different geographies show that the usefulness of PPS is not limited to a single country—it is a scalable, adaptable, and globally relevant methodology for real-world stewardship.

From Global Standards to Indian Reality

Stewardship can sometimes feel abstract—about policy, checklists, and compliance. PPS makes it tangible. It empowers individual hospitals, even those with limited resources, to see their blind spots and take ownership. In India, where AMSP implementation has often lagged and tagged to infrastructural and training challenges, a PPS offers a feasible entry point.

Even more promising is the growing participation of newer, less-resourced hospitals in PPS exercises. This shift signals a culture change: AMSP is no longer the domain of elite, academic institutions alone. With the WHO now offering toolkits tailored for LMICs, the infrastructure to support broader adoption is already in place[2].

To fully leverage the power of PPS, regularity is key. These surveys shouldn't be one-time academic events—they should be institutionalised, repeated annually or biannually, so hospitals can track improvements and adjust stewardship strategies dynamically. They must also be supported by trained data collectors, leadership engagement, and alignment with electronic health records where possible.

Ideally, PPS should integrate with broader national antimicrobial resistance monitoring frameworks. They are not meant to replace deep-dive audits or longitudinal surveillance, but they are a crucial layer—especially in settings where other forms of data are scarce or delayed.

In a country as large and diverse as India, no single policy or guideline will fit all. But the beauty of PPS lies in its flexibility. It offers each hospital a focused,

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feasible way to begin understanding and improving its antimicrobial use.

The SASPI collaborated PPS is not just a dataset—it's a nudge toward accountability. It reminds us that stewardship begins with visibility. And if we are willing to look closely and act boldly, we might just be able to slow the tide of resistance.

Aspect	Global WHO Definition	Indian Adaptation (SASPI Example)
Purpose	Snapshot of antibiotic use & prescribing practices	Entry point for AMS in hospitals
Who collects data	Trained hospital staff	Resident doctors, nurses, AMS team members
Data collected	Drug, indication, duration, route	Adds redundancy check, rationale, local protocols
Tools used	WHO paper forms or digital	Google Forms / Excel with customizations
Frequency	One-time or repeatable	Designed for regular use (quarterly/biannual)
Feedback method	Written report	Shared via meetings and electronic transfer of data and report to sites

Key Takeaways

- PPS is a cost-effective, scalable AMS tool for Indian hospitals
- Aligns well with ICMR/NCDC and state AMR strategies
- Success depends on repeatability, local leadership, and actionable feedback

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The authors declare no conflict of interest

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