Impact Assessment Report

Expansion of antimicrobial stewardship program (AMSP) and infection prevention & control program (IPC) of ICMR

Pfizer Limited | April 2026

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Abbreviations

Abbreviation	Full Form
AMR	Antimicrobial Resistance
AMSP	Antimicrobial Resistance Stewardship Program
CSR	Corporate Social Responsibility
DDD	Defined Daily Dose
DOT	Days of Therapy
ICMR	Indian Council of Medical Research
IPC	Infection and Prevention Control Program
NABH	National Accreditation Board for Hospitals & Healthcare Providers
NAP-AMR	National Action Plan on Antimicrobial Resistance
SDGs	Sustainable Development Goals
ToC	Theory of Change

1.About Pfizer[1]

Pfizer India, a subsidiary of the global biopharmaceutical company Pfizer, has been serving communities in India for more than seven decades. Guided by its core purpose, "Breakthroughs that change patients' lives," the company focuses on strengthening healthcare access, nurturing scientific innovation, and improving community well-being across the country.

The company's CSR vision emphasizes on healthcare equity, disease prevention, capacity strengthening, and humanitarian support. Key focus areas include encouraging healthcare innovation, supporting national health priorities, expanding access to care, promoting hygiene and sanitation, and leading community outreach initiatives.

Through such initiatives, Pfizer India continues to contribute meaningfully to public health, community development, and long-term sustainability, reinforcing its role as a socially responsible and trusted healthcare leader.

1.1 About ICMR

The Indian Council of Medical Research (ICMR) is India's apex body for the formulation, coordination, and promotion of biomedical research. Established in 1911 as the Indian Research Fund Association, it functions under the Ministry of Health and Family Welfare, Government of India. ICMR plays a vital role in addressing national health priorities by conducting research, setting ethical guidelines, and supporting medical innovation. Through its network of national institutes and research centers, ICMR contributes to disease control, public health policy, clinical research, and capacity building, thereby strengthening India's healthcare system and scientific advancement.

1.2 About Antimicrobial Stewardship

Antimicrobial Resistance (AMR) occurs when bacteria, parasites, viruses, and fungi evolve in ways that make antimicrobial medicines ineffective, resulting in infections that are increasingly difficult or even impossible to treat[2]. Globally, AMR has emerged as a major public health threat; in 2023, **nearly one in six laboratory-confirmed bacterial infections worldwide were caused by antibiotic-resistant bacteria**[3]. India faces a particularly high burden due to factors such as high infectious disease prevalence, misuse and overuse of antibiotics, and limited access to diagnostics in some settings.

Estimates suggest that **approximately 267,000 deaths in India in 2021 were directly attributable to AMR**, while around 987,000 deaths were associated with drug-resistant infections.[4]Rising resistance in common pathogens has led to longer illnesses, higher

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[1] Pfizer's CSR Vision
[2] WHO Fact Sheet
[3] WHO Global Antimicrobial Resistance and Use Surveillance System (GLASS)
[4] The burden of antimicrobial resistance (AMR) in India

healthcare costs, and increased mortality, highlighting the urgent need for coordinated, system-level interventions.

In this context, strengthening mechanisms to ensure the appropriate and judicious use of antimicrobials is essential to mitigate the growing burden of AMR. Addressing AMR is critical to preserving the effectiveness of existing antimicrobial medicines and ensuring safe healthcare delivery. One of the most effective strategies to combat AMR is the implementation of Antimicrobial Stewardship Programs (AMSP). **Antimicrobial stewardship is a systematic approach that educates and supports healthcare professionals to follow evidence-based guidelines for prescribing and administering antimicrobials.**[5]Since healthcare professionals are the front line in infection management, strengthening their knowledge and practices is essential to prevent inappropriate use of antimicrobials. By promoting rational prescribing, improving infection prevention, and optimizing treatment outcomes, AMSP plays a central role in slowing the development and spread of antimicrobial resistance.

1.3 About the Program

The ICMR–Pfizer Antimicrobial Stewardship and Infection Prevention & Control (AMSP–IPC) Program is a national initiative led by the ICMR aimed at strengthening antimicrobial stewardship and infection prevention practices in secondary and smaller healthcare facilities across India.

The program was launched in March 2017 with support from Pfizer under its Corporate Social Responsibility initiative, the program focuses on expanding ICMR's existing AMSP and IPC framework beyond tertiary institutions to district hospitals and nursing homes within **30–300 bed capacity.**

The program has been implemented through a **hub-and-spoke model, involving 11 nationally recognized mentor centers** that guide and support **94 participating mid-level and small-level hospitals.**

The key objectives include:

1. Improving rational antibiotic use
2. Strengthening infection prevention systems
3. Understanding barriers to AMSP and IPC implementation at the secondary care level
4. Building sustainable capacity among clinicians, microbiologists, and nursing staff

Some of the core activities of the program include:

- Train-the-trainers workshops
- Sensitization and capacity-building programs,
- Development of standardized assessment and data collection tools,
- Mentoring sessions

[5] Promoting antimicrobial stewardship to tackle antimicrobial resistance

Facilities in hospitals are supported through structured hospital assessments, baseline and monthly monitoring of antibiotic consumption (DDD/DOT)[6], patient outcomes, and compliance with stewardship and IPC indicators.

By extending stewardship and IPC practices to smaller healthcare institutions, the program contributes to national antimicrobial resistance (AMR) containment efforts, promotes uniform standards of care, strengthens laboratory and surveillance capacities, and creates long-term networks for sustained public health impact.

1.4 Alignment with Policies and SDGs

Alignment with National Policies and Priorities

The Program is closely aligned with India's **National Action Plan on Antimicrobial Resistance (NAP-AMR) 2017–2021**[7], which outlines a comprehensive, multi-sectoral response to address the growing threat of antimicrobial resistance in the country. The NAP-AMR identifies six strategic priorities, including **improving awareness, strengthening surveillance, promoting rational use of antimicrobials, and building capacity across healthcare systems**.

Through its structured mentor–mentee model, the program strengthens institutional capacity for rational antibiotic prescribing, standardized infection control practices, and microbiological surveillance. This approach **complements ICMR's mandate as the national nodal agency for AMR surveillance** and supports the Government of India's broader efforts to enhance health system resilience and patient safety. The initiative also aligns with national quality and accreditation frameworks such as NABH and Kayakalp, by promoting standardized protocols, multidisciplinary teams, and continuous monitoring of outcomes in participating hospitals.

The rationale for engaging a private-sector partner is rooted in the Government of India's emphasis on public–private partnerships to address complex public health challenges. As highlighted by ICMR leadership during an interaction , the collaboration with Pfizer focuses on funding, training, and communication support, while scientific governance, data ownership, and implementation oversight remain firmly with ICMR. This structure ensures transparency, safeguards public interest, and accelerates scale-up of nationally led AMR interventions.

Alignment with Global Frameworks and the Sustainable Development Goals (SDGs)

Antimicrobial resistance is recognized globally as a major threat to health security, economic development, and poverty reduction. The ICMR–Pfizer program contributes directly to the United Nations Sustainable Development Goals (SDGs), particularly:

SDG 3: Good Health and Well-being

The program supports SDG 3 by reducing healthcare-associated infections, improving rational antibiotic use, and strengthening AMR surveillance and stewardship, leading to better patient outcomes and preservation of effective medicines.

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[6] DDD – Defined Daily Dose, DOT – Days of Therapy

[7] National Action Plan on Antimicrobial Resistance

SDG 17: Partnerships for the Goals
The initiative advances SDG 17 through a public–private partnership that mobilizes resources, expertise, and operational capacity, demonstrating how cross-sector collaboration can deliver sustainable solutions to global health challenges.

By focusing on behaviour change, capacity building, and data-driven interventions at the facility level, the program contributes to global efforts to preserve antimicrobial effectiveness for future generations.

2.Approach and Methodology

2.1 Scope of Work

Pfizer Limited commissioned EY to undertake a third-party impact assessment of **"Expansion of antimicrobial stewardship program (AMSP) and infection prevention & control program (IPC)"**. The objective of this study was to evaluate the outcomes achieved, assess the impact on relevant stakeholders, and determine the projects' contribution to broader social and environmental goals.

2.2 Evaluation Approach and Framework

For conducting the Impact Assessment of CSR projects, EY used the Theory of Change (ToC) Framework to capture the holistic impact of Pfizer's CSR project. This approach helps assess how and why a desired change is expected to happen in a particular project, mapping a project's activities to its intended outcomes.

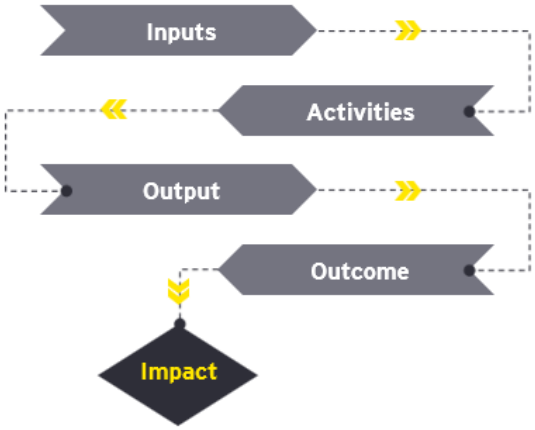

FIGURE 1: THEORY OF CHANGE FRAMEWORK

2.3 Methodology

The impact assessment was designed to adopt a qualitative approach, comprising a review of program documentation and qualitative discussions with key stakeholders. Initially, the methodology envisaged in-depth qualitative consultations with the ICMR project team and representatives from the 11 identified nodal hospitals to capture implementation experiences, outcomes, and on-ground perspectives.

However, owing to practical and operational challenges, including stakeholder availability and logistical constraints, it was not feasible to conduct primary discussions with representatives from the nodal hospitals. Consequently, primary data collection was limited to focused discussions with the ICMR project lead and representatives from the Pfizer CSR team. These discussions were undertaken to understand the program design, implementation progress, and perceived outcomes.

In addition to the above interactions, the assessment relied on a structured review and analysis of key program-related documents, including:

- Memorandum of Understanding (MoU) between ICMR and Pfizer
- Subsequent addendum(s) to the MoU
- ICMR Progress Report (October 2022)

The findings and conclusions presented in this report are based on insights derived from the above discussions and document review.

2.4 Limitations

This impact assessment has been undertaken primarily based on secondary information, including reports submitted by ICMR, publicly available sources, and relevant secondary literature, supplemented by a limited number of discussions with the ICMR project lead and representatives of the Pfizer CSR team. Given practical and operational constraints, primary consultations with a broader set of stakeholders could not be conducted. Accordingly, the assessment reflects insights derived solely from the information and perspectives shared

through these limited interactions. EY has not independently verified the completeness or accuracy of the information provided.

3. Key Findings

The section details the program's key contributions in supporting sustainable antimicrobial resistance (AMR) mitigation.

- **Improving Rational Antibiotic Use**

The program supported more structured approaches to rational antibiotic use in secondary-level hospitals through the introduction of antimicrobial stewardship practices. **Through a nationally coordinated mentoring model, 11 mentor centres supported implementation across 94 secondary-level hospitals**, including district hospitals and nursing homes. Participating facilities were guided to establish stewardship structures, adopt empiric treatment and surgical prophylaxis guidelines, and promote diagnostic-informed prescribing. Training and mentoring activities focused on strengthening practical competencies among clinicians and microbiologists related to antibiotic selection, dosing, and duration.

S.no	Name of the Mentor Center	Participating Mid -Level Hospitals (100-300 Beds)	Participating Small Level Hospitals (30-100 Beds)
1	Sir Ganga Ram Hospital, Delhi	7	1
2	Kasturba Medical College, Manipal	3	6
3	Apollo Hospital, Chennai	5	5
4	AIIMS ,Bhopal	9	1
5	CMC ,Vellore	5	3
6	TMC , Kolkata	5	2
7	AIIMS ,Jodhpur	NA	8
8	Mahim, Mumbai	8	NA
9	AIIMS,Delhi	11	NA
10	PGIMER, Chandigarh	6	2
11	AIMS, Kochi	3	4
Total		62	32

TABLE 2: LIST OF MENTOR CENTERS

- **Strengthening Infection Prevention Systems**

The program contributed to the strengthening of infection prevention and control (IPC) systems by supporting the adoption of standardized IPC practices within routine hospital operations across 94 participating secondary-level hospitals. Facilities undertook IPC readiness assessments and implemented standardized protocols related to hygiene, surveillance, and monitoring. Training and sensitization activities reinforced adherence to IPC practices among healthcare personnel. Alignment of IPC processes with existing hospital quality frameworks and accreditation mechanisms supported the integration of infection prevention as part of regular clinical and administrative processes.

- **Identifying Barriers to AMSP and IPC Implementation at the Secondary Care Level**

Expansion of the program to 94 secondary-level hospitals across diverse geographic regions enabled the identification of common barriers to AMSP and IPC implementation, particularly in mid-level and smaller healthcare facilities that are often excluded from structured stewardship initiatives. **Baseline assessments conducted across participating hospitals generated data on institutional readiness and variations in implementation capacity related to staffing, laboratory infrastructure, and clinical workflows. In 2023, a total of 99,492 culture-positive isolates were reported.**[8]

- **Building Sustainable Capacity Among Clinicians, Microbiologists, and Nursing Staff**

The program adopted a cascade training and mentoring approach to build capacity among clinicians, microbiologists, and nursing staff across the network of 11 mentor centres and 94 participating hospitals. A national train-the-trainers workshop enabled mentor centre teams to support local capacity-building efforts. Subsequent sensitization and training workshops focused on antimicrobial stewardship, diagnostic stewardship, and infection prevention practices for healthcare personnel in participating facilities.

4.Way Forward

The program focussed on expanding antimicrobial stewardship and infection prevention and control practices to secondary-level healthcare settings, strengthening institutional capacity, and initiating systematic data collection on antimicrobial use and infection outcomes. However, implementation across diverse hospital contexts also revealed **persistent structural and operational challenges that affected uniform uptake and sustainability.** These included variability in data submission practices, limited or non-reporting by some hospitals, perceptions of AMSP and IPC as resource-intensive interventions, and human resource constraints, such as the absence of trained microbiologists in many facilities.

As addressing these challenges is critical to consolidating gains and informing a more adaptive and scalable approach in future phases, Pfizer might consider the following measure: -

- **Standardization and Simplification of Data Collection**

Given the centrality of data to antimicrobial resistance surveillance, future efforts should prioritize a standardized and simplified data collection system across participating hospitals. Introducing a uniform data collection tool or centralized dashboard with a clearly

[8] Annual Report 2023 : January 2023 to December 2023 Antimicrobial Resistance Research and Surveillance Network

defined minimum dataset would reduce reporting burden, improve data completeness, and enhance comparability across sites. Streamlined reporting formats and clear timelines would also encourage greater participation from resource-constrained facilities, thereby strengthening the overall quality and utility of surveillance data generated through AMSP and IPC activities.

- **Institutionalization of a Rigorous Monitoring and Evaluation (M&E) Framework**
  Considering the scale, geographic spread, and multi-stakeholder nature of the program, future phases may benefit from the institutionalization of a robust and periodic Monitoring and Evaluation (M&E) framework. A structured M&E mechanism with clearly defined indicators, milestones, and feedback loops would enable timely course correction, support evidence-based decision making, and strengthen accountability.