

Impact Assessment Report

Traffic Police Healthcare Project

Prepared By: NuSocia | January 2026



Prepared For: Kotak Securities Limited



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Ethical Consideration

Informed consent: The interviews were done after the respondents gave their consent. Even after the interviews were completed, their permission was sought to proceed with their responses.

Confidentiality: The information provided by participants has been kept private. At no point were their data or identities disclosed. The research findings have been quoted in a way that does not expose the respondents' identities.

Comfort: The interviews were performed following the respondents' preferences. In addition, the interview time was chosen in consultation with them. At each level, respondents' convenience and comfort were considered.

Right to reject or withdraw: Respondents were guaranteed safety and allowed to refuse to answer questions or withdraw during the study.

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Executive Summary

The Traffic Police Healthcare Project, implemented by the Department of Preventive Oncology at Tata Memorial Hospital with CSR support from Kotak Securities Limited (KSL), provided comprehensive workplace-based screening, prevention, and health awareness services for traffic police personnel across Mumbai, Thane, and Navi Mumbai. Recognising that traffic police are a high-risk occupational group, exposed daily to vehicular pollution, noise, heat, stress, irregular meals, and long working hours, the project aimed to prevent, detect early, and reduce the burden of Non-Communicable Diseases (NCDs), cancers, and respiratory morbidities.

A total of 5,000 police personnel were screened, using simple, validated, low-cost tools for the detection of oral, breast and cervical cancers, diabetes, hypertension, obesity, and respiratory impairment. Structured multilingual awareness sessions were delivered prior to screening, strengthening knowledge on cancer warning signs, tobacco-related risks, NCD prevention, and respiratory health. The project also established clear referral pathways to Tata Memorial Hospital and Nagpada Police Hospital for all screen-positive cases, ensuring continuity of care.

The project was found to be relevant, directly addressing the occupational health risks of a frontline workforce that otherwise struggles to access healthcare due to demanding duty schedules. It proved effective in large-scale screening coverage, efficient in operational planning and workflow design, coherent with national health priorities and SDGs, and sustainable as a scalable, low-cost model that can be replicated across other uniformed and industrial sectors. Importantly, the project also reduced fear and stigma around screening, motivating officers to seek preventive care proactively.

The initiative generated health and institutional impact, including early identification of hypertension, diabetes, respiratory disease, and pre-cancers; enhanced health literacy; increased tobacco quitting intent; improved morale and emotional reassurance; and preservation of long-term workforce productivity. Social Return on Investment (SROI) analysis demonstrated high social value creation by preventing catastrophic healthcare costs through early detection and risk modification. It generated SROI of Rs 40.6 indicates that every Rs 1 invested in the Project, a social value of Rs 40.6 was generated

Introduction

Background

Kotak Securities Limited (KSL) is one of the oldest and trusted equity brokerage firms in India. It was established in 1994 as a subsidiary of Kotak Mahindra Bank Ltd. It offers comprehensive investment services across various asset classes such as equity, debt, mutual funds, commodities, and currencies. KSL serves more than 5 million customer accounts across India with its robust network spanning over ~310 cities, ~145 branches, and ~1000 franchises. KSL stands out for its diverse investment opportunities, accredited research, user-friendly investment platforms, and unique value-added services¹.

KSL has earned a reputation as a reliable partner for investors through its unwavering commitment to quality, innovation, and excellence. KSL contributes to the betterment of society, mirroring the same excellence it brings to its business endeavours. It has showcased its dedication to societal progress through impactful and meaningful CSR initiatives. The CSR efforts of KSL align with India's social development objectives and the United Nations' SDGs. KSL is making a meaningful and lasting impact by addressing key areas such as education, livelihoods, healthcare, environmental sustainability, sports etc. It remains committed to driving positive change through collaborative efforts, ensuring long-term societal benefits and sustainable development.

The project "Collaborative Action for Control of Cancer and Other Non-Communicable Diseases Among Mumbai Police" was implemented in FY 2022-23 with the CSR support of KSL. It was implemented by Tata Memorial Hospital to screen traffic police personnel of Mumbai for common cancers, Non-communicable diseases and respiratory morbidities.

Growing Occupational Health Hazards Among Traffic Police

Traffic police officers continuously risk their health while serving the public. They face constant exposure to vehicular pollution, loud traffic noise, harsh weather, and stressful interactions with commuters. As a result, they are prone to respiratory illnesses, noise-induced hearing loss, skin diseases from UV exposure, musculoskeletal pain, psychological stress, occupational cancers, and other non-communicable diseases. Long-term exposure to pollutants such as benzene and polycyclic aromatic hydrocarbons increases their risk of lung cancer. Evidence shows that air pollution accounts for 6% of global deaths, with vehicular emissions responsible for half of these. Noise remains one of the most common occupational hazards worldwide².

Studies show that traffic police in South Asian countries experience a high burden of work-related health problems. In Bangladesh, ~85 % of traffic police reported respiratory symptoms such as cough, wheezing, and breathlessness. They also suffer from common physical problems such as joint pain (~63%), burning soles (~42%), back pain (~20%), disturbed sleep (~16%) etc. Similarly, in Nepal, ~72 % of traffic police reported burning or watering eyes, and ~38% reported ringing in the ears. They also reported high level of depression (~41%), anxiety (~47%), and stress (~44%). Malaysian traffic police reported risk of heat and cold-related illness, skin cancer, depression, lower back pain, asthma etc. In Hong Kong, ~80% of

¹ <https://www.kotaksecurities.com/>

²

[https://www.researchgate.net/publication/366150787 Occupational health hazards among traffic police in South Asian countries a scoping review protocol Preprint](https://www.researchgate.net/publication/366150787_Occupational_health_hazards_among_traffic_police_in_South_Asian_countries_a_scoping_review_protocol_Preprint)

traffic constables reported exposure to environmental tobacco smoke. Heavy traffic congestion leads to both physical and mental exhaustion. Long-standing duty has also been linked to varicose veins among traffic police³.

It shows that traffic police personnels face multiple occupational hazards physical, chemical, biological, psychosocial, and ergonomic. This long term exposure increases their risk of Non-communicable diseases (NCDs) such as diabetes, coronary heart disease, stroke, cancer, and chronic respiratory diseases, including COPD and asthma. Traffic pollution increases the risk of cardiovascular disease and cancer. It may reduce leukocyte telomere length, leading to early biological aging and higher risk of heart failure, diabetes, and osteoporosis⁴.

Growing NCDs Among Traffic Police in India

Traffic police personnel in India are prone to NCDs due to multiple occupational hazards. A study conducted in Mangaluru, reported that ~51 % of traffic police had respiratory problems, ~61% had eye symptoms, and ~48% had ear-related complaints. In Patiala, ~68% of traffic police reported frequent cough, ~22% had shortness of breath, and ~36% experienced respiratory irritation. In Gujarat found that ~7% of traffic police personnel reported eye problems, ~36% reported a blocked ear sensation, ~52% had mild hearing loss, ~14% had moderate hearing loss, and ~1% had severe hearing loss. In Bengaluru, ~60% of traffic police were found to have varicose veins, which were associated with prolonged standing during duty⁵.

Across India, similar trends show that traffic police consistently experience high levels of respiratory, eye, ear, and musculoskeletal problems. As a result, they are at an increased risk of developing various NCDs.

NCDs are chronic diseases which do not spread from person to person. They usually develop slowly and often show no symptoms in the early stages. Most NCDs require long-term treatment, and some need lifelong care. These diseases progress slowly or cause chronic symptoms requiring long-term care and control, while others progress rapidly. People may look apparently healthy, but they may still have these diseases, they affect people in the productive years of their life.

In India, NCDs leads to ~60% of all deaths. The four major causes of death due to NCDs are coronary heart disease, stroke, and hypertension (~45%), chronic respiratory diseases (~22%), cancers (~12%), and diabetes (~3%)⁶.

Most NCDs arise from unhealthy lifestyles and adverse physical and social environments. Since traffic police in India, work in harsh conditions and remain exposed to air pollution, noise, stress, and irregular routines, they are particularly vulnerable to developing these diseases.

³Ibid

⁴ Ibid

⁵ Ibid

⁶ <https://mohfw.gov.in/sites/default/files/Module%20for%20Multi-Purpose%20Workers%20-%20Prevention%2C%20Screening%20and%20Control%20of%20Common%20NCDs.pdf>

Need for the Project

Traffic police of Mumbai city are also at high risk of NCDs and cancers due to unhealthy diets, stress, addictions, and disrupted sleep. Their work exposes them daily to traffic fumes, noise, pollution, extreme weather, and long-standing hours, which leads to respiratory illness, musculoskeletal problems, skin damage, and heat-related conditions. In addition, constant congestion, conflict situations, irregular shifts, and long duty hours increase the risk of stress, anxiety, depression, and burnout. Exposure to tobacco, smoke, dust, infections, and harsh environmental conditions further adds to their vulnerability. Occupational health risks among traffic police represent a serious but preventable public health issue. It requires regular health screening to protect traffic police personnel. It will help in early identification of high-risk individuals and linking them to timely care.

About the Project

The “Traffic Police Healthcare Project” for Mumbai Police was implemented by the Department of Preventive Oncology at Tata Memorial Hospital. The primary objective of this initiative is to extend healthcare benefits to individuals working on the frontline.

It aimed to address the high burden of NCDs, cancers, and respiratory diseases among traffic police. It involved screening and health education camps across Mumbai, Thane, and Navi Mumbai. They were screened for common cancers (oral, breast, cervical), NCDs such as hypertension, diabetes, and obesity, and respiratory morbidities.

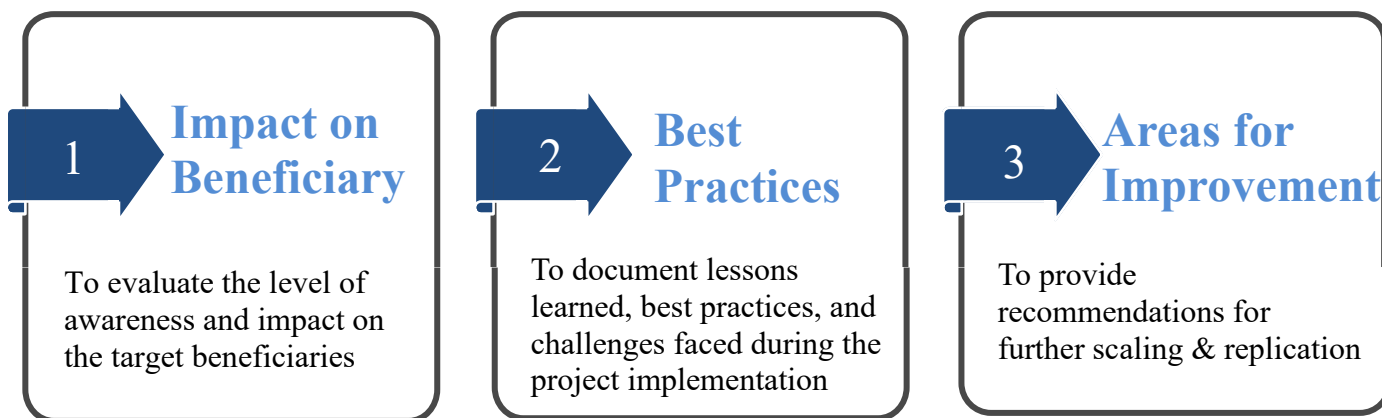
The key objectives of the programme were to:

- a) Develop a demonstrable, sustainable, and replicable model for prevention, early detection, and control of NCDs and cancers among traffic police personnel.
- b) Increase awareness of cancer risk factors, symptoms, and prevention, especially tobacco-related harm.
- c) Screen traffic police for oral, breast, and cervical cancers using simple and low-cost screening methods.
- d) Identify and manage NCD risk by screening for obesity, hypertension, and diabetes.
- e) Assess respiratory health through standardized lung-function testing.
- f) Ensure timely referral and treatment of all screen-positive cases.
- g) Promote a health-seeking and safety culture within the traffic police force through education and regular monitoring.

Approach and Methodology

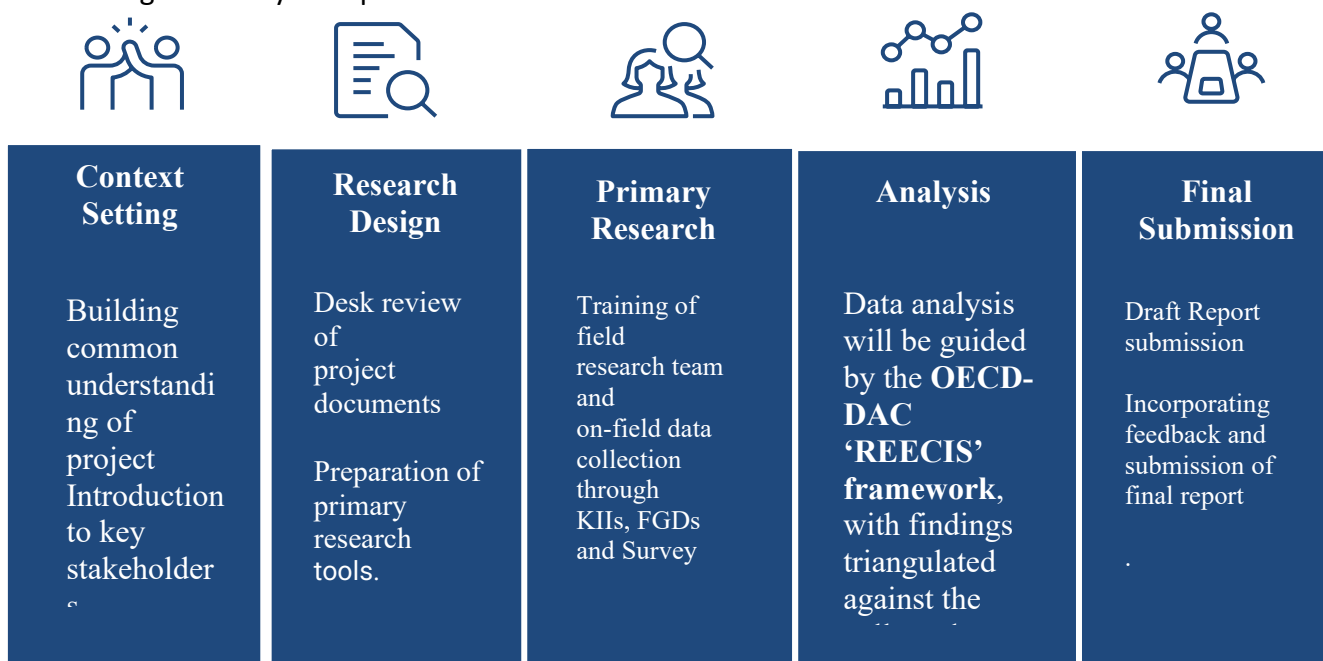
Approach

The study aimed at Impact Assessment of the “**Traffic Police Healthcare Project**”, which was supported by KSL CSR initiative. The project was implemented for the traffic police of Mumbai, Thane and Navi in FY 2022-23. The Impact Assessment study was conducted for the following broad objectives and outputs:



Methodology

The team adopted a Qualitative Methodology for impact assessment. The study followed a well-defined methodology, participative and research-based strategy, consisting of a five-stage process for undertaking this study as explained below:



Data Collection Tools

Development of assessment framework: The team developed research objectives, key probe areas, and methodology of interaction with stakeholders. This helped in the effective designing of research instruments.

Primary data acquiring tools: The team prepared an **Interview Guide** for collecting qualitative data from the beneficiaries (Traffic Police personnel) and KIIs (Key Informant Interviews) based on the assessment framework.

Sampling techniques

The study followed the **Convenience Sampling Technique** for the selection of respondents among parents of beneficiaries and Key Informants (KIs) for interviews.

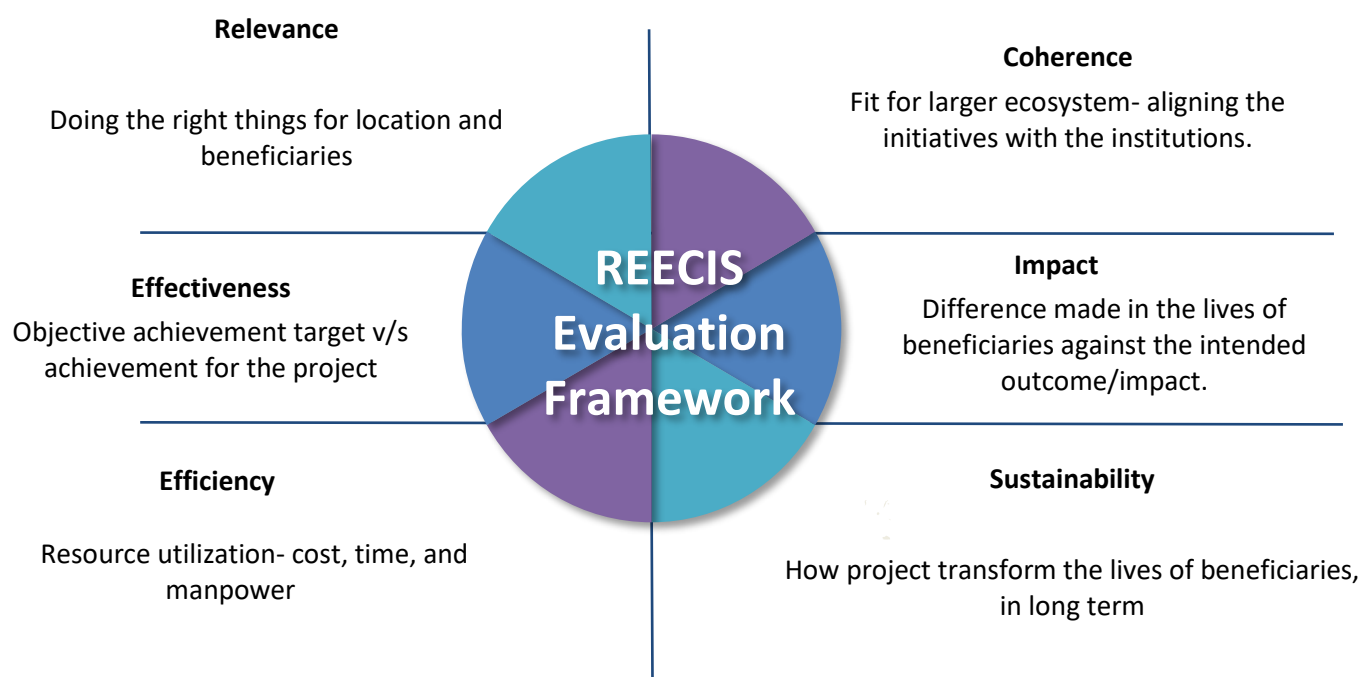
Acquiring Information and Data Collection

Primary and secondary research were conducted to acquire the necessary data for the program. Field-level data were collected through interviews with **beneficiaries and Key Informant Interviews (KIIs)**. The team conducted interviews with 30 beneficiaries (10 police personnel in each of the districts). It also interviewed 3 Police Department Heads, 4 Oncologists/Doctors, 1 team member of the implementation partner and 1 team member of KSL.

Analysing the information

After the primary and secondary research, the team compiled and tabulated the acquired data. Tabulated data was analysed and triangulated with the findings of KIIs to get insight as per the requirements of the study.

The assessment was done through the REECIS evaluation framework, developed by the Organization for Economic Co-operation and Development (OECD) and the Development Assistance Committee (DAC). It includes analysis of the results based on parameters such as Relevance, Effectiveness, Efficiency, Coherence, Impact and Sustainability. It is explained below:



Documentation and Report Preparation

The team prepared a detailed report of the Impact Assessment study of the “**Traffic Police Healthcare Project**” covering all the necessary aspects in accordance with the findings of the data analysis.

Findings and Analysis

Inclusiveness

The project ensured that every traffic police personnel, regardless of rank, gender, duty post, or health status had equitable access to preventive health services, health education and medical screening.

Coverage Across Major Police Jurisdictions in Mumbai

The project was a public health intervention designed to deliver direct healthcare benefits to a frontline workforce. Traffic police personnel safeguard public mobility every day while facing continuous exposure to pollution, stress, climatic extremes, and irregular work-rest cycles. The project was conceptualised with a humanitarian and preventive-care objective to take healthcare to those who have the least time and opportunity to seek it themselves.

It demonstrated a commitment to inclusiveness by ensuring that traffic police personnel from three major urban jurisdictions, Mumbai, Thane, and Navi Mumbai, were all included in the initiative. Screening was not limited to a single city or a single station but extended across multiple traffic divisions through planning and coordination. Representing equitable coverage of the workforce. It ensured that health services were not restricted to centrally located or administratively convenient units but reached police personnel across several operational sites.

Equal Opportunity for All Officers

Participation in the programme was not limited to those who were already ill or symptomatic. Instead, all eligible and consenting personnel were invited to take part. This universal approach ensured that every consenting personnel, whether healthy, high risk, symptomatic, or asymptomatic, had the same opportunity to benefit from health education and screening. Universal access also helped overcome stigma associated with seeking healthcare and encouraged a culture of prevention within the force. This is vital because many NCDs and cancers develop silently, and restricting services only to symptomatic individuals would exclude those at early risk. The project ensured equity in prevention and early detection benefits across the workforce.

Inclusiveness Across Gender

The project ensured that both male and female personnel benefited equitably. In addition to general and respiratory screening offered to all, female police officers received breast and cervical cancer screening using Clinical Breast Examination and VIA-based cervical screening. Women in uniformed services often face additional barriers to accessing gender specific healthcare. The project removed these barriers by locating services within the workplace, allowing confidential, respectful, and timely screening for women officers.

Multilingual Information Access

All consent forms and health education materials were developed in Marathi, Hindi, and English, ensuring that language was never a barrier to participation or understanding. This multilingual approach enabled informed consent, culturally respectful communication and inclusion of personnel with varying

educational backgrounds. Thus, every participant could understand risks, screening processes, and follow-up needs in a language they were comfortable with.

Relevance

The project demonstrated a relevant, ethical, and operationally occupational health model tailored to the real-world risks faced by traffic police personnel. It transformed health protection from a reactive system into a proactive and preventive service.

Safeguarding Public Health

Traffic police represent one of the vulnerable occupational groups in urban environments. Their duties require them to spend long hours outdoors at busy intersections, constantly exposed to vehicular emissions, suspended particulate matter, benzene, carbon monoxide, and other toxic pollutants. This prolonged exposure increases the risk of respiratory diseases, cardiovascular complications, and cancers. They work in high noise zones, face frequent psychological stress from congestion management, and operate in extreme weather conditions such as heat, humidity, rain, and strong sunlight. These occupational exposures interact with lifestyle factors such as irregular eating routines, addictions, disturbed sleep, and high work stress, resulting in a markedly elevated burden of NCDs among police personnel. The project responded to this vulnerability by designing a structured and preventive healthcare. It recognised that early detection and risk reduction are key to preventing long-term disability and premature mortality.

Protecting the Health of an Essential Public Service Workforce

Traffic police ensure road safety, congestion control, emergency movement, and public discipline. Their well-being is linked to safe transport systems, urban functioning, emergency response and public safety. The project protected the health of those who protect the public, reinforcing its social relevance.

Although police personnel in Mumbai are covered under schemes such as Kutumbh Kalyan / Police Family Welfare and can access routine annual investigations like CBC, RBS and basic health check-ups through police hospitals, critical preventive screening is not included, particularly cancer screening, lung-function assessment, and early NCD risk detection, which are essential for a workforce constantly exposed to pollution, heat, stress, and irregular work hours. In the past, some of the NGOs conducted health camps, but these were largely limited to general tests and rarely offered structured referral pathways, counselling, or follow-up care. In many cases, visiting doctors attended camps based on their personal availability rather than an organised screening roster, resulting in fragmented, inconsistent coverage. The project became highly relevant, as it introduced a systematic, medically supervised, workplace-based model that not only screened for high-risk cancers and respiratory illness using validated tools, but also ensured timely referral, counselling, and continuity of care.

Alignment With Institutional Priorities

This project aligned with broader public health priorities. NCDs and cancers are among the leading causes of death and disability in India. National and global health frameworks also emphasise workplace-based and population-level screening as a cornerstone of prevention. TMH has a long-standing mandate to advance cancer prevention and early detection.

The partnership of KSL, TMH and Maharashtra Police Department demonstrated a meaningful collaboration for direct reach to a large population for preventive healthcare services for protecting the health of the frontline workforce.

Bringing Services to the Workforce

Recognising that traffic police have irregular duties, long shifts, and limited freedom to take leave, the project deliberately brought screening services to police chowkies, training centres, and even under flyover workspaces. This occupationally sensitive approach removed common exclusion barriers such as travel time to hospitals, appointment availability, duty time conflicts etc. As a result, personnel who historically would not have accessed preventive health services were successfully included.

Overcoming Fear, Stigma, and Screening Barriers

The project played a role in breaking the psychological barriers and taboos associated with health screening among traffic police personnel. Many officers initially expressed hesitation or fear toward screening because they believed that undergoing medical tests might uncover new illnesses, which would then cause anxiety, social stigma, or concern about their fitness for duty. It led to avoidance of preventive check-ups, resulting in delays in diagnosis until the disease becomes severe or symptomatic. It was found through KIIs that "normally, police personnel avoid going for treatment or consultation. They visit a doctor only when the situation becomes serious."

The project addressed this by normalising screening as a positive, preventive, and supportive activity rather than a threat. Through health education sessions and empathetic counselling the project built trust and reduced stigma around disease detection. As a result, large numbers of traffic police personnel, many of whom might otherwise never have come forward, felt motivated, safe, and confident to participate in screening. Project mobilized participation and shifted mindsets. It brought the behavioural shift, transition from avoidant, symptom-driven health seeking to informed, preventive health consciousness.

Effectiveness

The effectiveness of the project has been evaluated based on its progress against the input and output activities as detailed in the impact map. The planned input activities and intended outputs of the project are given below:

Planned Activities	Intended Outputs
Screening the police personnel in Mumbai, Thane, and Navi Mumbai for: a) Common Cancers b) Non-communicable Diseases (NCDs)	a) Number of police personnel screened for common cancers b) Number of police personnel screened for NCDs

Achievement Against Target

The project achieved 100% overall coverage, successfully screening the traffic police personnel against the planned target of 5,000. It achieved target coverage in all the locations Mumbai, Thane and Navi Mumbai. This reflects effective

S. No.	Traffic Police Division	Achievement
1	Mumbai	4,055
2	Thane	493
3	Navi Mumbai	452
Total		5,000

coordination with the traffic department and acceptance of the project among police personnel. It was effective in stakeholder engagement, logistical planning, and the ability to integrate screening activities within routine police functioning.

First Time Access to Comprehensive Health Assessment

The project played role in the breakthrough intervention. It was found through primary research that this was the first time in their department that comprehensive screening was conducted, fundamentally changing the department's approach to officer wellness. It helped in the early identification of previously undiagnosed diseases such as hypertension, diabetes, oral pre-cancers, cervical pre-cancers, and early respiratory impairment. Annual physical examinations lowers all-cause mortality risk by ~50% and substantially improve chronic disease recognition, particularly when screening targets conditions at pre-symptomatic or pre-cancer stages. The project achieved precisely this outcome by detecting conditions before they progressed to advanced, costly, and irreversible stages.

Empowerment Through Risk Communication

Beyond diagnostics, the education sessions improved awareness about early symptoms of oral, breast, and cervical cancers, the relationship between tobacco and cancer, the role of hypertension, diabetes, and obesity, preventive lifestyle measures, smoking hazards etc. These interactive education were delivered in familiar languages by trained MSWs. It enabled sustained preventive action.

Ethical, Clinical, and Administrative Governance

Project operated under Institutional Ethics Committee approval, complied with ICH-GCP, and followed TMH SOPs. This ensured participant safety, confidentiality, informed consent, quality-controlled procedures, etc. This governance system strengthened the credibility and integrity of programme outcomes, making the intervention clinically effective and ethically robust.

Adaptive Implementation Despite Field Constraints

Project successfully adapted through repeated screening camps, multi-location coverage, coordination with senior police units and persistence in follow-up. This adaptive resilience reflects a functional team, increasing overall operational effectiveness.

However team also faced challenges such as logistics, limited transport vehicles, and difficulty recalling busy officers for tests. Only one project vehicle was available for transporting biological samples and equipment from multiple simultaneous camp sites to TMH. On days when three camps ran in parallel, this created delays in moving samples, exposed them to time sensitivity risks.

Shifting Occupational Health Priorities

The project elevated the occupational health of traffic police as a legitimate public health priority. It created a foundation for future policy dialogue on workplace health protections and mandatory annual screenings. This systemic influence is itself a powerful indicator of strategic effectiveness. Bringing together reach, screening quality, referral pathways, behavioural impact, governance, and replicability, the project was proved as effective.

Conceptual Model

The project was designed on a comprehensive prevention-to-care continuum. This enhanced its effectiveness because screening without education limits long-term behaviour change, while education without screening delays diagnosis. By merging these components, the project achieves both primary prevention (risk reduction) and secondary prevention (early detection of disease). This makes the model particularly strong from a public health systems perspective. Officers with tobacco addiction were also referred to the Tobacco Cessation Clinic at Tata Memorial Hospital.

Every officer who participated in the project attended a ~45 to 60 minute structured health awareness session covering tobacco harm, cancer awareness, NCD prevention, and respiratory health. These sessions were delivered to all ranks equally, reinforcing the principle that prevention and health knowledge are universal rights rather than privilege-based entitlements.

Efficiency

The project demonstrated an operational efficiency in its planning, preparation, service delivery, coordination, and follow-up systems. Every stage, from training and awareness to screening and referral, was structured for delivering preventive health services to a large workforce.

Planning, Training, and Resource Preparation

The project invested time in training all recruited health workers and medical staff in respiratory, NCD, and cancer screening protocols. It ensured that once field operations began, every team member already possessed the technical competence and clarity needed to deliver services smoothly. Alongside this, health education materials were developed in Marathi, Hindi, and English so that officers from different language backgrounds could participate without barriers. Visual tools such as pamphlets, flip charts, banners, and standees were standardised in advance and produced in collaboration with KSL. It helped in running screening camps efficiently from the very first day, with clear processes and consistent communication.

Stakeholder Coordination and Scheduling

The project demonstrated coordination efficiency. Formal instructions and permissions were obtained from the Commissioner's Office and the Traffic Department before mobilising activities. Screening schedules were then aligned carefully with police duty rosters and shift timings, ensuring maximum participation without disrupting field deployment or essential policing duties. The police department supported these efforts by arranging venues and ensuring that personnel were present on time. This collaborative approach reduced rescheduling effort, idle time, and administrative delays, allowing the project to reach large numbers of officers efficiently.

Service Delivery Workflow

Inside the screening camps, activities followed a clear, sequential workflow that ensured smooth movement and minimised waiting time. Police personnel first received information about the programme and provided informed consent in their preferred language. They then attended a ~45 to 60 minute awareness session delivered to the entire group at once, which was an efficient way to reach many officers simultaneously rather than repeating the same information individually. Immediately

afterwards, socio-demographic and risk factor details were collected, followed by a screening package delivered in a single sitting, covering oral, breast, and cervical cancer screening, NCD checks, and respiratory assessments. Reports were generated and distributed during the camp itself, reducing the need for repeat visits. This integrated, single window approach ensured that maximum health benefit was achieved within minimum time.

Staffing, Equipment, and Field Infrastructure

Project deployed a balanced clinical team of 8-10 professionals at each camp, including doctors, nurses, medical social workers, and health assistants. Doctors confirmed that the equipment and diagnostic tools were adequate, standardised, and portable, which allowed clinical services to be delivered even in small offices or container-based workspaces. Privacy screens were used wherever required, maintaining dignity without requiring complex infrastructure. Re-testing, delays, and procedural errors were minimised, making service delivery faster and more reliable.

Cost-Effective Screening Methods

The project used simple, validated, and low-cost screening tools, such as Oral Visual Inspection, VIA, Clinical Breast Examination, HbA1c testing, PEFr, spirometry, and CO-breath analysis. These methods allowed early detection of disease without depending on high-cost hospital technologies. As a result, the project was able to screen 5,000 police personnel within a feasible budget.

Referral and Follow-Up Mechanisms

The project created a streamlined referral pathway, which ensured that the effort invested in screening translated into meaningful health outcomes. Whenever a screen-positive case was identified, counselling was provided immediately. Participants with suspected cancer were referred to Tata Memorial Hospital, while those with NCD- or respiratory-related findings were referred to Nagpada Police Hospital. Medical Social Workers played a key role in making phone calls, coordinating appointments, guiding officers through diagnostic procedures, and supporting them emotionally. It reduced the risk of dropouts, ensuring that the screening process did not end at detection but continued through evaluation and treatment, a hallmark of implementation efficiency.

Communication and Risk Education

The use of group awareness sessions delivered before screening proved to be an efficient communication method. Trained medical social workers provided structured, interactive education on tobacco risks, cancer symptoms, respiratory care, diabetes, hypertension, and obesity to the entire group at once. This ensured standardised delivery of correct health information while saving staff time and reducing counselling workload later in the process. At the same time, the education sessions helped address fears and misconceptions, encouraging more officers to proceed confidently with screening.

Governance, Protocols, and Monitoring

The project benefited from clear institutional governance structures, as it was implemented under Institutional Ethics Committee approval and ICH-GCP guidelines. Standard operating procedures, documentation tools, consent formats, and structured questionnaires ensured uniform practice across all locations. This supported ethical and clinical quality and helped avoid confusion, duplication, or inconsistent practice. Data collection was systematic and standardised, enabling reliable reporting and smooth project monitoring.

Case Study: Health Screening Experience of a Senior Traffic Police Officer in Thane

A 53-year-old traffic police officer posted in Bhiwandi, Thane, narrated his story. “I have been in this job for many years now. My day usually starts around 8 in the morning, and many times I return home only by 9 or 10 at night. Most of the time I am standing on the road, especially in the industrial belt, where there is a lot of dust, smoke from heavy vehicles, and constant horn noise. Breathing this air every day has become a routine problem for me, and sometimes the noise also affects my mood and mental peace. On top of that, long-standing duty gives me body pain and a backache, but we get used to it because our duty is like that only. I came to know about the Tata Memorial Hospital screening camp through an official message from the department, and our senior officer also instructed us to attend. Since it was from Tata and organised through the department, I also felt it would be useful at my age, so I went willingly. At the camp, they did many tests like oral check-up, sugar, blood pressure, BMI, and lung function. Everything was explained very clearly, and the staff behaved very politely, so there was no fear. I also attended the awareness session where they spoke about cancer warning signs, tobacco, pollution effects, BP, diabetes, and the importance of early screening. I found it very relevant to the risks we face every day on duty. Luckily, my reports were normal, but they told me to monitor my BP and take care of my health. This gave me a lot of mental relief because at least now I know my current health status. The biggest change after the camp is that I have started taking my health more seriously. I try to use a mask regularly, control my diet, and stay alert about early symptoms. If this camp had not been organised, honestly, I would have postponed my check-up because of lack of time and the cost involved. Attending the camp made me feel more confident and secure, and even my family felt relieved when I shared the reports with them. I really feel such camps should happen every year because our duty schedule hardly allows us to visit hospitals on our own. This programme made healthcare come to us, right where we work, and that has made a big difference.

Coherence

The project is coherent with the objectives of India’s national healthcare programs and the UN SDGs. It addressed critical gaps in access, affordability, and quality of cancer care.

Alignment with the Schemes of the Government of India

a) Ayushman Bharat Scheme and NPCDCS

Ayushman Bharat Scheme aims to provide financial protection to vulnerable populations for catastrophic health expenditures. The scheme provides health insurance with annual coverage up to Rs 5 lac per person.

Project extended beyond scheme limitations by delivering workplace-based NCD and cancer screenings, early detection, and risk education directly to personnel, complementing national prevention goals without bureaucratic hurdles.




b) Rastriya Arogya Nidhi (RAN)

Project simplified access for high-risk groups through streamlined referrals and follow-ups, reducing delays in treatment for respiratory and cardiovascular issues common among traffic police.

c) National Health Policy (NHP)2017

The National Health Policy advocates for reducing the financial burden of healthcare on families and ensuring universal health coverage. It operationalized NHP's equity focus by providing universal, multilingual preventive services at duty sites, ensuring no exclusion based on gender, rank, or location.

2.1.1. Coherence with SDGs

 <p>3 GOOD HEALTH AND WELL-BEING</p>	<p>The project supported in proactive NCD/cancer prevention, lowering mortality risks through comprehensive screening and tobacco cessation referrals for a vulnerable occupational group.</p>
 <p>5 GENDER EQUALITY</p>	<p>It supported gender specific screenings (e.g., breast/cervical for women) and equitable access in Mumbai, Thane, and Navi Mumbai jurisdictions.</p>
 <p>17 PARTNERSHIPS FOR THE GOALS</p>	<p>It fostered multi-stakeholder collaboration with TMH, KSL, and Maharashtra Police, creating scalable models for workplace health funded via CSR..</p>

Impact

The project has been evaluated based on its intended impact. It had the following intended outcome:

- a) Improved awareness of cancer and NCD prevention.
- b) Identification of undiagnosed cases of NCDs / respiratory illnesses.
- c) Uptake of tobacco cessation support.
- d) Early detection of cancer cases.
- e) Perceived improvement in individual wellbeing (physical, emotional) and family health security.

The project created a health impact on the traffic police workforce by expanding access to screening and enabled early detection, improved health literacy, reduced stigma around diagnosis, strengthened morale, and created long-term health-seeking behaviour within the traffic police force. Major impacts of the project are given below:

Early Detection of Disease and Risk Conditions

The project’s critical contribution lies in its ability to identify at-risk and screen positive individuals early, before the disease progresses to severe stages. Doctors reported detection of cancers, pre-cancers, diabetes, hypertension and respiratory disorders.

All screen-positive participants were referred for a confirmatory diagnosis. This ensured that screening was not a standalone activity, but part of a continuum of care leading to timely intervention, treatment access, and complication prevention.

The project formed a small component of a larger, similar programme implemented by TMH for police personnel in Maharashtra. Through this initiative, frontline personnel were screened for major non-communicable diseases and cancers, enabling early identification and timely referral. Individuals requiring advanced diagnostic and cancer care were supported at Tata Memorial Hospital, while those identified with other health conditions were linked to appropriate treatment through police hospitals and dispensaries.

The project disrupted the “silent disease cycle” where conditions like hypertension, diabetes, COPD, or oral lesions remain undetected until they reach life-threatening stages. The health and economic value of this early detection helps in reducing the risk of ICU admissions and catastrophic medical costs, preventing disability and premature mortality, improving long-term workforce productivity, and potential lives saved through timely treatment, etc.

Health Awareness and Behavioural Change

Every participating officer attended structured awareness sessions. Which helped in improvement of the awareness level of the participants. Officers reported that after the project, they understood the process to detect early warning signs, symptoms and the importance of regular screening. Many personnel also acknowledged that they were previously unaware of elevated blood sugar or blood pressure until screening revealed it, and they now intend to monitor their health more regularly. The project therefore strengthened health literacy and self-care habits, laying the foundation for long-term behavioural change.

Impact on Workforce Morale and Well-Being

Police leadership acknowledged that the programme boosted the morale and psychological well-being of traffic police personnel. Officers expressed relief that their health risks were finally being recognised and addressed through a structured system.

It reduced anxiety and strengthened a sense of institutional support, which in turn improved engagement and motivation at work.

One of the personnel said that “the biggest change is increased health awareness and early detection of issues. This helped in reducing stress, encouraged timely treatment, lowered medical risks, and improved overall morale.”

System Level and Policy Relevant Impact

Beyond individual health outcomes, the project generated valuable epidemiological and operational insights into disease risk distribution among traffic police, behavioural risk factors, service delivery feasibility, screening acceptance patterns and referral completion pathways.

These findings contribute to evidence-based planning for occupational health programmes in uniformed services and strengthen the case for institutionalising periodic screening for traffic police personnel.

Sustainability

The project has demonstrated a practical, low-cost, field-tested model that is sustainable and adaptable for continuation and scale-up across other uniformed forces and occupational groups.

Low-Cost, Simple Screening Tools

Project relied on validated, low-cost screening methods such as Oral Visual Inspection, VIA, Clinical Breast Examination, spirometry, PEFR, BMI assessment, and HbA1c testing. These tools are affordable, portable, and do not require a large diagnostic infrastructure. Staff training was straightforward and can be delivered within short modules without major cost implications.

Cost per beneficiary was relatively low; the programme can be continued through institutional welfare budgets, CSR support, government occupational health funds, or police department allocations without needing large capital investments. This makes it financially sustainable even in resource-constrained settings.

Field Ready Model

The project has proven that screening and awareness activities can be delivered effectively at the workplace, even in small roadside offices or under flyover spaces, by using portable equipment and temporary privacy screens. This reduced dependency on hospital-based services and eliminates the need for specialised health infrastructure.

The implementation model training staff, delivering structured awareness, screening in one sitting, generating reports on site, and completing referral linkages, has now been fully field tested and refined. It can be institutionalised within police welfare systems or occupational health programmes without complex redesign.

Pool of Trained Staff

The project invested in training Medical Social Workers, nurses, and field staff in screening techniques, counselling, documentation, and referral processes. It created a trained human resource pool capable of carrying forward screening and awareness even after the project ends.

The training modules are standardised and replicable; new personnel can be inducted easily whenever needed, ensuring that the programme is not dependent on a small, irreplaceable team.

Behavioural Change

A long-term gain is the behavioural shift among police personnel toward preventive healthcare. Many officers initially feared that screening would “reveal disease and increase stress.” Project reduced fear, normalised screening, and built trust in early detection. This change in mindset is critical because when preventive health becomes an accepted norm, demand for screening continues organically. Officers now recognise the value of regular check-ups, early diagnosis, and lifestyle modification, creating a self-sustaining culture of health-seeking behaviour.

Policy and System Level Sustainability

Project generated evidence, data, and insights that demonstrated the burden of NCDs and cancers among traffic police and the feasibility of workplace-based screening. This evidence can support inclusion of periodic screening in police welfare policy, integration of respiratory and NCD monitoring into occupational health systems, CSR and government replication funding and institutional guidelines on cancer and NCD prevention among uniformed forces.

Scalability Across Similar Occupational Groups

Model is scalable to other police departments (state & city), paramilitary and armed forces units, fire and emergency services, municipal sanitation and urban service workers, industrial and factory labour force, transport and logistics workers, etc.

These are high-risk, high-exposure occupational groups who rarely access preventive care. The model shows how screening can be embedded directly into the workplace without major disruption, making scale-up realistic and programmatically efficient.

Social Return on Investment (SROI) of the Project

The project delivered large-scale preventive and early detection screening for cancers and major NCDs among traffic police personnel across Mumbai, Thane, and Navi Mumbai. A total of 5,000 police personnel were screened for NCDs, cancers and respiratory morbidities through workplace-based screening camps, backed by awareness sessions and referral linkages to Tata Memorial Hospital and Nagpada Police Hospital.

The project successfully identified screen-positive and high-risk individuals, created behavioural shifts, reduced barriers to preventive care, and generated health, emotional, and institutional value far beyond the financial investment.

Emotional and Social Impact on Traffic Police

The emotional impact of the project is deep, though not always visible in numerical form. Traffic police personnel work under constant stress long hours on the road, exposure to pollution, irregular meals, unpredictable shifts, public pressure, and health risks that often go unnoticed until disease becomes serious. Most officers rarely undergo routine health check-ups. Many shared that, before this project, they only visited hospitals when symptoms became severe, and their families lived with silent anxiety about their health.

Through structured awareness sessions and comprehensive screening conducted at their workplace, the project brought healthcare closer to their daily lives, reducing fear and uncertainty. Officers reported feeling mentally relieved after knowing their real health status, especially those who discovered previously undetected hypertension, borderline diabetes, lung function decline, or oral precancerous lesions. This early detection created emotional security for the officers themselves and also for their families who depend on them.

Economic Value Created by the Project

Traffic police personnel face a high risk of developing chronic diseases such as hypertension, diabetes, respiratory disease, and tobacco-related cancers due to occupational exposure and lifestyle strain. When such conditions are detected late, families face high treatment costs, income loss, and severe financial stress. Many depend on a single earning member, meaning illness can quickly translate into economic instability.

By enabling free workplace-based screening and early detection, the project helped prevent escalation of medical conditions to advanced stages, thereby shielding families from catastrophic healthcare expenditure. Early diagnosis of hypertension, diabetes, or respiratory disorders significantly reduces long-term costs compared to treating heart attacks, kidney failure, or severe COPD later in life. Similarly, detecting pre cancers or early lesions avoids the extremely high cost of managing advanced stage cancers.

The project also generated economic protection through continuity of work. Early detection and counselling helped officers manage their conditions before they interfered with their ability to perform

duty. This preserved work productivity, reduced sick leave risk, and supported financial stability for households.

In addition, the programme removed cost barriers to preventive healthcare. Typically, a full set of investigations HbA1c, BP monitoring, BMI assessment, spirometry/PFT, cancer screening, medical consultation, and counselling would cost a thousand rupees per person in a private facility. For many officers, these costs and time constraints prevent regular screening. By providing services at no financial cost and within duty timings, the project ensured high participation and equitable access.

The behavioural shifts reported, such as quitting tobacco, using masks, improving diet, and exercising, further reduce future medical burden, creating long-term savings for individuals, the police health system, and the broader public health ecosystem.

The SROI for the project has been calculated by adopting the 5-step SROI methodology:

a) Identifying Stakeholders: Primary stakeholders of the project were 5,000 Traffic police personnel screened under the programme.

b) Mapping Outcomes: Based on primary and secondary research the significant attributable to the project were:

- Financial protection from medical costs by early identification of high-risk / pre-disease conditions
- Saving cost of a private investigation
- Financial protection to families from catastrophic medical cost through early cancer or pre-cancer detection
- Behaviour change (tobacco quitting, mask use, healthier habits)

c) Evidencing outcomes and assigning financial proxies:

Outcome	Qty	Financial Proxy (INR)*	Rationale
Financial protection from medical cost by early identification of high risk / pre disease conditions	4,000 (~80% of the total screened)	2,00,000	Avoided future advanced treatment cost for NCDs detected late
Saving cost of private investigation	5,000	15,000	Cost of a full set of investigations HbA1c, BP monitoring, BMI assessment, spirometry/PFT, cancer screening, medical consultation etc.
Financial protection from catastrophic medical cost through early cancer or pre-cancer detection	126	8,00,000	Avoided cost of late stage cancer treatment i.e. prevented debt, distress selling, or high-interest loans
Behaviour change (tobacco quitting, mask use, healthier habits)	1,000 (~20% of the total screened)	1,00,000	Avoided lifetime disease risk and cost

***Definition:**

- **Financial Proxy:** Monetary value assigned to a social outcome that does not normally have a direct market price. The project outcomes do not have an actual price tag. A financial proxy is used to estimate the economic value of these outcomes in rupee terms so that social impact can be compared with the money invested.

d) Establishing Impact (Discounting)

Based on the **Social Audit Network (SAN)** methodology, impact adjustments are applied to avoid over-claiming.

Parameter*	Assumption	Justification
Deadweight	20%	Small proportion may have been screened anyway.
Attribution	20%	Other services & motivation may contribute.
Displacement	10%	Minimal displacement of other services
Drop-off	10%	Some effect may reduce over years.

*Definitions:

- **Deadweight:** The proportion of outcomes that would have occurred even without the project intervention.
- **Attribution:** The extent to which the observed outcomes are the result of contributions from other organisations, schemes, or external factors, rather than the project alone.
- **Displacement:** The degree to which the positive outcomes created by the project replace or reduce benefits that would have otherwise occurred elsewhere or for others.
- **Drop-off:** The reduction in the value of outcomes over time as their effects diminish or become less significant in future years.

Net impact factor applied : $100\% - (20\% + 20\% + 10\% + 10\%) = 40\%$ net attributable impact

e) Calculation of Total Present Value (TPV)

Outcome	Gross Value (In Rs Cr)	Calculation
Financial protection from medical cost by early identification of high risk / pre disease conditions	80.00	$4,000 * 2,00,000$
Saving cost of private investigation	7.50	$5,000 * 15,000$
Financial protection from catastrophic medical cost through early cancer or pre-cancer detection	10.08	$126 * 8,00,000$
Behaviour change (tobacco quitting, mask use, healthier habits)	10.00	$1,000 * 1,00,000$
Total	107.58	

Net Present Social Value (after impact discounts) = $107.58 \times 40\% = \text{Rs } 43.03 \text{ Crore}$

f) Investment Value (Input)

Based on audited financial statements: **Rs 1.06 Crore**

g) SROI Calculation

SROI = Total Present Value of Social Outcomes / Investment Value

$\text{SROI} = 43.03 / 1.06 = 40.6$

SROI of the Project is 40.6: 1. It indicates that every Rs 1 invested in the Project, a social value of Rs 40.6 was generated. This indicates a strong positive social return, particularly considering the conservative assumptions applied and the high cost nature of paediatric cancer ca

NGO Review System

The project, Traffic Police Preventive Health & Screening Project, was aligned with the SMART framework: Strategic design, Measurement indicators, structured Analysis, transparent Reporting systems, and robust Tracking & Accountability processes. This ensured the project remained disciplined, outcome-focused, and ethically governed throughout implementation.

Strategic

The project was built on a clear and practical strategy. It recognised that traffic police face constant exposure to pollution, smoke, dust, noise, heat, stress, irregular meals, and long-standing hours. Many officers also reported tobacco use and a lack of time for medical check-ups. This meant that diseases like hypertension, diabetes, respiratory problems, oral lesions, and cancers often went undetected. The project, therefore, shifted healthcare from hospitals to the workplace. Screening camps were organised inside traffic police stations and chowkies. Duty schedules were respected so that participation did not disturb operations. The screening package was comprehensive and included oral, breast and cervical cancer screening, lung function testing, NCD screening, and structured awareness sessions in simple Marathi, Hindi, and English. In this way, the strategy not only provides services, but it also attempts to change the culture from ignoring health to valuing prevention.

Measurement

Measurement under the project was systematic and continuous. The team tracked the total number of officers screened across Mumbai, Thane, and Navi Mumbai, and monitored participation in NCD, cancer, and respiratory screening. Screening data included BP, HbA1c, BMI, lung function results, oral lesions, and tobacco usage patterns. Awareness and behaviour change were also captured through officer responses. Referral cases were documented, including those guided to TMH and Nagpada Police Hospital. This ensured that the project measured both coverage and meaningful outcomes rather than just counting activities.

Analysis

The data collected during screening were carefully reviewed to understand health risk patterns and implementation learnings. Analysis showed that high-risk groups included older officers, personnel on long duty, and tobacco users. It also highlighted the emotional fear many officers had, especially worry that screening might reveal a serious illness. At the same time, the analysis revealed strong positive change. Many officers reported better awareness of early warning signs, some quit or reduced tobacco, several began wearing masks regularly, and many became more conscious about diet and exercise. Emotional reassurance increased because officers now knew their true health status. Operational analysis also helped refine camp flow, staffing, counselling, and follow-up. This ensured the programme functioned as a learning system that improves continuously.

Reporting

Reporting was structured, transparent, and regular. The project team documented screening data, referrals, respiratory findings, cancer screening outcomes, and participation trends. Reports also

included officer testimonials, field insights, and implementation challenges. Because reporting was based on real-time programme documentation, it remained credible and aligned to donor and institutional expectations. This built trust that the programme was ethically implemented, data-driven, and responsive to real needs.

Tracking & Accountability

Tracking and accountability were embedded into the project from the start. Doctors, nurses, medical social workers, and programme coordinators worked within defined roles. Informed consent, privacy during screening, respectful counselling, and confidentiality of reports were consistently ensured. Screen positive officers were guided clearly and linked to appropriate hospitals for further evaluation and treatment. Police leadership also strengthened accountability by supporting structured participation and reinforcing the importance of preventive health. Beneficiaries remained at the centre. The goal was not just to hand over reports, but to ensure clarity, reassurance, and medical follow-through. This framework made the project disciplined, people-centred, and replicable.

Best Practices, Suggestions and Conclusion

Best Practices of the Program

Workplace-Based, End-to-End Preventive Care Model

The project brought healthcare directly to the workplace instead of expecting traffic police to visit hospitals. Screening camps were organised at police chowkies, training centres, and field offices, fully aligned with duty schedules. This removed barriers of time, travel, leave approval, and cost, ensuring participation even from officers who had not undergone a medical check-up in years.

Comprehensive Screening Package Delivered in a Single Sitting

The project followed a single window screening format, where officers were screened for Oral, breast, and cervical cancers, Hypertension, Diabetes, Obesity, Respiratory morbidity (lung-function parameters), etc. This reduced repeat visits, saved time, and ensured maximum coverage. Reports were also shared with participants, improving transparency and trust.

Structured, Multilingual Health Awareness Before Screening

Every officer first attended a ~45 to 60-minute structured awareness session explaining Cancer warning signs, tobacco-related harm, NCD prevention, Respiratory health risks, Importance of early screening. The use of Marathi, Hindi, and English ensured that awareness was inclusive, clear, and engaging. This design also helped remove fear and stigma around screening.

Trained, Sensitive, Multi-Disciplinary Health Teams

Each camp deployed 8-10 professionals, including doctors, nurses, MSWs, and health assistants trained in screening protocols, counselling, documentation, and risk communication. Their empathetic engagement reduced fear and encouraged honest disclosure of lifestyle risks such as tobacco use.

Suggestions for Improvement of the Program

Strengthen Logistics Capacity

To prevent dependence on a single vehicle, the programme should have provision for either an additional dedicated vehicle or a logistics agency tie-up for transporting samples and equipment. Cold chain compliant storage boxes and GPS tracked movements will ensure quality assurance even across multiple camp sites. Where possible, satellite storage hubs can be set up at major police hospitals to reduce travel distance and turnaround delays.

Integrate Screening Into Duty Planning

Instead of adjusting duty to screening, screening can be better integrated into shift rotation plans, ensuring at least one protected hour per officer. Divisions may issue temporary duty exemptions for the

screening window, similar to bandobast relief support. Camps may also run across 2-3 consecutive days at one location, allowing staggered attendance and eliminating stress among personnel worried about leaving posts unattended.

Balance Scale With Comfort

Future screening should continue using batch scheduling, time slot allocation, and crowd flow design. Small changes such as pre-registration, queue tokens, clear signage and camp flow maps will preserve efficiency while maintaining dignity and participant comfort.

Conclusion

The Traffic Police Healthcare Project proved to be a relevant and impactful occupational health intervention that brought preventive screening, early detection, and health education directly to a high-risk workforce that rarely accesses routine care. It enabled large-scale identification of undiagnosed hypertension, diabetes, respiratory illness, and pre-cancerous conditions; strengthened awareness of cancer and NCD prevention; reduced stigma and fear around screening; and motivated healthier behaviours such as tobacco quitting and consistent mask use. Workplace delivery, multilingual counselling, trained medical staff, and structured referral linkages ensured ethical, efficient implementation while maintaining dignity, confidentiality, and continuity of care. The project also generated strong institutional and economic value by preventing disease progression, protecting families from catastrophic medical costs, and preserving workforce productivity.

List of Abbreviations

- a) **WHO** - World Health Organization
- b) **HO** - World Health Organization
- c) **CSR** - Corporate Social Responsibility
- d) **KSL** - Kotak Securities Limited
- e) **TMH** - Tata Memorial Hospital
- f) **NCDs** - Non-Communicable Diseases
- g) **COPD** - Chronic Obstructive Pulmonary Disease
- h) **UN SDGs / SDGs** - United Nations Sustainable Development Goals
- i) **OECD-DAC** - Organisation for Economic Co-operation and Development - Development Assistance Committee
- j) **REECIS Framework** - Relevance, Effectiveness, Efficiency, Coherence, Impact, Sustainability
- k) **SROI** - Social Return on Investment
- l) **MSW** - Medical Social Worker
- m) **BMI** - Body Mass Index
- n) **HbA1c** - Glycated Haemoglobin
- o) **PEFR** - Peak Expiratory Flow Rate
- p) **PFT** - Pulmonary Function Test
- q) **ICH-GCP** - International Council for Harmonisation - Good Clinical Practice
- r) **RAN** - Rashtriya Arogya Nidhi
- s) **NHP** - National Health Policy
- t) **VIA** - Visual Inspection with Acetic Acid
- u) **CBE** - Clinical Breast Examination
- v) **KII** - Key Informant Interview