# *Minor Definitive Care Now (MDCN): A Nurse Practitioner-Led Innovation Transforming Community Care by Treating Patients on Scene*

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## Introduction

Overcrowding and misuse of Emergency Departments (ED) remain major issues in the U.S. healthcare system. Despite increased awareness, ED usage has not changed significantly in the last decade, with low-acuity visits making up about 12.5% of national healthcare costs, many of which could be handled by primary care or urgent care providers. In 2017, ED visits exceeded 144.8 million, with low-income communities contributing the most to these figures.

The MDCN program introduced a community paramedicine model led by nurse practitioners to provide quality care for non-emergent issues on-site. This approach aimed to reduce emergency transport reliance and ease the burden on emergency medical services, improving treatment access and efficiency in the healthcare system.

## Objectives

MDCN aimed to enhance resource efficiency by redirecting suitable cases from expensive, resource-heavy emergency care environments, thus reducing healthcare costs while ensuring that patient outcomes are preserved or even improved.

The initiative highlighted the importance of cooperation between healthcare providers and EMS staff, promoting a multidisciplinary care approach. By implementing its innovative care delivery model, MDCN illustrated the possibility of reshaping the conventional emergency response system into a more sustainable, cost-effective, and patient-focused framework.

## Methods

The MDCN program utilized the Plan-Do-Study-Act (PDSA) cycle as its fundamental methodology for both the design and evaluation of its implementation. A team consisting of a nurse practitioner and a paramedic was tasked with responding to low-acuity 911 calls, identified through the Medical Priority Dispatch System (MPDS). This collaborative method aimed to provide definitive care on-site, depending on patient consent, thereby reducing the need for transport to emergency departments.

Each phase of the PDSA cycle led to adjustments intended to enhance care delivery, streamline patient consent procedures, and foster improved inter-agency collaboration. Systematic data collection and analysis regarding call outcomes, patient satisfaction, and the utilization of healthcare resources were performed to evaluate the program's effectiveness and guide continuous improvement efforts.

## Implementation

The MDCN program was initiated with a nurse practitioner-paramedic team aimed at addressing low-acuity 911 calls identified through the Medical Priority Dispatch System (MPDS). Operating from Monday to Friday between 8:00 AM and 4:30 PM, the team was dispatched alongside 911 ambulances, fostering a cooperative approach to patient care. Upon arrival, the nurse practitioner and paramedic evaluated patients and, with their consent, provided treatment on-site, thereby minimizing unnecessary transfers to emergency departments.

In Fiscal Year 2024, the team responded to a total of 607 calls, yielding a significant sample for assessing program outcomes. The Plan-Do-Study-Act (PDSA) cycle was employed to facilitate implementation. The initial planning phase concentrated on operational protocols, team training, and the patient consent process. During the "Do" phase, the team commenced responding to calls, while the "Study" phase involved a thorough analysis of patient outcomes, response times, and resource utilization. The insights gathered from this data led to ongoing enhancements, including adjustments to dispatch criteria and improvements in inter-agency communication.

The program's structured timetable enabled regular assessment of its influence on patient care, EMS workload, and emergency department traffic. The MDCN program illustrated the viability of incorporating advanced practice providers into pre-hospital care, presenting an innovative and patient-focused strategy for managing non-emergent medical situations.


## Results

In Fiscal Year 2024, the MDCN program addressed a total of 607 EMS calls, achieving an impressive 87% consent rate for on-site treatment. The program recorded an average response time of 25.04 minutes, demonstrating the effective provision of care at the scene. These initiatives led to a cost saving for the health system amounting to $335,748.28, translating to an average saving of $230.20 for each hour of operation.

The program also yielded significant positive impacts on community health. A total of 114 immunizations were provided, meeting preventive health requirements within the community. Moreover, 102 primary care referrals were initiated, ensuring that patients received follow-up care for chronic or ongoing health issues. The program also supported 36 specialist referrals, facilitating prompt access to specialized services. Additionally, 78 starter-dose medication packs were distributed to patients, ensuring they had the necessary medications to manage their conditions immediately following their encounter.

## Discussion/Conclusion

The findings indicate that the MDCN program has the capacity to lower healthcare expenses while enhancing health outcomes through the provision of prompt, on-site care and improved access to continuous medical services. Increased service hours will alleviate pressure not only on emergency departments but also on EMS units, enabling them to respond more effectively to urgent service requests.

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## References

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