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INFORMATION COMMUNICATIONS TECHNOLOGY INNOVATIONS
NORTH CAROLINA

PRISON TELEHEALTH PROGRAM: EFFICIENCY AND INNOVATION IN NORTH CAROLINA CORRECTIONAL FACILITIES

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EXECUTIVE SUMMARY

The North Carolina Department of Public Safety (NCDPS) provides comprehensive health care services to approximately 30,000 offenders in its custody and faces a need to improve the health care of offenders while lowering costs and maintaining safety. While prison facilities generally can provide on-site primary and urgent care services, offenders often need to leave prison facilities to receive more specialized care, requiring expensive and logistically challenging travel and posing security risks. Offenders' congregate living conditions, which increase the risk for the spread of infectious diseases, can necessitate limits on their movement, hindering their access to health care.

NCDPS recognized the potential to address these challenges by expediting implementation of a pilot telemedicine program under a state law permitting offenders to receive specialty care via telemedicine. Telemedicine can enable public-safety institutions to efficiently deliver high-quality, affordable health care from more providers who do not have to step foot in prisons. NCDPS engaged in months-long collaboration with UNC Health and N.C. Department of Information Technology (NCDIT) to gather requirements, plan, and implement an expansion of the pilot program by both leveraging existing software tools and broadband networking infrastructure and procuring and implementing telemedicine software and equipment. The implementation also involved developing a web portal for telemedicine scheduling and providing extensive training in delivering telemedicine for UNC Health and correctional staff.

This innovative telemedicine solution has transformed NCDPS's delivery of health care to offenders and has become part the daily medical process and processes at all 55 state correctional facilities. Offenders can now receive secondary and tertiary health care in more than 35 medical specialties via telemedicine from more than 200 specialist doctors, nurse practitioners, and physician assistants who see offenders daily. From June 2020 to January 2021, 3,113 offenders were seen in 4,708 separate telehealth encounters, saving NCDPS over \$2.6 million and delivering care otherwise delayed or cancelled due to COVID restrictions.

Among the benefits derived from the telehealth program, offenders have increased access to care and can see top specialists throughout the state without having to be transported hundreds of miles. The program results in savings from transportation costs, staffing, and the use of a contracted rate instead of a fee-for-service model. Public safety is enhanced by reducing interactions between offenders, and security inside correctional facilities is increased by keeping staff at their regularly assigned posts during medical appointments. Telehealth visits can be conducted with little to no impact on prison staffing whereas external medical appointments require multiple extra officers to accompany the offender.

As NCDPS continues to explore potential new uses of this telemedicine program, its transformative impacts and technical efficacy have been recognized with the receipt of the 2021 North Carolina Governor's Award for Efficiency and Innovation, while the high rates of

satisfaction with it among both patients and health care practitioners have also been reported in the prestigious Journal of the American Medical Association. NCDPS's telehealth program continues to benefit the at-risk population of offenders by expanding access to specialty care, ensuring care continuity, realizing cost savings and furthering public safety.

IDEA

The North Carolina Department of Public Safety's (NCDPS) Adult Correction Section has the responsibility to provide comprehensive health care services to approximately 30,000 offenders in its custody. While prison facilities generally can provide primary and urgent care services on site, offenders often need to leave the prison facility to receive more specialized care off site. Arranging travel for off-site care is often expensive and logistically challenging and can fragment care and pose security risks.

Moreover, the congregate living conditions of offenders increase their risk for the spread of infectious diseases, such as COVID-19. The pandemic necessitated limits on the movement of offenders to prevent the potential spread of COVID-19 to and from prisons. These limits restricted their ability to access secondary and tertiary health care. NCDPS consequently faces a need to lower health care costs and improve offenders' overall health care experience while increasing safety for correctional staff and the general public.

NCDPS recognized the potential to address these challenges by expediting implementation of a pilot telemedicine program under a state law permitting offenders to receive specialty care via telemedicine. Telemedicine can enable public-safety institutions to efficiently deliver high-quality, affordable health care from more providers who do not have to step foot in prisons. NCDPS, in partnership with UNC Health and the N.C. Department of Information Technology (NCDIT), determined that the most efficient and cost-effective way to provide this service was to leverage the existing Cisco WebEx Telepresence WebEx available in all 55 NCDPS facilities statewide. Various NCDPS teams, UNC Health, and NCDIT collaborated for months to gather requirements, plan, and implement an expansion of the pilot program.

This innovative telemedicine solution has become part of the daily medical process and processes at all state correctional facilities. NCDPS, in partnership with its contracted medical providers, offers secondary and tertiary health care in more than 35 medical specialties via telemedicine from more than 200 specialist doctors, nurse practitioners, and physician assistants who see offenders daily. While the telehealth services for offenders initially included only infectious diseases, orthopedics, cardiology, and hepatology, the expanded program incorporates additional specialties, including general surgery, dermatology, nephrology, urology, gastroenterology, endocrinology, gynecology, oncology, and ear, nose, and throat.

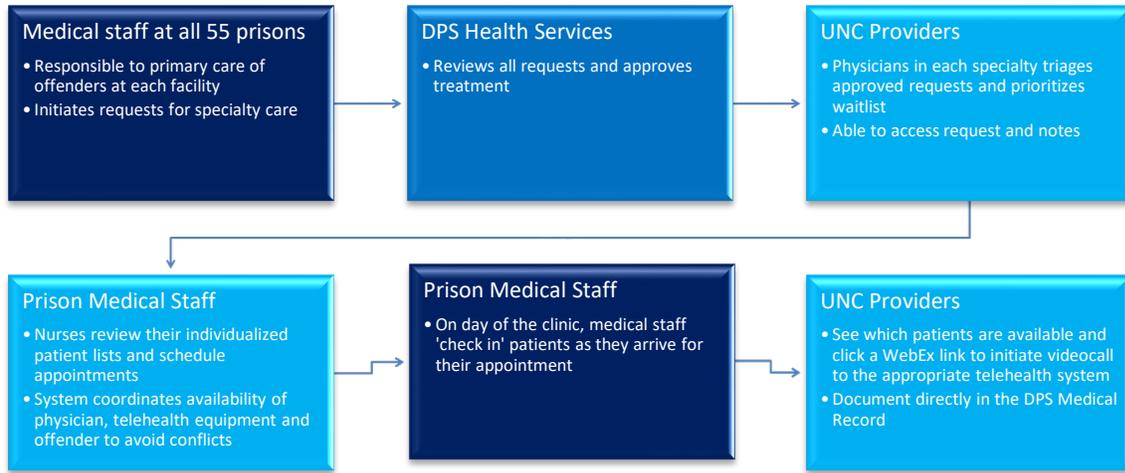
"We were able to provide a specialty health care encounter to an offender who had a medical problem in which he would need a specialty provider to evaluate him.

"With the equipment, we were able to bring that patient live in front of the provider, have a discussion about their issue, and then the provider could then provide the diagnosis and treatment plan to the offender. We were able to do that without the offender leaving the secure confines of a facility."

Terri Catlett, NCDPS director of health administration

Offenders throughout the state can now receive care and see top specialists without having to be transported hundreds of miles for in-person appointments. Offenders remain in their facilities while facility health personnel used a hand-held telehealth scope to scan and provide information to a doctor. The doctor then analyzes the information and provides a diagnosis.

Telemedicine Process

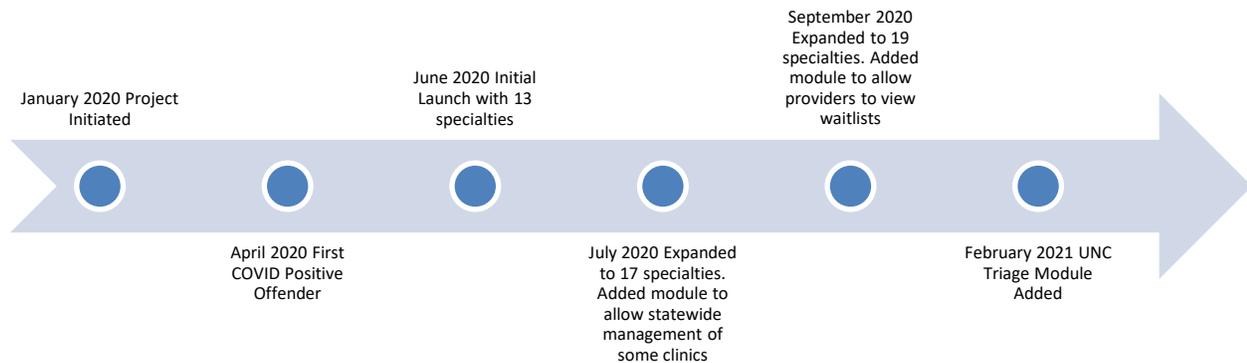


IMPLEMENTATION

NCDPS, NCDIT, and UNC Health staff began implementing a pilot telemedicine program for offenders in state correctional facilities in January 2020 under North Carolina Session Law 2019-135. When the first state offender tested positive for COVID-19 in April 2020 as the pandemic spread, NCDPS recognized the need to expedite and expand the pilot program.

After months of collaboration by the partners to gather requirements and plan, NCDPS executed the initial launch of the program offering care in 13 medical specialties in June 2020. With further expansion of the program through September 2020, offenders could access 19 specialties. Improvements made to the system through February 2021 added modules for triage, viewing of waitlists, and statewide management of clinics.

Implementation Timeline



The implementation demanded high levels of partnership internally among various NCDPS teams and externally with NCDIT and UNC Health to procure the needed telemedicine software, equipment, and broadband infrastructure. NCDPS already had in place existing foundational technology, such as Cisco WebEx Telepresence, in correctional facilities, but staff had to add more networking components and devices to allow for video telehealth appointments. Prisons adopted DX80 hand-held monitors and other technology, which required a waiver from NCDIT to allow UNC medical professionals security access through the state's firewalls. Staff developed a scheduling web portal, which allows for global searches for offenders, seeing offenders' check-in status, accessing patient referrals, and filtering by prison, specialty or date.

Telehealth Scheduler Web Portal

The screenshot shows the 'Telehealth Scheduler' web portal for the Department of Public Safety (DPS) in North Carolina. The interface includes a navigation bar with options like 'Wait List Scheduling', 'Daily Schedule', 'Clinic Schedule', 'Administration', and 'Resources'. Below the navigation bar, there are search filters for 'Facility', 'From Date', 'To Date', and 'Clinic'. The main area displays a table of offender records with columns for 'Action', 'UR', 'Offender #', 'Inmate Name', 'Facility', 'Custody', 'Control', 'Sp. Char', 'Bed/Cell', 'Appointment Date/Time', and 'Clinic'. Callouts highlight specific features: 'See which offenders are currently available' points to the 'Checked In' status; 'Quickly access the referral' points to the referral icon; 'Filter by prison, specialty or date' points to the search filters; and 'Global search to find records by any word, such as name or bed assignment' points to the search bar.

| Action | UR | Offender # | Inmate Name | Facility | Custody | Control | Sp. Char | Bed/Cell | Appointment Date/Time | Clinic |
|------------|----|------------|-------------|----------------|---------|---------|----------|----------|--------------------------------|-----------------|
| Checked In | | 0499539 | | DAVIDSON CC | | RPOP | REG | GDM-014 | 02/17/2021 08:00 AM - 08:30 | TH UROLOGY |
| Checked In | | | | EN CI | MED | RPOP | REG | HALA-028 | 02/17/2021 08:00 AM - 0 | TH SPECIALTY |
| Checked In | | 1225 | | AL PRISON | | | | MCAN4208 | | TH PUL DRUMMOND |
| | | 1484382 | | CENTRAL PRISON | | | | MCAN5210 | | TH UROLOGY |
| | | 0593959 | | ALBEMARLE CI | | | | FALSG214 | | TH HEPATOLOGY |
| | | 0723038 | | MAURY CI | MED | RPOP | REG | T2E-009 | | TH HEPATOLOGY |
| | | 0043323 | | | MED | RPOP | LIF | 2BDRM017 | 02/17/2021 09:00 AM - 10:00 AM | TH SPECIALTY |
| | | | | | MN1 | RPOP | REG | ADM-012 | 02/17/2021 09:00 AM - 09:30 AM | TH PUL DRUMMOND |
| | | 0197797 | | | MED | RPOP | LIF | F2DM-010 | 02/17/2021 09:00 AM - 09:30 AM | TH UROLOGY |
| | | 0201793 | | FRANKLIN CC | MED | RPOP | LIF | ADM-020 | 02/17/2021 09:00 AM - 10:00 AM | TH PULARIS |
| | | 0501885 | | PAMLICO CI | MED | RPOP | LIF | CPD-122A | 02/17/2021 09:30 AM - 10:00 AM | TH UROLOGY |
| | | 0345247 | | GREENE CI | MN1 | RPOP | LIF | IDM-061 | 02/17/2021 09:30 AM - 10:00 AM | TH UROLOGY |

The telemedicine project also required extensive training for correctional nursing and administrative staff across the state. NCDPS developed a telemedicine workflow and trained administrative and nursing staff as telepresenters to schedule and assist with telemedicine visits. The department designated practitioners for each participating specialty to provide telemedicine, reassigned established incarcerated patients to those practitioners, built practitioner schedules and referral triage processes, and trained practitioners to perform telemedicine visits and document these encounters in the prison electronic health record.

"That it also saved a lot of money and did public safety at the same time just made it a tremendous effort that everyone realized the benefit, and so they were perfectly willing to work long hours weekends, whatever it took to get it done," John Woodlock, NCDIT application development director, said.

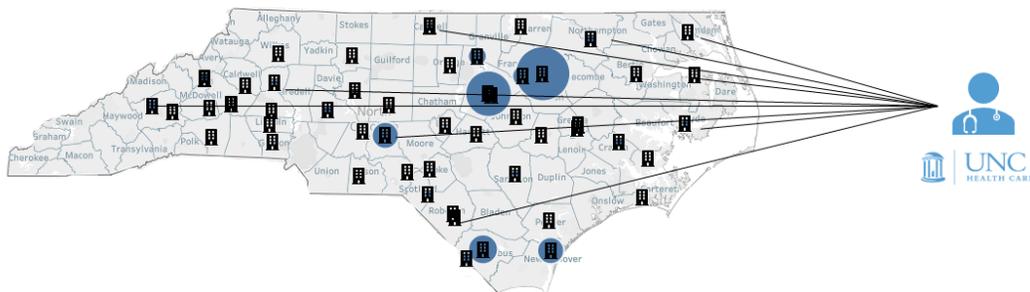
IMPLEMENTATION

The telemedicine solution has transformed the way NCDPS provides health care for offenders, particularly providing access to medical specialists it did not previously. This innovative solution has become part of NCDPS correctional facilities' daily medical processes and protocols. The results include better and safer health care for offenders, significant cost savings for the state of North Carolina, and support for NCDPS's mission of ensuring public safety.

Through the telemedicine project, the approximately 30,000 offenders in state correctional facilities can access secondary and tertiary health care in more than 35 medical specialties via from more than 200 specialist doctors, nurse practitioners, and physician assistants who see offenders daily. The specialties include infectious diseases, orthopedics, cardiology, hepatology, general surgery, dermatology, nephrology, urology, gastroenterology, endocrinology, gynecology, oncology, and ear, nose, and throat.

Coverage

- More than 200 UNC medical practitioners representing 35 clinical specialties
- Providing care to 30,000 offenders in 55 facilities across North Carolina



The telemedicine solution had an immediate impact, enabling NCDPS to operate effectively and efficiently during the COVID-19 pandemic. From June 2020 to January 2021, 3,113 offenders were seen in 4,708 separate telehealth encounters, saving DPS over \$2.6 million. Due to COVID restrictions, many of these encounters would otherwise have been delayed or canceled.

NCDPS has realized benefits from this world-class enterprise solution in four main areas: accessibility, cost, safety, and staffing.

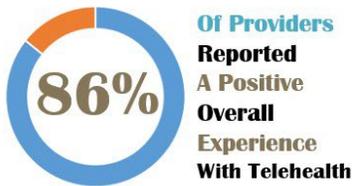
- Accessibility - Offenders throughout the state can see top specialists without having to be transported hundreds of miles.

- Cost - The program results in savings from transportation costs, staffing, and the use of a contracted rate instead of a fee-for-service model. A UNC study found a calculated \$350,000 net savings for NCDPS in the first five months of the program.
- Safety - Public safety is enhanced by reducing interactions between offenders and the public. Security inside correctional facilities is increased by keeping staff at their regularly assigned posts.
- Staffing - Telehealth visits can be conducted with little to no impact on prisons staffing, whereas external medical appointments require multiple extra officers to accompany offenders.

NCDPS continues to explore potential new uses of this program. This enterprise solution is also used for court proceedings, speech therapy, emergency triage, and offender e-visitation.

The transformative impacts and technical efficacy of NCDPS's telemedicine program have been recognized with the receipt of the 2021 North Carolina Governor's Award for Efficiency and Innovation. An article on this innovative process in the prestigious Journal of the American Medical Association reported high satisfaction rates among patients and health care practitioners. In the survey, 94% of 482 patients reported a positive overall telemedicine experience, while 86% of 316 practitioners reported satisfaction with the telemedicine visits.

This recognition and the positive reception among both offenders and correctional and medical staff indicate that NCDPS's telehealth program has continuing merit for use with the at-risk population of offenders to expand access to specialty care and ensure care continuity while realizing cost savings and furthering public safety.



All Provider Satisfaction Measures

| Personal Comfort | Percentage of Providers | Number of Responses |
|------------------|-------------------------|---------------------|
| Excellent | 60% | 148 |
| Very Good | 17% | 42 |
| Good | 13% | 31 |
| Fair | 9% | 21 |
| Poor | 1% | 3 |

