



Sentara Quality Care
NETWORK

Practicing the future
of healthcare, today.

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The Sentara Quality Care Network (SQCN, pronounced “sequin”) is an integrated care network led by forward-thinking healthcare providers who understand how to wield big data to create impactful, positive results in the populations we serve.

Our innovative and collaborative approach ensures patients receive the quality care they deserve, while healthcare costs are managed wisely.

How SQCN Works



SQCN providers form a highly collaborative medical community committed to quality care, managed costs and data transparency. SQCN providers aren't just following a checklist from an insurance company – they are forming the path to a different model of care.

SQCN providers:

- Share their clinical outcomes with their SQCN peers, employers and insurance companies
- Partner to adopt best practices protocols
- Ensure SQCN protocols are employed in their medical practice



SQCN data comes from multiple sources including medical practices, health plans, hospitals, labs and pharmacies. Data is analyzed to find potential areas of clinical impact. We then develop SQCN protocols to address those areas and work with providers and patients to continually improve outcomes.

SQCN protocols are developed by providers using SQCN data, as well as from the most recent medical research and national best practices.

SQCN health populations include patients receiving care within the network, including large employer groups who receive customized quality improvement plans that make a true impact on health outcomes, and as a result, drive down health expenses.



SQCN patients with higher clinical needs are provided with coordinated care. Patients without a history of high clinical needs are encouraged to access preventive services and offered education in ways to stay healthy.

SQCN includes:

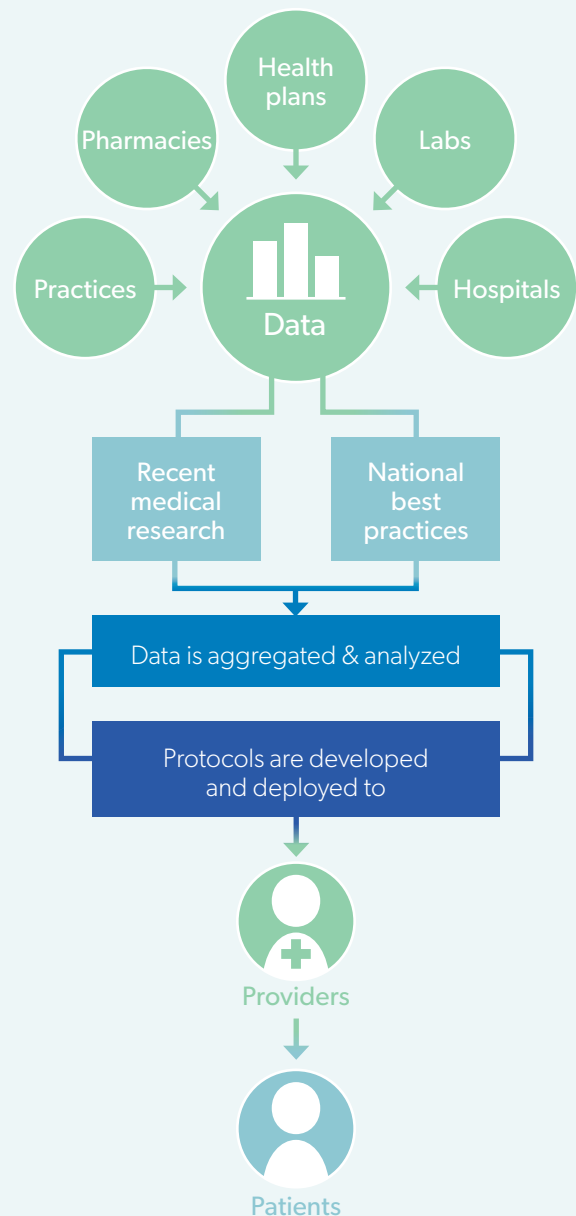
- More than 3,000 providers
- 12 hospitals
- Three participating healthcare partners:
 - Sentara Healthcare
 - Children's Hospital of The King's Daughters
 - Eastern Virginia Medical School

Connecting **Big Data** Insights with **High-Touch** Care

The SQCN approach achieves better health outcomes and increases efficiencies for those we serve.



How SQCN data works for you



Quality care + controlled costs = Better health + less dollars spent

SQCN Protocols: The Right Care

	Unnecessary Care	The Right Care
Back Pain	MRI before 6 weeks in the absence of red flags	Specialist referral/conversation at 6 weeks to decide the need for an MRI
Uterine Bleeding	Duplicate ultrasounds by PCP and specialist	Protocol-driven best practices management with referral if no improvement
Diabetes	Inappropriate use of high-cost/low-value medications	Protocol-driven best practices management starting with metformin when no contraindications and appropriate addition of higher tier medications
Allergic Rhinitis	Early referral for allergy testing without appropriate trial of OTC medications	Appropriate first line trials of OTC medication and patient education
Hypertension	Brand medications used over appropriate generic options	Protocol-driven best practices using generic medications first line with expedited follow-up to get patients to goal

Reducing costly and preventable Emergency Department (ED) visits is paramount in helping keep healthcare costs down. We use IT resources and data analysis aggregated within SQCN to evaluate ED discharge data among SQCN patients. We are looking for visits that could have been prevented or avoided. The data then allows us to connect the ED discharge diagnoses to the patients' presenting symptoms.

Naturally, some of the visits that at first glance appear to be unnecessary are warranted based on the presenting symptoms (example: heart attack symptoms diagnosed as indigestion). The SQCN team then works with the patient population whose visits could have been avoided and intervenes with appropriate preventive services and education, which leads to avoiding unnecessary and costly future ED visits.

Using this process, a prospective analysis of SQCN patient data showed 2,315 visits as potentially avoidable. If the avoidable encounters had instead been managed through timely and effective care treatment plans, the potential resulting savings could be nearly \$3 million. To help ensure best health outcomes, SQCN teams work with patients to help deepen relationships with their providers, as well as ensure patients are aware of alternatives to the ED, such as urgent care facilities and visits to PCPs.

SQCN Cost Savings Target: Emergency Department Visits



SQCN is committed to helping patients and their families make the best health choice through deeper relationships with their providers.

Patients choosing Emergency Department services for low acuity diagnoses is expensive.

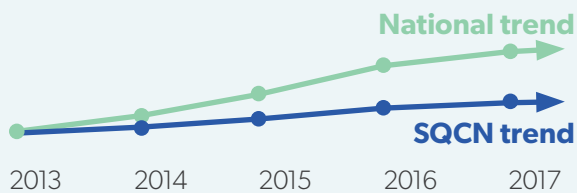
We identified **2,315** Emergency Department encounters that could have been avoided through alternate care plans. Those encounters showed almost **\$3 million** in potential savings.

We are putting protocols in place to ensure the right care is provided at the right time, in the right setting.

Health cost savings are achieved by doing the right thing, in the right setting, at the right time. SQCN is designed to save everyone time and money, without compromising health outcomes.

SQCN takes a proactive approach to addressing the health needs of employees, their families and their communities.

Long-term trends in healthcare costs



Long-term trends in healthcare costs show an increase of between 5.5 to 7 percent each year.

Source: PwC's Health Research Institute [HRI]

Results of one SQCN employer from 2013 to 2017 saw a moderate increase averaging less than 2 percent annually.

SQCN Value to Employers

SQCN is an investment with proven value. Our unique structure allows us to customize healthcare solutions for employers and employees. SQCN targets areas of recent care for quality improvement and cost savings, including:

- Adolescent wellness screenings and immunizations
- Cancer screenings
- Diabetes management
- Hypertension management
- Acute cervical spine pain & acute low back pain
- Abnormal uterine bleeding
- ED visits
- Readmissions
- Preventing low-acuity admissions



SQCN Results

Over the course of the past four years, SQCN has benchmarked and tracked its progress in all areas of patient care. In 2013, with a collaborative effort between SQCN providers and SQCN team members, we identified specific areas of patient care for improvement. We then developed best practices protocols for those areas and worked closely with medical practices to implement the protocols across the network.

HEDIS® (Healthcare Effectiveness Data and Information Set) is the measurement tool used by the nation's health plans to evaluate their performance in terms of clinical quality and customer service. At SQCN, we use HEDIS guidelines as a starting point — not the finish line — and work to meet and exceed those standards.

In 2017, SQCN providers performed in the

90th percentile

of providers in the nation in

9 of the 14

HEDIS measurements:



- Diabetic members obtaining HgA1c
- Diabetic members with nephropathy assessment
- Diabetic dilated/retinal eye exam
- Diabetic members with HgA1c<8
- Women 50-74 obtaining mammogram
- Adolescents annual wellness visit
- Colorectal cancer screening
- Diabetic members without ASCVD & statin therapy
- Appropriate treatment for children with pharyngitis

SQCN in Action

Type 2 diabetes impacts tens of millions of children and adults in the United States — and millions more have pre-diabetes, which means they are at risk of developing the disease.

The cost of treating diabetes continues to grow exponentially and is a major portion of any employers' healthcare expenses.

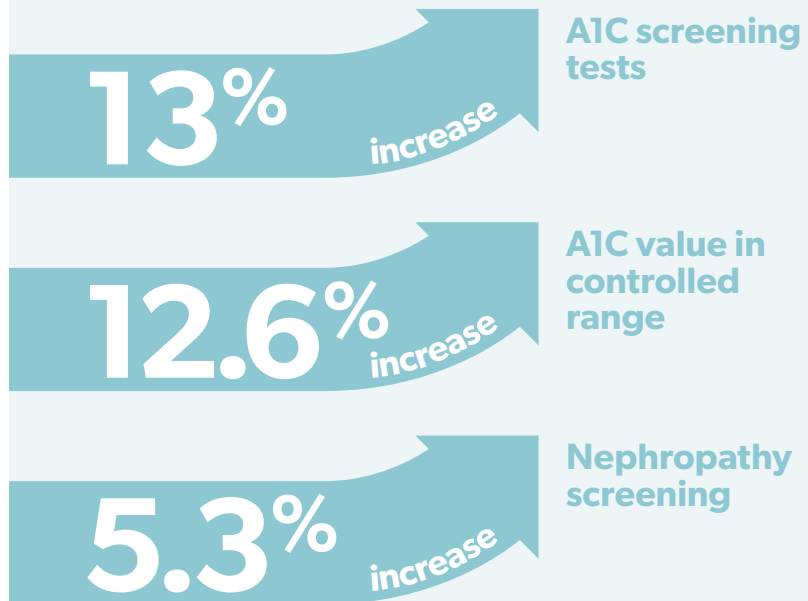
- New cases: 1.5 million Americans are diagnosed with diabetes every year.
- Prevalence: In 2015, 30.3 million Americans, or 9.4 percent of the population, had diabetes.
- Undiagnosed: Of the 30.3 million adults with diabetes, 23.1 million were diagnosed, and 7.2 million were undiagnosed.
- Cardiovascular risk is 2.4 percent higher for diabetic patients out of control.
- Diabetic patients under control will have 25-50 percent fewer complications than those not in control.
- Patients with cardiovascular disease and taking a statin have a 30 percent relative risk reduction of another cardiovascular event.

While diabetes is very treatable and controllable, it can also lead to many chronic complications, all the way through to amputation, blindness or heart attack. The ideal care management approach is to have known diabetics keep their blood glucose in a controlled range, where complications are less likely to develop.

The SQCN Difference: Achieve better health.

Capitalizing on collaboration between SQCN providers and committed patient engagement by SQCN coordinators, **one large employer group saw a 20.3 percent decrease of diabetic members with an A1C of greater than 9 (unstable) in one year.** These patients are now 25-50 percent less likely to suffer from diabetic complications, and their cardiovascular risks are decreased.

*More results include:**



*For a self-funded, large SQCN employer over four years.

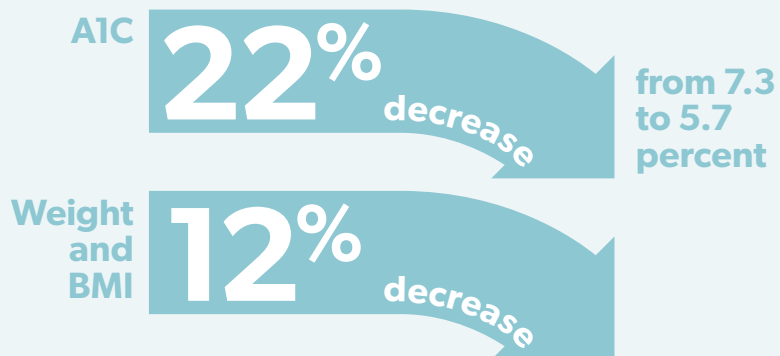


SQCN patients with higher clinical needs are provided with coordinated care, including outreach by a SQCN care manager to ensure understanding of best practices.

SQCN snapshot

A SQCN care manager contacted a SQCN patient following an emergency room visit that resulted in a diagnosis of deep vein thrombosis (DVT). Considering the patient was a diabetic and at a higher risk for future complications, the care manager contacted the patient to ensure she understood her discharge instructions in addition to verifying that a follow-up appointment was made with her doctor. The care manager noted the patient's A1C level of 7.3 (diabetic rising risk level) and body mass index (BMI) was over 50kg/m².

Through discussion with the care manager, the patient expressed her need for coaching to reach her weight loss and diabetes control goals. This patient scheduled phone meetings with the care manager and, as a result, was offered and has since attended a "Journey for Control"™ class (diabetes education).



This interaction with the SQCN care manager has resulted in an A1C decrease from 7.3 (rising risk) to 5.7 (controlled) and a BMI reduction by 6.73kg/m². With nutritional counseling and better dietary control, her provider has discontinued Januvia and the patient remains in control on metformin only.

SQCN Providers

Community and collaboration are what sets SQCN apart from insurance company incentive programs. SQCN providers understand the reasons for, and partner in the adoption of, SQCN protocols. They feel confident in their clinical decisions and hold each other accountable for the results. By continually integrating the most recent research and national best practices into our SQCN protocols, we promote excellence in care but don't interfere with providers' personal connection with their patients.

- SQCN works with data to identify opportunities within defined populations (employer groups) for quality and cost improvement.
- SQCN providers voluntarily agree to high levels of accountability to effectively manage health populations and achieve quality care while managing costs.
- SQCN providers collaborate, share data and best practices, and commit to rigorous measuring and ongoing improvement.
- Peer data-sharing and collaboration allow for accurate, effective, evidence-based decisions across the network.

The SQCN Difference: Increased Efficiencies

Taking into account SQCN data, new medical studies and industry standards, SQCN providers can influence patient care initiatives within the network, including encouraging providers to choose lower cost, equally effective drug options when appropriate.

Metformin, which has been in clinical use for more than 60 years and proven in numerous studies to be effective, also provides extra health benefits beyond controlling glucose. These include lowering LDL (bad) cholesterol, lowering blood fat levels and reducing the risk of cardiovascular disease.

To take advantage of the best care options and greatest cost efficiencies that metformin offers, SQCN teams identified patients prescribed medications other than metformin. They then refined the data to create a list of patients whose records indicated they were appropriate candidates.

Providers then worked with patients to transition to metformin and were able to achieve intended results while helping reassure patients about the added health benefits of metformin.

This is where SQCN turns from big data to the high touch of personalized provider and care manager engagement.



Metformin protocol

Employee population with diabetes: **1,010**

Employees not using metformin: **475**

Those eligible, but not using metformin: **392**

Potential monthly cost savings of: **\$168,168**

SQCN snapshot

“ My passion is the quality of care we are able to give to the patients. To be successful, we start with our patients’ care needs and ask how can we better care for them? Then we engage our PCPs and our specialty colleagues to adopt and execute protocols that address those care needs.

By connecting providers in this way, we are building a community in which we are all equally engaged in improving the patient’s quality of life. The data we collect helps us show that we are good doctors, providing good care. We can see that we are changing behaviors and providing quality medicine that patients can afford. ”



— Dr. Michael Charles,
SQCN Medical Director,
Clinical Quality



SQCN Quality Measures Mean Better Care

Going beyond national standards for children and adolescents.

HPV vaccines

We do not just measure against the national standards. We also look for where the opportunities are.

Human papillomavirus (HPV) is the most common sexually transmitted infection in the United States. HPV can cause cancers of the head and neck, cervical cancer and oral cancers — expensive, exhaustive and deadly diseases that may be prevented with vaccination.

Due to changing perceptions and recommendations, parents can be confused by the vaccination schedule and eligible children can miss the window for vaccination, which includes two injections separated by several months.

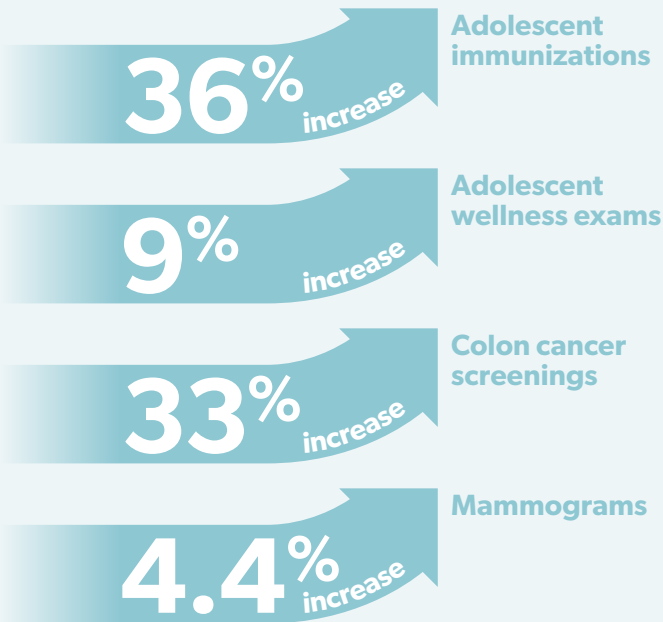
The current recommendation for routine vaccination from the CDC is that children between ages 11 and 13 receive the vaccine.* SQCN not only measures and reports our performance to the national HEDIS standard, we also measure and report HPV for adolescents older than 13, as it is still clinically appropriate for them to receive the vaccine. We then work with our providers to reach out to families whose children have not had the vaccine.

**The Advisory Committee on Immunization Practices (ACIP) also recommends vaccination for females aged 13-26 years and males 13-21 years not adequately vaccinated previously.*

In 2017, at SQCN practices:

- 37.4%** more adolescents (ages 11-13) received their meningococcal and Tdap immunizations (Combo 1) than at non-SQCN practices
- 31.9%** more children ages 3-6 received well child visits than at non-SQCN practices
- 22.6%** more adolescents received their annual wellness visits than at non-SQCN practices
- 22.6%** more children received appropriate treatment for pharyngitis than at non-SQCN practices

For SQCN patients within one large employer group, SQCN providers raised the bar in important healthcare screening rates within just two years, from 2015 to 2017:



*Richardson A: Screening and the number needed to treat. *J Med Screen.* 2001;8(3):125-127. 10.1136/jms.8.3.125

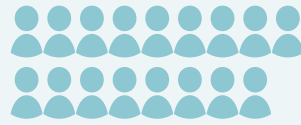
SQCN Lifesaving Results

To report the impact and effectiveness of healthcare screenings, SQCN uses **Numbers Needed to Screen*** in our data analysis. This data allows us to understand the number of people needed to be screened for a given duration to prevent one death or adverse event.

Our SQCN data shows us that our screening is working – we are in the top 10 percent of HEDIS screening measures and can definitively say those efforts are helping more people live longer.

Colon Cancer

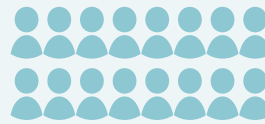
Over 21,005 SQCN patients have been screened for colon cancer from 2015 to 2017; this equates to **17 saved lives.**



SQCN's Colon Cancer Screening rate for attributed patients is at 89 percent compared to a national rate of 71.6 percent.

Mammograms

12,690 SQCN patients have been screened with mammograms from 2015 to 2017, translating to **16 saved lives.**



SQCN's Breast Cancer Screening rate for attributed patients is at 86 percent compared to a national rate of 80.2 percent.

Patient-centered The opioid epidemic

A timely response in a crisis can mean the difference between life and death.

Opioid overdoses are at their highest level ever recorded in the United States last year, with an estimated **200 people dying per day**, according to a report by the U.S. Drug Enforcement Administration.

In response to this growing opioid epidemic, the Virginia Board of Medicine instituted opioid prescribing regulations in March 2017. SQCN quickly implemented these new regulations into previously identified protocols already in place and rapidly distributed and implemented changes across the network.

The result: By December 2017, the largest medical group within SQCN **dropped opioid prescriptions by 41%** stemming the flow of opioids being prescribed, lowering the risk of dependence and reducing the number of pills sitting in people's drug cabinets with the potential for abuse.

Healthcare Effectiveness Data and Information Set: SQCN Results

SQCN measures quality performance using a 15-measure scorecard and comparing results to HEDIS. SQCN’s goal is to perform in the top 10 percent of providers in the nation.

The Quality Measure Scorecard chart below compares the performance of SQCN providers against non-SQCN providers for members of SQCN employer groups in the same geographic area. A checkmark (✓) indicates SQCN met the goal for the year.

2017 Contract Measures	Non-SQCN		SQCN		2017 Goal	Variance SQCN vs Non-SQCN
	Rate	Denominator	Rate	Denominator		
Performance at or above the 90th percentile (top 10%)						
Diabetic members obtaining HgA1C	94.2%	503	97.9%	698	✓ 93.8%	+3.7%
Diabetic members – nephropathy	92.8%	503	95.0%	698	✓ 92.5%	-0.3%
Diabetic members – dilated/retinal eye exam	72.4%	503	89.1%	698	✓ 69.0%	+16.7%
Diabetic members with HgA1C <8	66.0%	503	72.1%	698	✓ 63.9%	+6.1%
Women 50-74 obtaining mammogram	83.3%	1,165	86.1%	1,973	✓ 80.2%	+2.8%
Adolescents annual wellness visit	40.7%	329	63.3%	1,919	✓ 59.0%	+22.6%
Colorectal screening	83.3%	1,990	89.1%	3,418	✓ 71.6%	+5.8%
Diabetic members without ASCVD & statin therapy	67.6%	364	72.5%	541	✓ 65.5%	+4.9%
Appropriate treatment for children with pharyngitis	74.1%	27	96.7%	271	✓ 92.3%	+22.6%
Performance at or above the 75th percentile (top 25%)						
Adolescent Combo 1 immunizations	45.5%	22	82.9%	210	✓ 78.7%	+37.4%
Well child visit age 3-6	52.9%	17	84.8%	495	85.8%	+31.9%
Members with ASCVD & statin therapy	80.8%	52	83.9%	93	✓ 80.7%	+3.1%
Performance below the 75th percentile						
COPD and spirometry testing	57.1%	21	37.8%	37	49.3%	-19.3%
Use of imaging studies for low back pain	70.8%	65	62.0%	121	75.3%	-8.8%
Avoidance of antibiotic treatment for adults with acute bronchitis	23%	200	25.6%	293	✓ 24.5%	+2.6%

Healthy Tips Help Everyone

SQCN patients are partners in their healthcare. They receive **Healthy Tips** with easy-to-understand education by mail on healthcare issues that impact them and their families. Topics include:

- The flu
- The common cold
- Environmental allergies
- Adolescent wellness exams
- E-cigarettes and teens
- Nurse triage



SQCN patients are empowered with information to help them know:

- What is appropriate medical care at home
- When to call a primary care doctor, nurse triage
- What antibiotics can/cannot do

We know healthcare is most effective when patients are at the center of our efforts, which is why we work with patients to build healthy futures.



Provider-led:

SQCN providers collaborate on the best therapies to offer their patients. Additional **Healthy Tips** topics are in development.



Data-driven:

SQCN providers know providing patients with education on their most common complaints can help set expectations at the right level and avoid unnecessary visits.



Patient-centered:

Patients have a variety of health literacy levels and providing information in easy-to-understand, easy-to-reference materials helps them feel confident in seeking care when they need it.



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NETWORK

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