

# The Pivotal Role of Data in Dentistry in Improving Health Outcomes

Tuesday July 22<sup>nd</sup>, 2025

11:00am-12:00pm Eastern

*This project is supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) as part of an award totaling \$550,000 with 0% financed with non-governmental sources. The contents are those of the author(s) and do not necessarily represent the official views of, nor an endorsement, by HRSA, HHS, or the U.S. Government. For more information, please visit [HRSA.gov](https://www.hrsa.gov).*

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# Locations & Service Sites



## THREE FOUNDATIONAL PILLARS

<b>1</b> Clinical Excellence	<b>2</b> Research and Development	<b>3</b> Training the Next Generation
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## Overview

- Founded: May 1, 1972
- Staff: 1,400
- Active Patients: 150,000
- Patients CY: 107,225
- SBHCs across CT: 152

Year	2021	2022	2023
Patients Seen	99,598	102,275	107,225

# National Training and Technical Assistance Partners (NTTAP) Clinical Workforce Development

Provides free training and technical assistance to health centers across the nation through national webinars, activity sessions, communities of practice, trainings, publications, etc.

To learn more, visit [weitzmaninstitute.org/nca](https://weitzmaninstitute.org/nca)

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# Speakers



Sheela Tummala, DDS  
Chief Dental Officer



Karoline Oliveira, EdD  
Chief Officer for Clinical Excellence

# Learning Objectives

- Develop strategies for collecting identity data using the electronic health record (EHR).
- Understand how to utilize data to address the health-related needs for specific patient populations.
- Explore approaches for using data to inform the development and implementation of interventions that improve health outcomes.

# Health Outcomes

- Health outcomes refer to the health consequences brought about by the treatment of a health condition or as a result of an interaction with the healthcare system. It is a multidimensional concept that can be studied on multiple levels.<sup>1</sup>
- Health outcomes may be measured clinically (physical examination, laboratory testing, imaging), self-reported, or observed (such as gait or movement fluctuations seen by a healthcare provider or caregiver).<sup>2</sup>

1. [https://link.springer.com/referenceworkentry/10.1007/978-94-007-0753-5\\_1251](https://link.springer.com/referenceworkentry/10.1007/978-94-007-0753-5_1251)
2. <https://www.sciencedirect.com/topics/medicine-and-dentistry/health-outcomes#definition>

# Improving Health Outcomes

Reduce Medical  
Errors and  
Improve Patient  
Safety

Offer Telehealth  
and Other  
Technologies

Manage Chronic  
Diseases

Ensure Continuity  
of Care and  
Discharge  
Procedures

Communicate with  
Patients and  
Educate Them  
About Their Health

Create  
Opportunities for  
Staff Support and  
Development

Analyze Data



# Variances in Health Outcomes

- Variances in health outcomes are observed as those preventable differences in the burden of disease, injury, violence, or opportunities to achieve optimal health that are experienced by populations negatively impacted by factors in and outside of their control.
- **Examples:**
  - For both men and women, prevalence of diagnosed diabetes was higher among adults living in nonmetropolitan areas compared to those in metropolitan areas.<sup>3</sup>
  - Adults living in poverty are at a higher risk of adverse health effects from obesity, smoking, substance use, and chronic stress.<sup>4</sup>
  - College graduates have better self-reported health than high school graduates, and individuals with more education are less likely to report conditions, such as heart disease, high blood pressure, diabetes, anxiety, and depression.<sup>5,6</sup>

3. <https://www.cdc.gov/diabetes/php/data-research/>

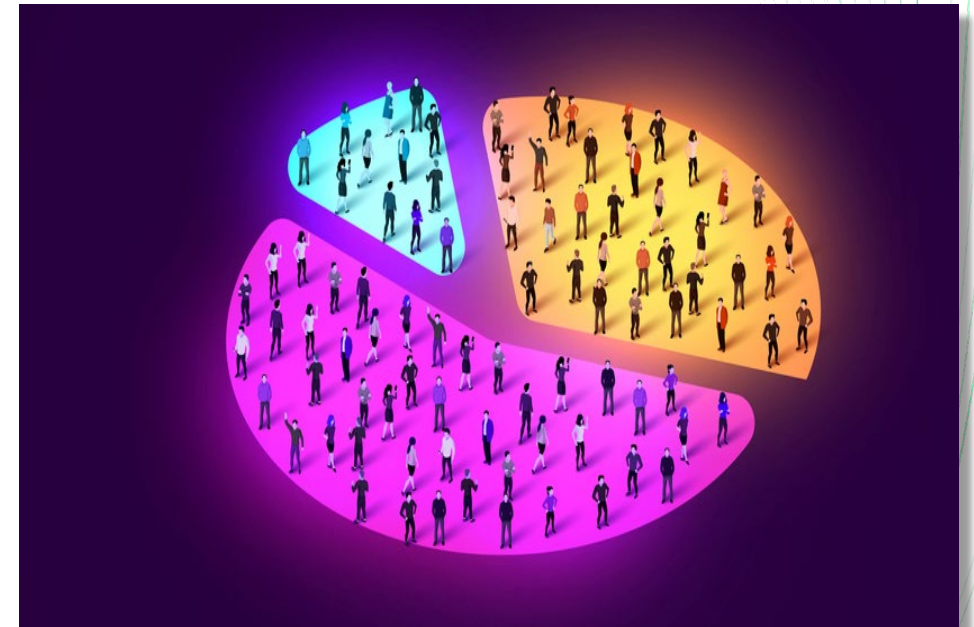
4. <https://doi.org/10.1377/hpb20180817.901935>

5. Goesling, B. (2007). The rising significance of education for health? Social Forces, 85(4), 1621–1644.

6. <https://doi.org/10.3386/w12352>

# Collecting demographic data in healthcare is crucial for several reasons:

- Identifying oral-related conditions in patient populations
- Tailoring care and treatment interventions
- Policy development and resource allocation
- Evidence-based practice
- Quality improvement
- Patient trust and engagement
- Addressing community-based risks



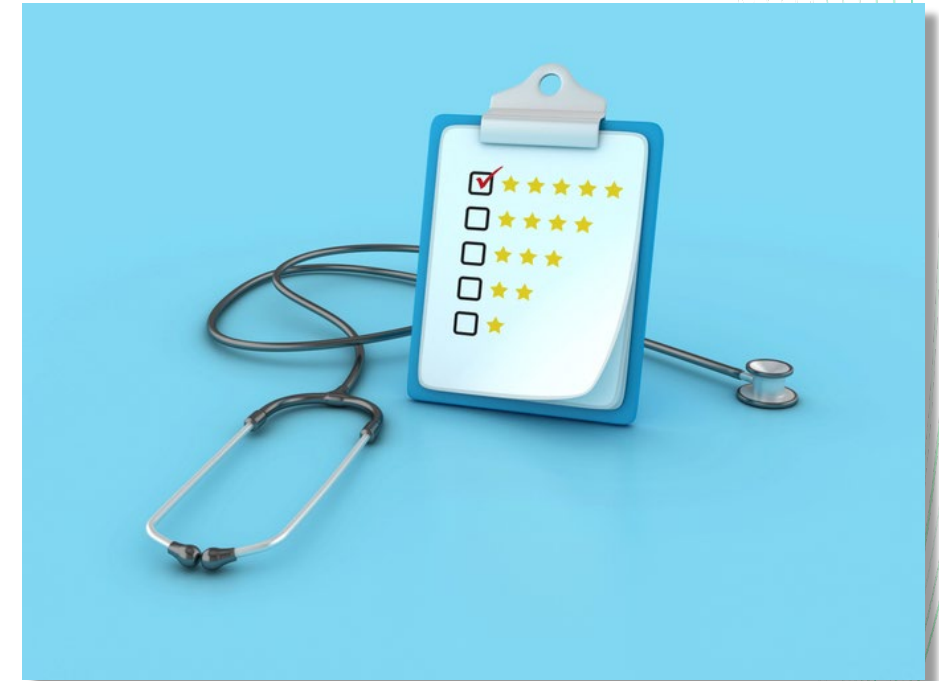
# Evidence-Based Practice

- Identity data is critical for analysis aimed at understanding health outcomes and the effectiveness of interventions across different populations.
- This information can contribute to evidence-based practices that consider the communities at risk and the impact of systemic factors on health outcomes.



# Quality Improvement

- Collecting and analyzing identity data can help healthcare organizations assess their performance and quality of care across different demographic groups.
- This process can identify areas for improvement and drive efforts to improve health outcomes and patient satisfaction.





# Patient Trust and Engagement

- When healthcare providers collect and utilize identity data, it can foster trust and engagement with patients from various backgrounds.
- Patients may feel more understood and valued when their individual experiences and backgrounds are acknowledged in their care.



# Addressing Population Needs

- Understanding patient population demographics can help healthcare providers and organizations address health-related needs.
- Factors like education and living conditions can impact health outcomes.



## Important Note

- It is important to understand, however, the practice of collecting population data or describing differences in healthcare outcomes, alone, do not lead to better health outcomes or clinical experiences for patients.
- These data must be incorporated into the development and implementation of policies and practices in order to effectively address variances in health outcomes.
- AND...the data must be complete, reliable and robust.

# Fully Understanding Your Patient Population

If we report percent of our patients who are Black/African American using, as a denominator patients who DO report race then we'd say 25% of our patients are Black/African American.

% Black/African American Patients	25.44 %
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If we report percent of our patients who are Black/African American using, as a denominator ALL of our patients regardless of whether we have data on their race, then we'd say 12% of our patients are Black/African American.

% Black/African American Patients	12.47%
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# How To Encourage Patient Reporting

Call Center Staff

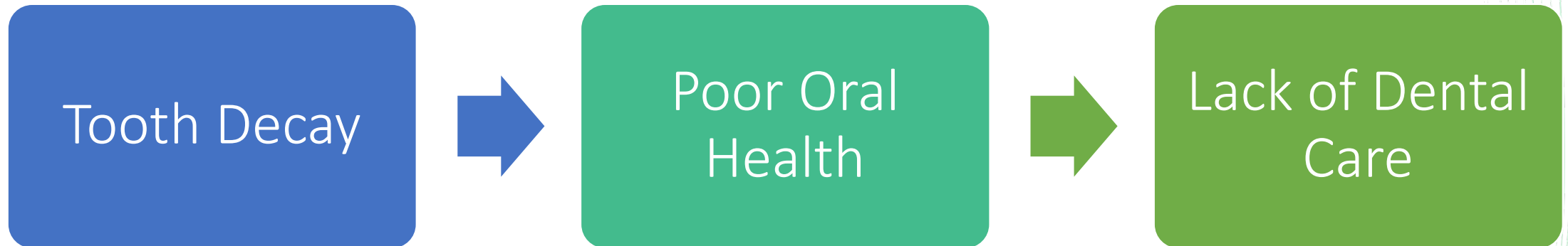
Patient Services  
Associates

Access to Care  
Staff

Patient Access  
Platform  
(ex. Luma, text  
messaging)

Self-Reporting  
Kiosks

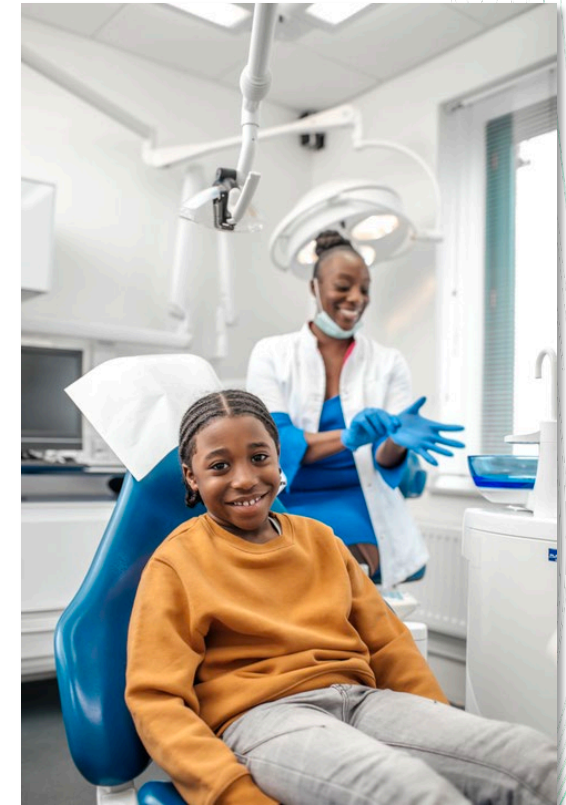
# Differences in Oral Health Outcomes: Three Major Driving Factors



# Differences in Oral Health Across Age Groups

The prevalence of untreated cavities (tooth decay) in the primary teeth of children (aged 2 to 5) from low-income households is about three times higher (18%) than that of children from higher-income households (7%).[7](#), [8](#)

The prevalence of untreated cavities in the permanent teeth of children and adolescents (aged 12 to 19) is about twice as high for children from low-income households (14%) as it is for children from higher-income households (8%).[7](#), [8](#)



# Oral Health Differences in Adults: Aged 20-65

Untreated cavities are about twice as common among working-age adults with no health insurance coverage (43%) compared with those who have private health insurance coverage (18%).<sup>[9](#)</sup>

Periodontitis (gum disease with bone loss) was twice as common (60%) among adults (aged 30 or older) with low income compared with adults who had higher income (30%) in 2009–2014.<sup>[10](#)</sup>



# Oral Health Differences in Adults: Aged 65 and Older

Complete tooth loss was more than three times as common among older adults who were current smokers (43%) or had less than a high school level of education (35%) compared with those who never smoked (12%) or had more than a high school level of education (9%) in 2011–2016.<sup>[11](#)</sup>

The prevalence of untreated cavities for older adults is 36% for Mexican Americans, 29% for non-Hispanic Black older adults, 33% for those with low-income, 13% for non-Hispanic White older adults, and 9% for those with higher incomes.<sup>[12](#)</sup>

# Differences in Oral Health Outcomes: Sealants and Oral Cancer

- From 1999 to 2016, there was an overall increase in the presence of dental sealants among all US children aged 6 to 11.[8,11](#)
- New oral cancer cases are about three times more common among men than women.[8,13](#)
- The highest rates of new oral cancer cases are among non-Hispanic White and American Indian/Alaska Native people.[8,13](#)

# Complex Phenomenon

- Federally Qualified Health Centers
- Accessibility of providers
- Provider interest (commitment)
- Case Management
- Insurance coverage



# Our Process

## Steps:

1. How do we collect this data from patients
2. How do we pull the data on the back end
3. Practice management and EHR
4. EHR has the clinical data, which includes the services rendered
5. All of our data is collected and stored in the data warehouse



## Sample Data Findings

- 55% of pediatric patients identify as Hispanic
- 30% of Hispanic pediatric patients received annual cleanings
- 29% of non-Hispanic pediatric patients received annual cleanings
- 48% of Hispanic adult patients identify as Hispanic
- 27% of Hispanic adult patients received annual cleanings
- 24% of non-Hispanic adult patients received annual cleanings
- 29% of all pediatric patients do not have race and ethnicity reported
- 11% of all adult patients do not have race and ethnicity reported

Identified number  
of patients  
receiving services  
based on  
demographics

# Case Management

## Steps

1. Developing a holistic view of patient's health resources (e.g. history of dental care, access to healthy foods, community resources).
2. Capturing and using data to navigate patient access to further care.
3. Segregating data according to demographics.





**MOSES/WEITZMAN**  
Health System

# Case Management

## Mobile Dental Case Management Dashboard - Summary

Patients by TE Month and Year					
		2022	2023	2024	Grand Total
Hispanic or Latino	Asian	1	1		2
	Black or Afr..	4	15	13	30
	Multiracial		1		1
	Other	4	2	2	7
	Unreported	49	97	52	185
	White	22	57	40	109
Not Hispanic or Latino	American In..	1	2	1	3
	Asian	1	4	3	8
	Black or Afr..	22	51	30	97
	Native Haw..		1		1
	Other		2		2
	Unreported	14	28	13	50
	White	20	52	29	95
Other or Un..	Other	2			2
Grand Total		140	313	183	592

Patients by Follow-Up Visit Status			
		FU Dental Visit?	
		Yes	No
Hispanic or Latino	Asian	1 (50%)	1 (50%)
	Black or African American	18 (60%)	13 (43%)
	Multiracial	1 (100%)	
	Other	5 (71%)	3 (43%)
	Unreported	136 (74%)	53 (29%)
	White	73 (67%)	38 (35%)
Not Hispanic or Latino	American Indian or Alaska..	2 (67%)	1 (33%)
	Asian	6 (75%)	2 (25%)
	Black or African American	62 (64%)	38 (39%)
	Native Hawaiian or Other ..	1 (100%)	
	Other		2 (100%)
	Unreported	30 (60%)	22 (44%)
	White	53 (56%)	42 (44%)
Other or Undetermined	Other	2 (100%)	
Grand Total		390 (66%)	215 (36%)

# Insurance and the Key Metrics

- Data is segregated into patients with insurance and those without insurance.
- How many uninsured were able to access dental services?
- How many people did we provide assistance to in obtaining insurance for, utilizing our access to care team?





**MOSES/WEITZMAN**  
Health System

**Patients by TE Month and Year**

	2022	2023	2024	Grand Total
Medicaid	119	246	150	474
Medicare	1			1
Private	8	33	14	54
Uninsured	12	34	19	63
Grand Total	140	313	183	592

**Patients by Follow-Up Visit Status**

**FU Dental Visit?**

	Yes	No
Medicaid	347 (73%)	139 (29%)
Medicare		1 (100%)
Private	22 (41%)	32 (59%)
Uninsured	21 (33%)	43 (68%)
Grand Total	390 (66%)	215 (36%)

**Patients by Follow-Up Visit Status**

**FU Dental Visit?**

	Yes	No
Medicaid	347 (73%)	139 (29%)
Medicare		1 (100%)
Private	22 (41%)	32 (59%)
Uninsured	21 (33%)	43 (68%)
Grand Total	390 (66%)	215 (36%)

**Patients by Subsequent Visit Status**

**Subsequent Dental Visit?**

	Yes	No
Medicaid	254 (54%)	231 (49%)
Medicare		1 (100%)
Private	16 (30%)	38 (70%)
Uninsured	13 (21%)	50 (79%)
Grand Total	283 (48%)	320 (54%)

# Data Broken Down By Insurance Status

# Follow-Up Visits

## Patients by Subsequent Visit Status

		Subsequent Dental Visit?	
		Yes	No
Hispanic or Latino	Asian	1 (50%)	1 (50%)
	Black or African American	11 (37%)	19 (63%)
	Multiracial		1 (100%)
	Other	3 (43%)	4 (57%)
	Unreported	91 (49%)	97 (52%)
	White	57 (52%)	54 (50%)
Not Hispanic or Latino	American Indian or Alaska..	1 (33%)	2 (67%)
	Asian	5 (63%)	3 (38%)
	Black or African American	41 (42%)	58 (60%)
	Native Hawaiian or Other ..	1 (100%)	
	Other		2 (100%)
	Unreported	24 (48%)	28 (56%)
	White	46 (48%)	51 (54%)
Other or Undetermined	Other	2 (100%)	
Grand Total		283 (48%)	320 (54%)

# Ways to improve and close the gaps

Smartphones Apps,  
meeting patient's where  
they are (ex. Luma)

Risk assessment in the  
community

Expanding the focus  
within oral health  
settings

# How are we addressing the care gaps in different populations?



# What Are The Systemic Things That Are Happening?

- Incorporating interpreter services (language line)
- Trainings for providers and staff (e.g. motivational interviewing on how to speak to patients)
- Dashboards that help for measuring and monitoring KPI

# Warm Hand-off Case Study

**Patient: 48 y/o Male**

**PMH Includes:**

- Anxiety
- Panic Disorder
- Agoraphobia
- Cigarette Smoker

**Dental History:**

- Partial Edentulism
- Dental Anxiety
- Radiographic Bone Loss
- Subgingival Dental Calculus
- Inconsistent Dental Care
- Ill Fitting Dentures Fabricated Outside Dental Office



# Planned Care Dashboard

## Oral Exam Alert

Patient	PCP and Visit Info					
531612 Sex: M Age: 3.0	Farb MD, Alan J PEDS  Next Medical Appointment: 9/20/2022 11:00:00 AM New Britain Medical  Last Dental Visit: 3/15/2022 Location: CHC SiteName: New Britain Dental  Reason for Visit: 3 yr WCC- AL	<b>ALERTS</b>	<b>Last Date</b>	<b>Due Date</b>	<b>Value</b>	<b>Note</b>
		BMI Percentile	3/15/2022		98.93	
		<b>VARNISH CANDIDATE</b>				Fluor
		<b>Oral Exam</b>				<b>MDIP Refer to Dental</b>
		Needs Flu Vaccine 2022-2023				
		Lead Test	2/15/2021	2/15/2022		
		Needs SMG	Never Done			Obesity

# MA Role: eCW Patient Chief Complaint

**Pediatric: Overdue for Dental Services**



**Community**  
 Health Center, Inc.

Pt. Info Encounter Physical Hub

Chief Complaints Keywords TESTPATIENT, Abe - Dec 5, 1993(28 yo F) - Acc No. T549640

Complaints		Followup
Complaints	Find: <input type="text" value="over"/>	Selected Complaints
<input type="checkbox"/> Overdue for Dental Services		<input checked="" type="checkbox"/> Overdue for Dental Services
<input type="checkbox"/> Overdue for Dental Services Diabetes		
<input type="checkbox"/> Overdue for Dental Services Prediabet		

Subjective:

**Chief Complaint(s):**

- Overdue for Dental Services



# Questions?

# Wrap-Up

# Explore more resources!

## National Learning Library: Resources for Clinical Workforce Development

National Learning Library



CHC has curated a series of resources, including webinars to support your health center through education, assistance and training.

[Learn More](#)

### **CLINICAL WORKFORCE DEVELOPMENT** Transforming Teams, Training the Next Generation

The National Training and Technical Assistance Cooperative Agreements (NCAs) provide free training and technical assistance that is data driven, cutting edge and focused on quality and operational improvement to support health centers and look-alikes. Community Health Center, Inc. (CHC, Inc.) and its Weitzman Institute specialize in providing education and training to interested health centers in Transforming Teams and Training the Next Generation through:

**National Webinars** on advancing team based care, implementing post-graduate residency training programs, and health professions student training in FQHCs.

**Invited participation in Learning Collaboratives** to advance team based care or implement a post-graduate residency training program at your health center.

Please keep watching this space for information on future sessions. To request technical assistance from our NCA, please email [NCA@chc1.com](mailto:NCA@chc1.com) for more information.

<https://www.weitzmaninstitute.org/ncaresources>

## Health Center Resource Clearinghouse

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 **HEALTH CENTER RESOURCE  
CLEARINGHOUSE**

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 NTTAP National Health Center Training and Technical Assistance (TTA) Needs Assessment

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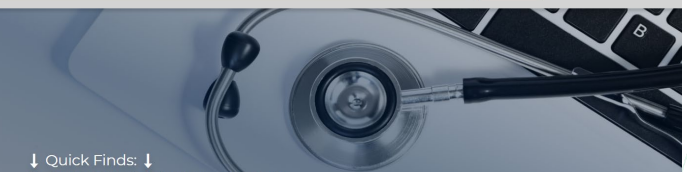
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For information on future webinars, activity sessions, and learning collaboratives: please reach out to [nca@chc1.com](mailto:nca@chc1.com) or visit <https://www.chc1.com/nca>

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