# **6th Annual HIT Symposium** Data & Technology to Support

Health Equity October 6, 2022









### AGENDA

7:00 – 8:00am PT	Registration & Breakfast Breakfast sponsored by: MedCurity, Inc		
8:00 – 8:05am PT	<b>Welcome</b> Lindsay Dietz, HCCN Project Director, Arizona Alliance for Community Health Centers		
8:05 – 8:40am PT	<ul> <li>Keynote   Addressing Behavioral Health Informatics in CHCs: How Data and Value-Based Care Can Enhance Treatment</li> <li>Margaret (Peggy) O'Brien, Social Science Analyst, Office of Evaluation, Center for Behavioral Health Statistics and Quality- DHHS/SAMHSA</li> <li>Objectives: <ul> <li>Understand the critical need for integrated care</li> <li>Understand how data can inform treatment and care integration</li> <li>Identify the potential role/use of technology and value-based care model in data-informed treatment</li> </ul> </li> </ul>		
8:40 – 9:30am PT	<ul> <li>Value-Based Care as a Health Equity Strategy</li> <li>Mark Stephan, Chief Medical Officer, Equality Health</li> <li>Objectives: <ul> <li>Learn how to understand your population</li> <li>Obtain tips on preparing for value-based contracting and identify how to turn a value-based contract into value-based care</li> <li>Understand how to measure progress</li> <li>Understand how to define and measure health equity</li> <li>Identify the keys to making a difference</li> </ul> </li> </ul>		
9:30 – 10:05am PT	<ul> <li>The Right Balance: Human-Technology Based Outreach Approaches to Increase Engagement</li> <li>Rogelio Pena, Director of Clinical Outreach Solutions, Equality Health</li> <li>Objective:</li> <li>Understand how you can leverage digital health tools to achieve patient engagement</li> </ul>		
10:05 – 10:20 am PT	BREAK		
10:20 – 11:05am PT	<ul> <li>Surviving and Learning From a Ransomware Event</li> <li>Jake Wahrer, Vice President of Infrastructure and Technology, Northern Nevada</li> <li>HOPES Clinic</li> <li>Objectives: <ul> <li>Understand the impact of an FQHC ransomware event on patient care</li> <li>Identify how to prevent and reduce the financial risk of a ransomware event to an organization</li> </ul> </li> </ul>		
11:05 – 11:50am PT	<ul> <li>Arizona HIE Updates and the CommunityCares SDOH Platform</li> <li>Peter Steinken, Director of Community Development, Contexture (Health Current)</li> <li>Andrew Terech, Director of SDOH, Contexture (Health Current)</li> <li>Objectives: <ul> <li>Obtain updates on Contexture, its current HIE programs, and new HIE offerings</li> <li>Learn about CommunityCares and how AHCCCS is investing in SDOH for Arizona</li> <li>Discover the CommunityCares program goals and timeline for implementation</li> <li>Identify how you can participate in the CommunityCares network</li> </ul> </li> </ul>		

### AGENDA

11:50am – 12:35pm PT	LUNCH Sponsored by: i2i Population Health	POPULATION HEALTH
12:35 – 1:20pm PT	<ul> <li>Population Health Platforms: The Key to Improving Health Equity</li> <li>Jodi Tate, Population Health Director, Canyonlands Healthcare</li> <li>Objectives: <ul> <li>Understand how data analysis can be used to inform patient outreach</li> <li>Learn how to utilize cohorts to compare patient outcomes</li> <li>Discover how custom dashboard optimizes how you share and track your performance</li> </ul> </li> </ul>	
1:20 – 1:55pm PT	<ul> <li>Connecting Your Population Health Tool Data to Your Care Management Program Amanda Parrell Kaczmarek, Program Manager, Progressive Community Health Centers, Inc &amp; Lieah Wilder, Performance Improvement Program Manager, Wisconsin Primary Care Association</li> <li>Objectives: <ul> <li>Understand the steps to establishing a Care Management Program highlighting hypertension and self-monitored blood pressure</li> <li>Receive an introduction to HIT and population health tools utilized in clinical and outreach workflows</li> <li>Identify evaluation considerations and reporting needs</li> </ul> </li> </ul>	
1:55 – 2:10pm PT	BREAK	
2:10 – 2:55pm PT	<ul> <li>From Data to Understanding: The DataOps Journey</li> <li>Gevork Harootunian, Director of Data Science, Decision Center, Arizona State University</li> <li>Objectives: <ul> <li>Understand DataOps and why we need it</li> <li>Understand the difference between data and understanding</li> <li>Discover combining data to enhance understanding of complex systems</li> <li>Identify how to design visualizations to match purpose and audience</li> </ul> </li> </ul>	
2:55 – 3:30pm PT	<ul> <li>Closing the Gaps to Achieve Better Outcomes and Health Equity</li> <li>Adam Basua, Manager Allscripts, Ambulatory Medicine Community Memorial Health</li> <li>System &amp; Steve Kim, CEO &amp; Co-Founder, Voluware</li> <li>Objectives: <ul> <li>Determine data is the first step in understanding where to focus</li> <li>Understand approaches must be tailored to the population</li> <li>Identify how technology is an indispensable tool</li> <li>Understand how partnership boosts the impact of the work</li> </ul> </li> </ul>	
3:15 3:35pm PT	HCCN Update	
3:35 4:00pm PT	Group Discussion & Wrap-Up	



Primary Healthcare for All

# 2022 HIT Symposium

October 6, 2022

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# MEDIURITY





### Housekeeping

- Location of restrooms
- Format for Q&A
- Evaluation
- Certificate of Participation
- Slides



# Welcome

Lindsay Dietz, HCCN Project Director





## Addressing Behavioral Health Informatics in CHCs: How Data and Value-Based Care Can Enhance Treatment

A Presentation to the 2022 Arizona Alliance for Community Health Centers HIT Symposium

Margaret (Peggy) O'Brien (CBHSQ OE) Substance Abuse and Mental Health Services Administration U.S. Department of Health and Human Services

> SAMHA Substance Abuse and Ment Services Administrati

October 6, 2022

### **Road Map**



- Why integration of physical and behavioral healthcare is vital
- How data can inform integrated care
- The role of value-based care in data-informed treatment
- The bigger picture





Why integration of physical and behavioral healthcare is critically important



**Integrated behavioral healthcare** is the blending of care for both physical and behavioral health conditions in one setting.

According to the Agency for Healthcare Research and Quality:

- Providers practicing integrated behavioral health care recognize that both medical and behavioral health factors are important parts of a person's overall health.
- Medical and behavioral health clinicians work together as a team to address a patient's concerns.
- The advantage is better coordination and communication, while working toward one set of overall health goals (AHRQ, n.d.).



### How common are co-occurring conditions?

- **Eight out of ten** adults hospitalized with a behavioral health disorder also have at least one physical health disorder (Owens PL et al., 2018).
- Three out of ten adults with a physical disorder have a mental disorder (Hagerty SL et al., 2019).
- Among Medicaid's highest-cost beneficiaries with disabilities, six out of ten have co-occurring physical and behavioral health conditions (Hagerty SL et al., 2019).



### What are some common co-occurring conditions?

- A few examples include:
  - Increased risk of cardiovascular disease, diabetes, stroke, and metabolic syndrome for people with many serious psychiatric conditions (Pennix BWJH et al., 2018)
  - Serious brain damage associated with opioid overdose (Winstanley EL et al., 2021)
  - Injuries to the brain, heart, liver, and other organs associated with chronic alcohol use (National Institute on Alcohol Abuse and Alcoholism)



### Effects of COVID-19 pandemic on behavioral health

In the last quarter of 2020, a large portion of the U.S. population reported behavioral health events that they experienced as due to the pandemic:

- Negative effect on emotional or mental health: **73.0%** (adults)
- Negative effect on emotional or mental health: 69.1% (ages 12-17 years)
- Adults with serious thoughts of suicide: **21.1%**
- Adults who made suicide plans: **8.5%**
- Ages 12 and older, used drugs a little more or much more: **10.3%**
- Ages 12 and older, used alcohol a little more or much more: **15.4%**

Data are from the final quarter of 2020 (SAMHSA (Jan. 2022). Results from the 2020 National Survey on Drug Use and Health: Detailed Tables (Tables 13.1B, 13.2B, 13.5B, 13.7B). Available at <a href="https://www.samhsa.gov/data/report/2020-nsduh-detailed-tables">https://www.samhsa.gov/data/report/2020-nsduh-detailed-tables</a>).



In its 2021 report on *Tackling America's Mental Health and Addiction Crisis Through Primary Care Integration*, the Bipartisan Policy Center found that, prior to the pandemic:

- **57%** of adults with a mental disorder and nearly **90%** of those with a substance use disorder were untreated.
- Behavioral health provider workforce shortages were a common barrier, especially for youth and people in rural areas.
- Barriers to behavioral healthcare are often even greater in underresourced populations, due to lack of access to adequate services, lack of culturally and linguistically competent providers, and complex social needs.



Co-occurring conditions are associated with both economic and noneconomic costs:

- Economic: Among adults with co-occurring conditions, nonbehavioral health care constitutes the predominant expense (e.g., out of total health care spending among adults treated for behavioral health disorders in 2010-2013 (\$672.4 billion), only 15% (\$101.2 billion) was for BH care) (Thorpe K et al., 2017).
- Noneconomic: Individuals with severe mental disorders die 10 to 20 years earlier than the general population (Liu NH et al., 2017). Families and communities experience many other losses and noneconomic costs.



### Integrated healthcare is a SAMHSA priority

- Integration of behavioral and primary healthcare is a major focus of SAMHSA's work.
- A few examples of SAMHSA work in that area include:
  - The SAMHSA <u>National Center of Excellence for Integrated</u> <u>Health Solutions</u>
  - Promoting Integration of Primary and Behavioral Health Care (PIPBHC)
  - The <u>Certified Community Behavioral Health Clinics</u> (CCBHCs) incorporation of primary care screening into behavioral healthcare settings





# How data can inform integrated care

- You are all at different stages in the extent to which you are providing integrated physical and behavioral healthcare.
- Your use of data to facilitate integrated healthcare likely varies.



#### In (Someone's) Ideal World ...





### How data might inform and enhance integrated care

- Assessment of need in the community:
  - Service needs for primary and behavioral healthcare vs actual service availability
     => Gaps to fill
- Measurement-based care to guide individualized care planning, care delivery, and assessment of progress
  - Example for a primary care setting: clinically appropriate repeated administration of standardized instrument such as PHQ-9 or report of need related to social determinants of health
  - Example for a behavioral health setting: clinically appropriate repeated measure of HbA1c
- Measurement of access to and use of integrated care (at clinic, health system, or state level)
  - Examples might include timely measures of (1) follow-up after hospitalization or emergency department visits or (2) use of specialty services to which referred



- Providers without an EHR or sufficient broadband capability
- Workforce shortages (internal and for referral)
- Lack of interoperability between EHRs
- Lack of other data linkages (hospital, ED)
- Privacy requirements
- Reimbursement issues
- Other challenges





# The role of value-based care in data-informed treatment



- Value-based care is usually thought of in the context of a system that incentivizes quality healthcare and, typically, seeks to reduce ultimate costs.
  - Depending on the source, the incentives may involve:
    - payments to providers or health systems that offer higher quality services, and/or
    - public reporting that permits open comparison
  - Either approach relies on data to measure some aspect of quality.



### Is there another way to think about value-based care?

- Thinking beyond monetary incentives or public reporting, consider whether value-based care could be:
  - Internal/non-public feedback (using data) to individual providers to incentivize quality improvement
  - Individual providers who are personally incentivized towards continued improvement or guided towards clinical next steps by seeing results reflected in data
  - Individual patients or clients incentivized towards further progress by seeing results reflected in data (shared decision-making based on data)



### Key questions

- What is the value? Higher quality integrated care, better patient outcomes, reduced cost?
- Who benefits from the value? The patient, provider(s), health care system overall?
- Is it value gained from continuous quality improvement based on data?
- Is it inherent value in the form of improved service quality at the provider or clinic level?
- Is it value that rests on public monitoring, comparison, and/or monetary incentives?





# The bigger picture

### What does data mean in the life of a patient or client?





### What does data mean in the life of a patient or client?





### What does data mean in the life of a patient or client?





### What are some implications for providers?

- Whether a clinic, a health system, or an individual provider, it may mean:
  - Culture change and shifting expectations
    - A need for champions to encourage and model change
  - Changes to workflow
  - Increased or altered training for staff
  - Shifting resources (staff, funds, time)
  - Expense
  - Reward



### What else might an integrated healthcare system include?

- Assistance with social determinants/drivers of health (SDOH)
- Wellness and prevention
- Outreach to get people into treatment
- Efforts to reduce stigma related to provision or receipt of behavioral health services





### **Questions & Discussion**

### References

**AHRQ**. What is Integrated Behavioral Health? Accessed 9/13/22 at <u>https://integrationacademy.ahrq.gov/about/integrated-behavioral-health</u>

**Bipartisan Policy Center**. March 2021.Tackling America's Mental Health and Addiction Crisis Through Primary Care Integration. Available at <a href="https://bipartisanpolicy.org/download/?file=/wp-content/uploads/2021/03/BPC">https://bipartisanpolicy.org/download/?file=/wp-content/uploads/2021/03/BPC</a> Behavioral-Health-Integration-report R03.pdf

**Hagerty SL**, Ellingson JM, Helmuth TB, Bidwell LC, Hutchison KE, Bryan AD. An Overview and Proposed Research Framework for Studying Co-Occurring Mental- and Physical-Health Dysfunction. Perspect Psychol Sci. 2019 Jul;14(4):633-645. doi: 10.1177/1745691619827010. Epub 2019 Jun 7. PMID: 31173535; PMCID: PMC6778441

Liu NH, Daumit GL, Dua T, Aquila R, Charlson F, Cuijpers P, Druss B, Dudek K, Freeman M, Fujii C, Gaebel W, Hegerl U, Levav I, Munk Laursen T, Ma H, Maj M, Elena Medina-Mora M, Nordentoft M, Prabhakaran D, Pratt K, Prince M, Rangaswamy T, Shiers D, Susser E, Thornicroft G, Wahlbeck K, Fekadu Wassie A, Whiteford H, Saxena S. Excess mortality in persons with severe mental disorders: a multilevel intervention framework and priorities for clinical practice, policy and research agendas. World Psychiatry. 2017 Feb;16(1):30-40. doi: 10.1002/wps.20384. PMID: 28127922; PMCID: PMC5269481

**National Institute on Alcohol Abuse and Alcoholism.** Alcohol's Effects on the Body. Accessed 9/13/2022 at <a href="https://www.niaaa.nih.gov/alcohols-effects-health/alcohols-effects-body">https://www.niaaa.nih.gov/alcohols-effects-health/alcohols-effects-body</a>

**Owens PL**, Heslin KC, Fingar KR, et al. Co-occurrence of Physical Health Conditions and Mental Health and Substance Use Conditions Among Adult Inpatient Stays, 2010 Versus 2014. 2018 Jun 26. In: Healthcare Cost and Utilization Project (HCUP) Statistical Briefs [Internet]. Rockville (MD): Agency for Healthcare Research and Quality (US); 2006 Feb-. Statistical Brief #240. Available from: https://www.ncbi.nlm.nih.gov/books/NBK534105/

**Pennix BWJH**, Sjors MML. Metabolic syndrome in psychiatric patients: overview, mechanisms, and implications. Dialogues in Clinical Neuroscience. 2018; 20:1. doi: <u>https://doi.org/10.31887/DCNS.2018.20.1/bpenninx</u>

**SAMHSA** (Jan. 2022). Results from the 2020 National Survey on Drug Use and Health: Detailed Tables (Tables 13.1B, 13.2B, 13.5B, 13.7B). Available at <a href="https://www.samhsa.gov/data/report/2020-nsduh-detailed-tables">https://www.samhsa.gov/data/report/2020-nsduh-detailed-tables</a>

**Thorpe K**, Jain S, Joski P. Prevalence And Spending Associated With Patients Who Have A Behavioral Health Disorder And Other Conditions. Health Aff (Millwood). 2017 Jan 1;36(1):124-132. doi: 10.1377/hlthaff.2016.0875. PMID: 28069855

Winstanley EL, Mahoney JJ 3rd, Castillo F, Comer SD. Neurocognitive impairments and brain abnormalities resulting from opioid-related overdoses: A systematic review. Drug Alcohol Depend. 2021 Sep 1;226:108838. doi: 10.1016/j.drugalcdep.2021.108838. Epub 2021 Jun 24. PMID: 34271512; PMCID: PMC8889511



In addition to the references on the prior slide, here are some miscellaneous resources you might find helpful on different topics mentioned in this talk:

- Lewis CC, Boyd M, Puspitasari A, et al. Implementing Measurement-Based Care in Behavioral Health: A Review. JAMA Psychiatry. 2019;76(3):324–335. doi:10.1001/jamapsychiatry.2018.3329. Available at <u>https://jamanetwork.com/journals/jamapsychiatry/fullarticle/2718629</u>
- SAMHSA, Substance Abuse Confidentiality Regulations. Accessed Sept. 16, 2022 at <u>https://www.samhsa.gov/about-us/who-we-are/laws-regulations/confidentiality-regulations-faqs</u>
- SAMHSA, How States Can Conduct a Needs Assessment. Accessed Sept. 16, 2022 at https://www.samhsa.gov/section-223/certification-resource-guides/conductneeds-assessment



# SAMHSA's mission is to reduce the impact of substance abuse and mental illness on America's communities.

## www.samhsa.gov

#### 1-877-SAMHSA-7 (1-877-726-4727) • 1-800-487-4889 (TDD)
### The Right Balance

Human-Technology based outreach approaches to increase engagement







### **Rogelio Pena, RD** Director of Clinical Outreach Solutions

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V00

### What We Do

### **Managed Care Organization**





### Value-Based Arrangement





**Physician Network** 





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### **Digital Outreach**

Tailored member outreach from member attributes

Age Gender Geography Diagnoses Stage of Change Risk Level Previous Engagement Quality Care Gaps SDOH Needs

### **Digital Programs**

**Designed Experiences** 

Transition of Care Diabetes Behavioral Health Monitoring Pregnancy Wellness **Care Management** 

**Transition of Care** 

3





**Equality Health** 

# Connecting Digitally

### **Our Cell Phone Relationship**

Google Play

Games

Apps

Movies & TV

Kids Books

### Make Her Jealous



### Eat It Like

5





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## We Had Questions

- Will Members Read These?
- Will They Opt-Out?
- Can We Really Change Behavior With A Text?
- Are We Going To Make Members Angry?

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**V00** 



# Measuring Success



**Equality Health** 

- **Delivery Rate**
- **Opt-Out Rate**
- Inbound Text Rate
- Inbound Call Rate
- **Behavior Metrics**

### Learnings: Invest Time In An Introduction



Welcome {{MEMBER\_FIRST}} to Equality Health! We partner with {{PAYER\_1\_GROUP\_NAME}} to support {{MEMBER\_FIRST}}'s needs. We are here to help: 833-227-3100 Learn More: https://bit.ly/CARE100







### Learnings: Words Matter & Test Everything

- Start with small batches

- Adjust quickly

Chronic Care = 1B Recent Lab Result = 08/19/21



Hi {{MEMBER\_FIRST}}, this is Carina, your Equality Health Care Coordinator. I work with your doctor at {{PAYER\_1\_GROUP\_NAME}} & would like to share a recent lab result. Please call 833-227-3100

### Chronic Care » 1B Recent Lab Result » 08/19/21



Hi {{MEMBER\_FIRST}}, it's Carina, your Equality Health Care Coordinator. We work with your doctor, and your recent lab result is in. Please call to discuss 833-227-3100

### Develop a message approval process Consistently measure metrics

65%

DELIVERY RATE Message Delivered: 163



**RESPONSE RATE** Inbound Messages: 14

6/%

DELIVERY RATE Message Delivered: 192 3%

**RESPONSE RATE** Inbound Messages: 5

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**V00** 



### Learnings: **They Will Engage**



Hi {{FIRST}}! It's Equality Health working with {{PCP Practice}}. You may be due for an annual visit before the end of the year. Please reply or call 833-227-3100 for help scheduling.

### Support the technology with People Blended human/technology workflows Provides options for methods of engagement



Hi! It's Equality Health working with {{PCP Practice}}. {{First Name}} may be due for an annual well visit. Please reply or call 833-227-3100 for help scheduling.



Hello {{FIRST}}, it's Equality Health & {{PCP Practice}}. It may be time for an annual wellness visit. Reply MYVISIT to request a call from {{PCP Practice}} to schedule an appointment.



### Blended People/Technology Workflows

Care Management Platform

Claims, Quality, ADTs,

Pharmacy Etc.

**Telephonic Outreach** 

Internal Referral to Care Team

Connect member to Payor Benefits

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**V00** 

### **Quick Tips**

piggyback off existing member relationships MMS has higher engagement, but some members only have SMS

internally communicate outreaches with your member engagement team

the importance of the opt-out

### links are great to measure but suspicious

### of conversational vs professional language



# Our Findings

**Delivery Rate** 

75% Medicaid

55% Medicare

Inbound Text Rate

3.5%

**Opt-Out Rate** 

2.1%

**Inbound Call Rate** 

5% - 20%

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### **Care Gap Closure**

### **10% - 20%**

\*Delivered vs Undelivered

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### Break







### Surviving and learning from a ransomware event.

### **Northern Nevada HOPES**

- HOPES is a FQHC located in Northern Nevada
- Over 200 employees
- 10,000<sup>+</sup> patients annually
- Patent Center Medical Home recognized by the National Council for Quality Assurance
- URAC Pharmacy recognition



### **Ransomware:**

 Ransomware is a malware designed to deny a user or organization access to files on their computer. By encrypting these files and demanding a ransom payment for the decryption key, the attacker place organizations in a position where paying the ransom is the easiest and cheapest way to regain access to their files.



### **Cyber Liability Insurance**

- In the event of a ransomware attack, Cyber liability insurance carriers may be utilized to pay the ransom.
- The insurance also pays for lost revenue during a cyber attack.
- Included services consist of, Cyber forensic teams, System administration support, Cyber liability attorney, software license reimbursement(Lost licenses/ re-establishing connection or activation)



### Before the "IT apocalypse....."

- Daily backups would be performed to both on site and off site Servers.
- Cold storage backups were performed weekly to allow for an offline solution.
- All data is encrypted both at rest and while in transit.
- IT day to day was to repair and improve existing systems.



### **Question #1**

 If your organization was unable to perform business for 24 hours, what would be the total loss in revenue?



 The U.S. was the target of 46 percent of cyberattacks in 2020, more than double any other country.

### Microsoft 10-25-21

https://www.microsoft.com/security/blog/2021/10/25/microsoft-digital-defense-report-shares-new-insights-on-nation-state-attacks/



### **The Attack**

- The intrusion happened in the early hours of the morning two weeks before Christmas.
- The attacker deployed the ransomware through a modified GPO allowing them to deploy it to all computers on the network.
- The group then performed a backup of the file system.





The EMR application was not loading for all employees.

Staff are unable to receive emails.

Phone calls from staff at 7 am stating they are unable to access the system.

The IT director had scheduled PTO for two week starting the next day, The system administrator had a scheduled surgery later in the afternoon with two weeks of recovery scheduled.



### System Impact

- Electronic Medical Record System
- IP phone system
- Backup systems
- Desktops and Laptops
- System Servers
- Pharmacy RX system



### • The average downtime a company experiences after a ransomware attack is 22 days.

### <u>Statista</u>

https://www.statista.com/statistics/1275029/length-of-downtime-after-ransomwareattack/#:~:text=Length%20of%20impact%20after%20a%20ransomware%20attack%20Q1%202020%2D%20Q3%202021&text=As%20of%20the%20third%20q uarter,United%20States%20was%2022%20days. 2021



### What happened next

System admin logged in to discover a ransomware note on the Domain controller.

Phone calls from staff regarding ransom notes on their laptops and desktops.

All systems slowly went offline.

All of the backups were deleted or encrypted.



### **Emergency Preparedness**

- CEO was immediately notified of the issue.
- IT gathered to discuss how to best recover from the situation
- Department and Executive Directors notified of incident and asked to have all work from home staff to bring their assets into the workplace.



### **Question #2**

 How many organizations in your area have been impacted by ransomware in the last 18 months?



### **The Plan**

- All servers, laptops and desktops were assumed to be compromised which would require completely rebuilding.
- Identified the priority of systems to restore in order to resume business.
- Began notifying patients of the outage closing operations until further notice.
- Contact our Cyber liability insurance company to discuss our options.



### Migrating the Domain

- Domain controllers control all domain access, blocking unauthorized access to domain networks while allowing users access to all authorized directory services.
- The organization scheduled to change over the domain slowly to avoid downtime and outages.
- With all systems and computers requiring a rebuild it was an opportune time to migrate the domain during this outage.
- By migrating the domain during the ransomware we were able to begin building a Hybrid architecture to allow redundancy and failover in the event of a local outage.



### **Cold Storage and Air Gap**

- Cold Data storage is the storage of inactive data that is rarely used and must be retained for business or compliance purposes on a long-term basis.
- An Air Gap is a security countermeasure that is based on the idea of creating an impenetrable barrier between a digital asset and malicious actors



### Air Gap Cold Storage....

- Cold Storage had all patient records and data systems stored in a full encrypted backup snapshot.
- The SQL services remained unencrypted on the infected machines due to separate permissions. The SQL service hosted all patient records and progress notes for all clients.
- The snapshot of the data system was two weeks old which kept most of our data and systems in tact within two weeks of the instance.



 Out of 1,086 organizations whose data had been encrypted, 96 percent got their data back.



https://secure2.sophos.com/en-us/medialibrary/pdfs/whitepaper/sophos-state-of-ransomware-2021-wp.pdf 2021



### **Executing the Plan**

- Assembly lines were produced to begin mass rollout of laptops and desktops for re-imaging and migrating to the new domain.
- IT staff worked around the clock rebuilding all systems and servers adding them to the domain.
- The cold storage backups were deployed to recover the impacted data.
- Cyber liability firm was utilized to do a forensic analysis of the event while also contracting a system administrator to help re-establish critical systems that were impacted.


## **Question #3**

 Does your organization currently have cyber liability insurance?



## **Detection and Review**

- The forensic team identified the user account compromised and responsible for the attack.
- The account was compromised through a targeted spear phishing campaign.
- All systems accessed by the attackers were encrypted and the data was unavailable to them for export



 Ransomware attacks were responsible for almost 50 percent of all healthcare data breaches in 2020.

### Heath and Human Services

https://www.hhs.gov/sites/default/files/2021-hph-cybersecurity-forecast.pdf 2020



# **Reporting responsibility in an attack**

- No patient information was compromised during the attack.
- All data potentially impacted during the event was determined to be non-critical and properly protected from any external threats
- The organization did not have to disclose the event since all records and information was protected from the threat actors.



### 95 percent of cybersecurity breaches are caused by human error.

### World Economic Forum Dec-17-2020

https://www.weforum.org/agenda/2020/12/cyber-risk-cyber-security-education



## How to react to ransomware

- 1. Isolate the Affected Systems
- 2. Report the attack
- 3. Shut down "Patient Zero"
- 4. Secure your Backups
- 5. Disable all Maintenance Tasks
- 6. Backup the Infected Systems
- 7. Identify the Strain
- 8. Decide Whether to Pay the Ransom

https://www.lepide.com/blog/how-to-react-to-ransomware-attack-in-8-steps/



## **Question #4**

- Is your organization prepared to recover from a ransomware attack?
- Would you have to pay the ransom, and if so could you?



## **Prevention:**

- All backup systems should not share admin privileges or domain access with the main network.
- User education is everyone's responsibility, All users should attend annual security training to reinforce best practices.
- Managed Detection and Response (MDR) services put a security team on your network monitoring unusual network and user activity. These teams specialize in locking down potential threats before they are able to deploy any specialized attacks.



# **Looking Back**

- In total the time it took to come back online took two weeks.
- 6 months of follow up and review to identify and review both the incident and impact.
- A forensic analysis of the incident took a month.
- 8 months to receive reimbursement from the cyber liability firm.



# Questions?



# **THANK YOU**

The staff at HOPES have given me my life back. The only way I can hope to repay them is by passing their kindness on to others."

- Steve | HOPES Client





# **Connection to Contexture**

Arizona HIE Updates and the CommunityCares SDOH Platform





### Peter Steinken, PharmD Director, Community Development

Andrew Terech Director, SDOH

## An Update on Contexture Peter Steinken

### New brand. Same commitment to you.

In the News

#### contexture

Our Mission Who We

Who We Are Leadership

CORHIO.org HealthCurrent.org

Creating connections. Improving lives.

Contexture is two visionary, innovating leaders in health information exchange (HIE): CORHIO and Health Current. Together we advance individual and community health and wellness through the delivery of actionable information and analysis.



#### **Our Mission**

Advancing individual and community health and wellness through the delivery of actionable information and analysis.

# **Contexture Participants**

### **Organization Type**

### Facilities/Clinics\*

Behavioral Health	415
Federally Qualified Health Center & Rural Health	180
Home and Community Based Services	171
Hospitals	202
Long-Term & Post-Acute Care	314

\*Combined Arizona and Colorado

## HIE Benefits

## With HIE, your organization can:

- Reduce time spent requesting and waiting for medical records from hospitals and other healthcare providers
  - Be more informed about your patients' recent hospital or ED visits
  - Manage high-risk and complex patients with more informed care coordination
- Better prepare for new patients to your practice by downloading their complete medical histories
  - Enhance care management and follow-up activities with access to clinical records and recent test results

# HIE Services

Contexture offers a range of HIE services designed to integrate more complete patient information into the care delivery of HIE Participants.

- Portal
- Alerts
- Direct Secure Email
- Data Exchange (Interface)
- Clinical Summary
- Controlled Substances PDMP

### Core HIE Components:

- Master Patient Index
- Integration Engine
- Clinical Data Repository



## Azara Healthcare

### A01, A02, A03, A04's batched daily via csv (Inpatient and ED)

#### The are 12 current Community Health Center roster files:

- Adelante Healthcare
- Canyonlands Healthcare
- Circle the City
- Desert Senita Community Health Center
- Marana Health Center
- Native Health
- North Country Healthcare
- Sun Life Family Health Center
- Sunset Community Health Center
- United Community Health Center
- Valle del Sol
- Wesley Community Health Center
- There are 5 additional health plan roster files
  - Arizona Complete Health
  - Banner
  - Banner (Value Based Care)
  - Care1st
  - United Health



## HIE Data Supplier Program

### **Receive Incentive Payment for Sending Data to the HIE**

- Eligibility Registered Medicaid Providers seeing Medicaid patients
- Requirements HIE Participant and sending data to the HIE on or after October 1, 2021

Provider Category	Payment
Hospitals & IHS/638 Facilities	\$20,000
Community Providers (26+)	\$20,000
Community Providers (16-25)	\$15,000
Community Providers (1-15)	\$10,000
Nursing Facilities	\$5,000

- Replaces historical HIE Onboarding Program ended 9/30/21
- Providers that did not previously receive a payment under HIE Onboarding Program or SHIP are eligible to receive administrative offset payments to become Data Suppliers

# HIE Data Supplier Program

### **Common Data Elements Required for Payment**

- Registration event Admission, discharge and transfer information
- Encounter summary including (if applicable):
- Laboratory and radiology information (if applicable)
- Active medications
- Immunization data
- Active problem lists (diagnosis)
- Social history
- Treatments and procedures conducted during the stay
- Active allergies
- Basic patient demographic data including assigned provider, emergency contact and payer
- Specific Seriously Mentally III (SMI) data elements, as defined by Contexture (if applicable)
- COVID-19 lab test and immunization data (if applicable)

# HIE Data Supplier Program

### **Steps to Participate**

- Become an HIE Participant, if not one already
  - https://contexture.org/JoinAZ
  - Recruitmentinfo@contexture.org
- Existing HIE Participants, sending data after October 1<sup>st</sup>, 2021 contact your HIE account manager
- Sign Data Supplier Program Addendum to the HIE Participation Agreement
- Complete data sending implementation
- Receive incentive payment

## Differential Adjusted Payment (DAP) Program

### **Benefits of Connecting:**

- Increase efficiency
- Improve care quality
- Save time & money
- Receive higher AHCCCS payments

#### **Newly Eligible Provider Types:**

- Physicians, MD & DO
- Physicians Assistants
- Registered Nurse Practitioners
- Assisted Living Homes & Centers
- Adult Day Health & Adult Foster Care



Healthcare Providers are Connecting to Arizona's HIE



Individual Practitioners: Physicians, M.D., D.O., P.A.s, R.N.P.s

Individual Practitioners Specialty Types: Obstetrics & Gynecology,

Eligible Provider Types

Critical Access Hospitals
 Integrated Clinics

Assisted Living Centers

Nursing Facilities

Pediatrics, Cardiology and Nephrology
 Behavioral Health Outpatient Clinics

Other Hospitals & Inpatient Facilities

Home & Community-based Services

Hospitals Subject to APR-DRG Reimbursement

IHS & 638 Tribally Owned and/or Operated Facilities

#### Prepare for DAP CYE 2023 Now!

Increase efficiency. Improve care quality. Save time & money. Receive higher AHCCCS payments.



As a healthcare provider in Arizona, you can receive a higher reimbursement rate through the AHCCCS Differential Adjusted Payment (DAP) program when you join and receive patient information from Health Current, Arizona health information exchange (HIE). To receive this increased reimbursement rate, the required first step is to join Arizona's HIE, at no cost to you.

#### Get Connected Today!

Contact recruitment@healthcurrent.org to get started.

Visit healthcurrent.org/DAP to learn more.

Health Current (a Contexture organization) | 3877 North 7th Street, Suite 150 | Phoenix, AZ 85014 | 602-688-7200 | healthcurrent.org/DAP

# New HIE Offerings

### Guides for the Advanced Use of the HIE

contexture<sup>\*</sup>

### Guide for Advanced Practice of the HIE

Version 1.0

Data-driven Care Using the Arizona Health Information Exchange (HIE)

#### The General Guide

This introductory guide provides an overview of HIE services, discusses the basics how to apply HIE services for success and lays the foundation for our participant-specific guides.



Four companion guides provide a deep dive into each specialty and cover topics specific to that provider type.

### Access "Your HIE" Guides

Learn how to get more out of your HIE. Visit:

**Advanced Practice Guides - Contexture** 



# **Right Care Alerts**

# Notifications for hospitals concerned about improper ED utilization.

### Right Care. Right Patient. Right Time. When It's Not Right, Be in the Know.



#### **Right Care Alerts Testimonial**

"Health Current is in a unique position to offer valuable ED notifications that empower providers to have real-time insight into improper utilization. In addition to receiving virtually all ADT alerts in Arizona, Health Current also provides clinical information about the patient captured in the HIE not available by other ED notification services."

#### - Ryan Sommers PMP,

System Director, HIE and Interoperability, IT & Digital, Dignity/CommonSpirit Health



#### **Right Care Alerts**<sup>™</sup>

Notifications for hospitals, health plans and other healthcare professionals concerned about improper emergency department (ED) utilization.

Health Current's Right Care Alerts bring inpatient and ED visit data across all participating organizations in the Arizona health information exchange (HIE) together to the point of care in the ED in real-time, providing immediate care and appropriate interventions for post-discharge care.

When a patient presents at the ED, the HIE is queried and sends a Right Care ED Utilization Risk Report back into the originating EHR system based on three threshold parameters:

# ED Visits	Duration	Notification of:
$\geq 6$	180 Days	High ED Utilizers
<u>≥</u> 3	30 Days	ED Readmits within the last 30 days
<u>&gt;</u> 3	90 Days	ED and/or Inpatient

To get started with Right Care Alerts, contact your designated Health Current account manager or email <u>HIESupport@healthcurrent.org</u>.



# **Right Care Alerts**

The purpose for Right Care Alerts are to give ED clinicians the information they need to make fully informed decisions so they can provide the best care possible.

#### Health Current - ED Notification Alert

Patient: AMYWLC, ZZTEST MRN: 3502319816 Report Date: Wed Aug 14 10:03:18 PDT 2019

#### Criteria Met

- 3+ ED Visits in 30 Days
- 3+ Facilities in 90 Days
- 6+ ED Visits in 180 Days

#### **Recent Inpatient Visit Summary (90 Days)**

Admit Date	Facility	Diagnosis/Chief Complaint
5/20/19 12:00 AM	St.Joseph's Hospital	THREAT LABOR NEC-UNSPEC
7/1/1912:00 AM	El Rio Health Center	DIABETES UNCOMPL TYPE II
7/25/19 12:00 AM	El Rio Health Center	Cardiac murmur, unspecified

#### Recent Emergency Department Visit Summary (90 Days)

Facility	Diagnosis/Chief Complaint
Mt Graham Regional Medical Center	DIABETES UNCOMPL TYPE II
St.Joseph's Hospital	Cardiac murmur, unspecified
Mt Graham Regional Medical Center	DIABETES UNCOMPL TYPE II
Mercy Gilbert Medical Center	Cardiac murmur, unspecified
Chandler Regional Medical Center	Back pain
Kingman Regional Medical Center	Cardiac murmur, unspecified
Kingman Regional Medical Center	Cardiac murmur, unspecified
El Rio Health Center	DIABETES UNCOMPL TYPE II
LAB1	DIABETES UNCOMPL TYPE II
	Facility Mt Graham Regional Medical Center St. Joseph's Hospital Mt Graham Regional Medical Center Mercy Gilbert Medical Center Chandler Regional Medical Center Kingman Regional Medical Center El Rio Health Center LAB1

#### ED Visit History (1 Year)

Eacility	Visits
Chandler Regional Medical Center	1
Mercy Gilbert Medical Center	1
St. Joseph's Hospital	1
El Rio Health Center	1
Kingman Regional Medical Center	2
LAB1	1
Mt Graham Regional Medical Center	2
Total ED Visits:	9



## Mental Illness Hospitalization Alerts

ADT Event notifications from an approved psychiatric hospital based on patient panels uploaded to the HIE.

### Mental Illness Hospitalization Alerts



Approximately one in four adults in the U.S. suffer from mental illness each year; nearly half will develop at least one mental illness in their lifetime. There are over 2,000,000 hospitalizations each year for mental illness in the U.S. Patients hospitalized for mental health issues are vulnerable after discharge and follow-up care by trained mental health clinicians is critical for their health and well-being.

#### **Background**

Mental Illness Hospitalization Alerts – notifications for admissions, transfers and discharges (ADTs) of patients from level-1 psychiatric hospitals – are in high demand among participants in the Arizona health information exchange (HIE). The ability to provide rapid coordination of care and assist with discharge planning upon admission to a psychiatric hospital is a key factor in reducing inpatient lengths of stay and supporting seamless transition, medication continuity and stability in community settings post-discharge.



In addition, multiple value-based incentive programs including AHCCCS' Targeted Investments have prioritized the hospital 7and/or 30-day follow-up HEDIS measures as an important indicator of system performance and patient well-being following an inpatient stay.

Making these important ADT alerts available to the Arizona healthcare community through the HIE has long been hampered by concerns about inadvertent disclosure of patient-identifying substance abuse treatment, diagnosis and referral information protected by 42 CFR Part 2.

## Mental Illness Hospitalization Alerts

- Contexture has developed and tested a methodology for delivering Mental Illness Hospitalization Alerts without disclosing protected Part 2 substance abuse information by:
- 1. Validating that a psychiatric hospital provides "mixed use" behavioral health services and does not exclusively deliver Part 2 substance abuse services.
- 2. Applying 42 CFR Part 2 data source filtering to exclude the following data elements from the alert: Diagnosis, Treating Provider and Location.
- There are no patient consent requirements to received Mental Illness Hospitalization Alerts.

- Aurora Behavioral Health Tempe
- Aurora Behavioral Health Systems (Glendale)
- ConnectionsAZ
- Destiny Springs Healthcare
- Horizon Health and Wellness
- Palo Verde Behavioral Health Hospital
- Recovery Innovations
- Southwest Behavioral Health Services
- West Yavapai Guidance Clinic



## Electronic Case Reporting

Electronic case reporting (eCR) is the automated, real-time exchange of case report information between electronic health records (EHRs) and public health agencies.



#### **Fact Sheet**

#### **Communicable Disease Surveillance & Reporting**

Overview

Health Current, a <u>Contexture</u> organization, is pleased to introduce Communicable Disease Surveillance & Reporting (CDSR), a program designed to assist hospitals and Federally Qualified Health Centers (FQHCs) with submitting case reports to the Arizona Department of Health Services (ADHS). CDSR will support ADHS by improving the timeliness, accuracy and completeness of communicable disease reporting, especially during emergencies such as a pandemic, and will reduce hospital and FQHC burden related to state reporting requirements.



In accordance with Centers for Disease Control and Prevention (CDC) Message Mapping Guides (MMG), the scope of this project includes an approach to standardize and normalize electronic case reports from hospitals' electronic health record (EHR) systems, capture the conditions and move them through the CDC AIMS platform and deliver data in a single feed to ADHS' electronic surveillance systems.<sup>1</sup> Hospitals and FQHCs will receive financial compensation from Health Current by achieving specific project-related milestones.

#### Background

ADHS receives communicable disease reports for several conditions and syndromes from healthcare providers, facilities and laboratories per Arizona administrative code. These reports are received through a variety of methods, including fax, phone, emails or direct duplicative entry by users into the integrated system, the Medical Electronic Disease Surveillance Intelligence System (MEDSIS). To reduce the reporting burden, ADHS is proposing a partnership with Health Current, using the statewide HIE to provide support for electronic case reporting. Health Current will work with ADHS and assist with participant outreach as well as project management support.

<sup>&</sup>lt;sup>1</sup> Developed by the Association of Public Health Laboratories (APHL), the APHL Informatics Messaging Services (AIMS) Hub is a secure, cloud-based environment that accelerates the implementation of public health messaging solutions by providing shared services to aid in the transport, validation, translation and routing of electronic data. Source: <u>http://www.aphl.org</u>.

# Electronic Case Reporting

#### HOW IT WORKS ELECTRONIC CASE REPORTING



Patient is diagnosed with a reportable condition, such as COVID-19



Healthcare provider enters patient's information into the EHR



Data in the EHR automatically trigger a case report that is validated and sent to the appropriate public health agency if it meets reportability criteria



The public health agency receives the case report in real time and a response about reportability is sent back to the provider



State or local health department reaches out to patient for contact tracing, services, or other public health action

- These timely data are more complete than manual reporting and include patient demographics (such as race and ethnicity), diagnoses, comorbidities, occupation, travel history, immunizations, medications, pregnancy status, and other treatments.
- eCR runs securely and seamlessly behind the scenes in the EHR to automatically capture and report required information, reducing provider burden. eCR also enables immediate feedback from public health agencies to healthcare providers about reportable conditions and possible outbreaks.

# Electronic Case Reporting

### BENEFITS OF ELECTRONIC CASE REPORTING

eCR replaces manual case reports that are generally done by mail, phone, fax, or through an online portal.







#### FOR HEALTHCARE PROVIDERS

- Saves time by eliminating manual data entry and reporting
- Streamlines reporting to multiple jurisdictions
- Fulfills the <u>CMS Promoting</u> <u>Interoperability Program</u> requirements for eCR
- Can fulfill legal reporting requirements
- Can be implemented for all reportable conditions

#### FOR PUBLIC HEALTH AGENCIES

- Enables bidirectional data exchange
- Provides more complete data to support outbreak management
- Efficiently monitors the spread of reportable diseases
- Reduces response time with automated information
- Supports submission of case-based data (without identifiable information) to CDC through the <u>National Notifiable Diseases</u> <u>Surveillance System</u>



## Arizona Healthcare Directives Registry

Registry platform that supports secure uploading, identify verification, access and management of patient Advance Care Plans. ARIZONA Healthcare Directives Registry

#### What Arizona Providers Should Know About the Arizona Healthcare Directives Registry (AzHDR)

During the 2019 legislative session, the Arizona Senate passed S.B. 1352, giving healthcare providers the ability to have real-time access to patients' end-of-life wishes when they need it most. The bill improved provider access to advance directives by moving the healthcare directives registry from within the Secretary of State's office to Health Current, a Contexture organization and Arizona's health information exchange (HIE).

Health Current worked collaboratively with the Secretary of State staff on the transition of advance directive documents registered with the Secretary of State to the HIE. An initial letter was sent to all previous registrants informing them of the transfer of the registry and providing them the opportunity to opt-out. After the opt-out period ended, remaining documents were transferred, and new account login information was sent to former registrants in November 2021.

Since that time, documents continue to be received and registered with the AzHDR. Advance directive documents can be submitted to the AzHDR via postal mail, email, fax or through the participating provider portal upload tool. Registering advance directives with the AzHDR is free to Arizona residents. Individual consumers can submit forms themselves or through the assistance of a healthcare provider, attorney, or other participating provider.

- Licensed Healthcare providers, including first responders and organizations and Legal and Financial
  providers can become participating providers with the AzHDR at no cost and be able to conveniently
  upload advance directive documents on behalf of their clients. Participating healthcare providers can then
  view all registered advance directives in the AzHDR. Participating attorneys and financial planners can
  then view any document they have submitted.
- Advance directive documents that can be registered in the AzHDR are living wills, health care power of
  attorney, mental health care power of attorney and pre-hospital medical care directive/DNR. POLST
  forms can be included if attached to a living will or healthcare power of attorney form.
- Once documents are registered, consumers will receive information to set up their own AzHDR account
  so they can view their documents. Registrants will also have access to a view-only wallet card that
  features a unique QR code and user website URL. These will allow family members, surrogate decision
  makers, and healthcare providers or first responders who are not yet participating with the AzHDR to be
  able to access the registrant's advance directives. Here is a sample of the wallet card for reference:



For more information on how your firm can become a participating provider with the AzHDR or to have the AzHDR team speak about advance directives and the Arizona registry, contact Health Current/Contexture at info@azhdr.org.

To learn more about the Arizona Healthcare Directives Registry, visit azhdr.org.





# CommunityCares

### Arizona's Social Determinants of Health (SDOH) Referral System

**Presented by:** Andrew Terech, LAC Director of SDOH Health Current/Contexture


#### AHCCCS Whole Person Care Initiative (WPCI)

- Officially launched the Whole Person Health Initiative in November 2019.
- Focused on role social risk factors play in influencing individual health outcomes.
- Exploring options for advancing WPCI through maximization of AHCCCS's current benefit package.



## CommunityCares The Journey Thus Far...

- Started a pilot called our Early Adopter Program in summer of 2021 for CommunityCares SDOH referral system, hosted on NowPow platform.
- Went live in October 2021 on NowPow platform.
- Winter of 2021, Unite Us acquired NowPow.
- Officially went on hold for onboarding March 1, 2022 to build our new relationship with Unite Us.
- Contexture and Unite Us agreed to terms for a statewide implementation of CommunityCares powered by new Unite Us platform.

## CommunityCares Partners





# **UNITE US**





# CommunityCares Program Goals

- Connecting Arizona communities.
- Improving health outcomes with a whole-person care mindset.
- Data-driven approach.
- Help organizations meet AHCCCS Differential Adjusted Payment (DAP) program milestones.



#### CommunityCares System Features

- Closed-loop referrals with outcome tracking
- No wrong door: easily connect clients to resources across the state in one platform
- Screenings and assessments for identifying client needs
- Alerts and communications about client case progress
- Data dashboards, analytics and outcomes
- Resource directory

**REFERRAL SYST** 

# CBOs Success Program

#### Community-based Organizations (CBOs) Incentive Program

#### Milestone #3

Milestone #2

for 6 months.

Maintain usage metrics

\$3,000

#### Milestone #1

Connect to CommunityCares and agree to use for 3 years.

If applicable, agree to a single sign-on integration with a source system.

# \$5,000

# \$2,000

## Timelines & Priorities

- AHCCCS Differential Adjusted Payment (DAP) enrolled organizations.
- Organizations that are currently on the NowPow instance of CommunityCares or were actively engaged with CommunityCares prior to pause.
- We'll also be transitioning current Arizona Unite Us customers to CommunityCares.
- Community-based organizations (CBOs).
- Regional approach (see timeline).

				Commu	nityCares I	mplement	ation & O	nboarding	Timeline				
Month/ Year	Aug. 2022	Sept. 2022	Oct. 2022	Nov. 2022	Dec. 2022	Jan. 2023	Feb. 2023	Mar. 2023	April 2023	May 2023	June 2023	July 2023	Aug. 2023
Wave 1		Central AZ	(Maricopa)										
							Southern	AZ (Pima)					
Wave 2							Northern A	Z (Coconino)	)				
							Western /	AZ (Yuma)					
										Central A	Z (Yavapia, I	Pinal, Gila)	
Wayo 3									Sou	thern AZ (Sa	anta Cruz, C	ochise, Grah	iam)
wave 5									No	orthern AZ (	Navajo, Apa	che, Greenle	e)
										Western	AZ (Mohave	e, La Paz)	

# Next Steps



- 1. Visit <u>CommunityCaresAZ.org</u>.
- 2. Complete the <u>interest survey</u>.
- 3. Responses to the interest survey will connect the organization to key contacts at Contexture and Unite Us who are subject matter experts to assist in the onboarding process and next steps.
- 4. Agreements are completed with Contexture and Unite Us. Depending on the organization and implementation needs. these agreements may include:
  - CommunityCares Agreement;
  - CBO Incentive Program Attestation;
  - Unite Us Terms of Use;
  - Unite Us Business Associate Agreement;
  - Unite Us No Cost Order Form.
- 5. Onboarding for healthcare organizations may take 6 to 12 weeks, depending on size and complexity of the organization and whether the onboarding includes an electronic medical records (EMR) interface integration.

## CommunityCares Contacts

#### Contact: <a href="mailto:sdoh.info@contexture.org">sdoh.info@contexture.org</a>

#### **Andrew Terech**

**Contexture** Director, Social Determinants of Health <u>Andrew.Terech@contexture.org</u> 602-469-2115

#### **Clay Cummings**

**Contexture** Manager, Social Determinants of Health <u>Clay.Cummings@contexture.org</u> 520-366-4061

#### **Diana Kramer**

**Contexture** Senior Advisor, Social Determinants of Health <u>Diana.Kramer@contexture.org</u> 623-633-9779



# Contact Information

Peter Steinken
 Director, Community Development
 <u>Peter.Steinken@contexture.org</u>

 Andrew Terech Director, SDOH <u>Andrew.Terech@contexture.org</u>

www.contexture.org



# Lunch





Thank you to our Lunch Sponsor!





## Discover How Using CHWs and Population Health Platforms Improves Health Equity

Draft a New Population Health Management Blueprint

Jodi Tate, Population Health Director Canyonlands Healthcare







# Building Blocks

To Execute a Plan Successfully, Begin with the End in Mind.





#### **STEP ONE** Lay the Foundation

**Community Health Workers** 





#### What are you using as your foundation?





## STEP TWO Construct the Framework



## Constructing Culturally Aware Messaging

*"Hello, this is Canyonlands Healthcare, your provider would like you to schedule a breast cancer screening. A mammogram to screen for breast cancer can save your life. Women need one every 1-2 years from age 45-75.* 

A) Help me schedule a mammogram, B) I do not want one, C) I have questions, or D) I have had a mammogram within the past 2 years. "



## Constructing Culturally Aware Messaging

*"Hello, Jane, Canyonlands Healthcare is holding a Women's Wellness Day in Kaibeto on May 11, 2022, 8AM - 4PM MDT.* 

*Reply A. If you would like us to schedule your FREE mammogram (Age 40-64)* 

*Reply B. If you have already completed a mammogram.* 

*Reply C if not interested in scheduling. Call 928-645-6624 for more information."* 



## STEP THREE Fastening your Joints Together

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#### DATA DRIVEN OUTREACH CAMPAIGNS



Use a Population Health Tool to Nail Down Outreach Strategies





Canyonlands Overall Hypertension Control

UDS Report	HTN Control
2019	54%
2020	49%
2021	60%

Canyonlands Native American Population Hypertension Control

UDS Report	HTN Control		
2019	50%		
2020	49%		
2021	52%		

# Hypertension Control in Canyonlands Native American Population



## Canyonlands Native American Outreach Data





VS.

14.2% Improvement for Patients of other Races



Canyonlands Overall Hypertension Control

UDS Report	HTN Control
2019	54%
2020	<b>49</b> %
2021	60%
2022	66.4%

Canyonlands Native American Population Hypertension Control

UDS Report	HTN Control	
2019	50%	
2020	49%	
2021	52%	
2022	65.8%	

# Population Health Management in Action



# Dashboards



#### Create a Meaningful Use Dashboard

Breast Cancer Screening Ages 50-74 (CMS 125v10) ()	
PERIOD     RENDERING PROVIDERS     SERVICE LINES       TY August 2022     All Rendering Provid >     Primary Care	+ Add Filter 🖓 🗘 Update
di MEASURE ANALYZER 🗮 DETAIL LIST	VALUE SETS
Targets & Metrics	Last Processed 8/27/2022 🕚 🗸
Baseline     1,018 / 2,977     1,959     End Chi C Goal     828       1.5% 1     TY 8/21     35 Exclusion(s)     Gaps     Image: Chi C Goal     828	34% Center Average       49% Network Average       72% Best Center
TY 8/22 GROUP BY None v 🔅 Comparison GROUP BY Center v	\$
100.0% 90.0% 80.0% 70.0% 60.0% 50.0% 32.7% 33.0% 32.4% 32.3% 31.9% 31.5% 31.6% 32.7% 32.1% 32.5% 33.1% 34.0% 34.2% 30.0% 10.0%	and the set of the set
Baseline DOD	



Canyonlands BCS Outreach Strategies		
DESCRIPTION		
Data filtered to display BCS gaps by payers, SDOH,	race, age, and location. This data will be used to inform outreach fo	r 4th quarter outreach effo
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## Use Specific Dates in Description

This will help others who are accessing the report use this information in the way intended.





Edit Widget - Line Chart		×
NAME		
BCS Closure Rates by Race		
MEASURE		
Breast Cancer Screening Ages 50-74 (CMS 125v	10)	
MEASURE COMPONENTS:		
Result		~
GROUPING		
Race		~
# OF LOOKBACK PERIODS	Bar Chart	~
OPTIONS: Display Labels Auto scale chart y-	axis	
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#### Selecting Dashboard Widgets



### **Analyze Data**



## STEP FOUR Place Support Beams

#### Onboarding and Workflows



#### **Community Health Workers**



## CHW ONBOARDING

Click here for CHW Onboarding Example for Canyonlands Onboarding Outline Should be a Living Document Give Specific Timelines for Training Completion

*Click here for CHW Quarterly Training Agenda* 

Organize Quarterly Training for CHW Team



Information	Timeline Demonstrated by Trainer teach back		Trainer sign- off		
Site Specific Instruction and information as necessary	Week 1		Self-guided	/	
Medtrainer	Week 1		Self-guided		
Canyonlands Orientation	1 month		Admin		
Introduction to Grants or Projects related to their position	1 month		Supervisor or Peer		
Meet community partners and ongoing meeting requirements	1 month		Supervisor or Peer		
Section 2: . Determina	Job Descrip nts of Heal	ition, Core Compe th, Boundaries, N	tencies, Ethi Iotivational II	cs, Social nterviewing	<u> </u>
Information	Timeline	Demonstrated by teach back	Trainer	Trainer Sign-	Dat

		teach back		Off	
CHW Description and	Week 1		Supervisor		
Introduction	1				
CHW Introduction					
CHW Role in Arizona	Week 1		Supervisor		
Rural Healthcare					
Click here for more					
information					
CHW Training with	1 Month		Supervisor		
AZCHOW					
Motivational			Supervisor		
Interviewing					
Motivational					
Interviewing					
Introduction					
Motivational					
Interviewing Worksheet					

#### Snapshot of CHW Onboarding Process

Maintaining Healthy	Week 1		Supervisor			
Boundaries						
Healthy Boundaries						
Healthy Boundaries						
Worksheets						
Social Determinants of	Week 1-2		Supervisor			
Health			''			
Click here for training						
webinar (A)						
Click here for training						
video (B)						
Section 3: Electron	ic Record D	ocumentation. S	cheduling a	nd Commu	nication	
with clinical chaff	Farana a la	- Overstiene	encouning, a			
with Clinical Staff, I	Encouragin	g Questions				
Information	Timeline	Demonstrated by	Trainer	Trainer	Date	
		teach back	Trance	Sign-off		
Overview of Electronic	Week 2-4	(Cour Dook	IT Staff	oign-on		
Health Record	WCCK 2 4		in stan			
Training of telephone						
mplate documenting						
amplate entering						
emplate, entering						
fical uata)	Week 2.4		Citra CED			
duling and	Week 2-4		SILE CSK			
imenting patient in			Trainer			
Understanding your						
dule and provider						
edules)						
AW Template	Week 2-4		Supervisor			
Workflow (Care						
Coordination)						
CHW-Clinical Staff	Week 2-4		Supervisor			
Communication						
Procedures						
CHW Communication						
with Clinical Staff						
Encouraging Patient	Week 2-4		Supervisor			
Questions						
Encouraging Questions						
Introduction						
Azara Login and Training	Week 2-4		Supervisor			
	·		1*			
				C	'anvonla	nd
				~	Hadthaara	
					riealt neare	


Caring for our Communities Since 1973

July 13th, 2022 Quarterly Canyonlands CHW Training Agenda

Cl	HW Quarterly Training Agenda	
<u>10:00 AM</u>	Attendance and Opening Remarks	Jodi Tate
<u>10:03 AM-10:20 AM</u>	<ul> <li><u>CHW Core Competency #2</u></li> <li>Interpersonal and Relationship Building Skills         <ul> <li>Communication Skills</li> <li>Body Language</li> </ul> </li> </ul>	Mallory Williams
<u>10:20-10:40 AM</u>	Care Message Scripting Upcoming Appointments Missed Readings Missed Appointments Checking in Follow up Appointments	Mallory Williams
<u>10:40 AM-10:50 AM</u>	Break	
10:50 AM -11:20 AM	Health Equity and Cultural Humility	Mallory Williams
<u>11:20 AM- 11:30 AM</u>	CHW Program 3 <sup>rd</sup> Quarter Goal Setting and Review of Onboarding Training	CHW Team
11:30 AM-11:35 AM	Meeting Summary and Follow Up Questions	Mallory Williams
11:40 AM	Meeting Adjournment	

CHW Training Agenda Sample



			Care Plan		۲
NevtGe	n Care Manageme	nt Template			Generate Care Plan History
ΠΕΛΙΟΕ	in care manageme		Problem Uncontrolled HTN	/ Goal Intervention Have blood pressure within normal Weight Management Education, range. Issue home BP monitor	Role         Status         Start Date         Next Review           Community Health         New         09/28/2021         /
Specialty V Family Practice	Risk Level Care Team 🚯 Contagion Risk Visit Type 🔻 Office Visit	TOB HTN DM CAD 🏶			Add
Care Transitions Com	np Assessment Functional Status Plan/Intervention				
Standing Orders   Adult Im	munizations   Peds Immunizations   My Plan   Procedures	Order Management   Screening Tools )	Care Plan		
Care Guidelines Global Da	avs	Panel Control: 🕤 Toggle 🍙 🔹 Cycle 🔳	Goal:		
	·	Record contains substance use disorder information			
Care Coordination Team			Interdisciplinary Team Member:	Due * Interventions	Due Date Role
Care Coordination Team		٢	All Community Health Worker	Due Weight Management Education, issue nome BP monitor	Community Health Worker
Agencies:					
Interdisciplinary team:	Name Location	Add Edit Remove			
Community Health Worker	Lacey Wilson				
Provider	Janeen Bjork, MD				Task Add Edit Remove
		Add Edit Remove	Care Plan Progress		$\odot$
Barriers to Care					Clear Filters
burners to cure		_	Problem:		
		None Filter: active	Goal:		
Barriers Transportation -Prapare	Transportation has kept me from non-medical meetings.	02/19/2019 / / active	Intervention:		
Not ready to change		09/28/2021 / / active	Documented Date Time Interve 09/28/2021 2:31PM Weigh	ention Interv Int Management Education, Issue home BP monitor	ention Progress
,		Add Edit Remove			

#### ✓ Assess Barriers

- ✓ Establish a Care Plan
- ✓ Document Progress on Care Plan





Nex	tuen care	e manage	ment l'emplate	Labs/diagnostic tests order	ed PCP updated on patient	t condition Follow - up:	r scheduled 🛛 Follow up w/ Care Manager scheduled
				Rx filled/refilled	Health maintenance up	dated	
Active and Managed P	Problems			Medication reconciliation of	ompleted 🔲 Disease management up	pdated	
Care Coordination			٢	Action Items/Follow up comme	nts:		
Family/caregivers	Homecare	SNF/ECF/Assisted living	Community agencies				
Specialists	DME services	Pharmacy	Other:				
Care Coordination comme	ints:			Characters left: 1000			
				Goals			۲
Characters left: 1000				Goals reviewed/updated			
Education/Recommen	dations		$\odot$	The change I want to make is	:	How important is this change to you?	0 (very important)
<ul> <li>Advance care planning</li> <li>Labs/diagnostic tests a</li> </ul>	g discussed 🗌 Education on dis	isease process/condition/treatment	Caregiver questions/concerns answered     Gffice visit w/provider advised	J The steps I will take to achiev	e this change are:	Things t	hat could make it difficult to achieve this change include:
Referral advised	Provided pt w/ c	community resource information	Follow up w/ Care Manager advised			When:	
🗌 Self management discu	ussed 🗌 Patient question	ns/concerns answered		My plans for overcoming the	e difficulties include:	How often:	
Education/Recommendatio	ons comments:						ige include.
				How confident are you that y	ou will be able to reach this goal?	O Short term goal O Long term goal Timefrai	ne for goal achievement:
				j on a scale from 0 (u	nsure) to 10 (very sure)		
			Document				$\bigcirc$
l ∧ Ke	esources			Concrete Care Blan Summar	L Concerte Transition of Care	L. Constato Comp Access	(init)
or			Diagnosis:				Add Update Clear All
	_			Clear		Clear	
Ec	lucation		Type of visit:			Cicur	
			Comprehensive Assessment Completed	Face to face	Phone Call-Physicians/E&N	A Provider 🔲 Group Education	
	tion		Comprehensive Assessment Face to Face (no o	charge) 📃 Face to Face (no charge)	Phone Call-Non-Physician/	Non-E&M Provider 🔲 Group Education (no char	ge)
			Comprehensive Assessment Phone (no charge	2)	Phone Call (no charge)	Minutes:	
	Do	cumentation	Care plan given to patient/family/caregiver		windles.		
lte	ems	the Mediceic				Add Remov	e
		the Medicald	Comprehensive Face 1	To Face	Phone Call	Group Education	
	Billi Billi	ing Guideline	S				
							Canvonlands
	pe of Visi	t					Healthcare
			1				
					Care	Management Summary	

Action Items

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### STEP FIVE Create an Entryway



#### **Community Health Workers**





Create Internal Referral Systems

Use a EHR Template for CHW Documentation

Assign CHWs Projects that Support the Clinical Team

#### **STEP FOR CHW INTEGRATION INTO CARE TEAM**



### **CHW Internal Referral**

Care Guide )rder Mana	lines Global Days				Deve et es			Cula A
)rder Mana					Panel co	s substance use	disorder info	cycle <b>G</b>
	gement							۲
CAll orders	O Diagnostics O Lab orders	s 🔿 Office services 🔿 Proce	dures 🖲 Referrals 💭 Othe	er orders 🏾 🖱 Imr	nunizations 🔘 Me	dications	orders in do	cumant 🔽
'Hinhliaht orde	Lab/Rac to manage detail or to print refu to manage detail or to print refu	liology Order Processing			Referral L	etter Refe	erral Docum	ent
Status	Ordered Performe	ed Completed Order		interpretation	Repo	ort		
ordered	07/13/2022	Referrals: CH Consult	C Clinical Hlth Worker.					
ordered	06/28/2022	Referrals: Ca	rdiology. Evaluate and treat					
ordered	12/20/2021	Referrals: Or	thopedics. Evaluate and trea	t				
ordered	10/14/2021	Referrals: Po	diatry. Location: Flagstaff.	-				
ordered	10/14/2021	Evaluate and Referrals: Pr	treat hysical Therapy, Evaluate and					
ordered	09/01/2020	treat Referrals: Ch	iropractic Medicine. Evaluate					
ordered	02/24/2020	and treat	Disgnostic testing	-				
ordered	02/24/2020	Referring Are	y. Diagnostic testing					
•								▶
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Healt hcare

CHWs Can Work with Support Staff to Create Educational Trainings that Support Health Center Goals



Trainings and Re-Education Created by CHWs

Confirmatory BPs Improved by 10% as a Result of this Training



### **The Blueprint in Action**



may

be recommended.

changes.

#### **Start Where** You Are

### **Use What You** Have



theare

# THANK YOU



Connecting Population Health Data Tools to Care Management Program

> Amanda Parrell Kaczmarek Program Manager Progressive Community Health Center



#### **Our Mission**



Progressive Community Health Centers exists to improve the health and quality of life of the community by providing culturally competent services that address identified needs.



#### **Our Patients**





#### **2021 Demographics**

- 14,540 patients
- 41,389 clinic visits
- 83% African American
- 91% live in poverty
- 61% Medicaid
- Female: 60%/Male: 40%
- Children under 18: 28%
- Age 50+: 24%



#### Where it all began...March 2021

#### • Team formed!

- CMO and Medical Director clinical guidance
- Care Management device distribution, patient education
- QI Director and Clinical Data Analyst manage data, write/test reports and dashboards for monitoring
- HIT consultant EHR enhancements, workflow and training documents
- Development Director grant writing, HRSA communication
- Program Manager project administration, grant reporting
- Baseline Hypertension Control 60%



#### **Anticipated Outcomes**

- Staff Training
- Outreach
  - Offer program to over 50% of eligible patients
  - Uniform documentation
- Device Distribution
- Functional reporting
  - Discreet documentation
  - Dynamic rosters within Epic
  - NO MANUAL CHART REVIEW
- 70% Hypertension Control (UDS metric)



#### **Resources and Tools**

#### • OCHIN Epic

- Smart Data Elements
- Azara DRVS
- Device Omron Silver
- Text Outreach
- Dedicated and experienced team to develop workflows and pilot before launch





### Outreach

Months	(All)		
	1st Call		
Count of MRN	Туре		
Program Participation			
Status	On Site	Outgoing	Grand Total
Declined for now	3	546	549
Participate - No Smartphone		3	3
Participate in Program	130	372	502
Refused to Participate		24	24
(blank)	2	17	19
Grand Total	135	962	1097

#### Methodology

- In person
- Text messaging
- Tracking
  - Demonstrate effectiveness to prioritize efforts
  - Follow up outreach with "Decline for now"



#### **Device Distribution and Integration**

## • Smart phrase for device distribution

- Need to anticipate key variables to success
- Can help identify issues
- Challenges
  - Phone limitations
  - Troubleshooting after distribution

Count of MRN		Connection Status			
MobilePhon	e Phone	Successfully	Unable to	(	Grand
Туре	Connection	connect	Connect	(blank) T	otal
Android		12	62	1	75
	Apple HealthKit	1			1
	Google Fit	З	3 7	7	10
	(blank)	8	55	5 1	64
iPhone		44	ļ.		44
	Apple HealthKit	43	3		43
	(blank)	1			1
(blank)		14	L 1	2	17
	Apple HealthKit Google Fit (blank)	4 10	L 1	2	5 10 2
Grand Total		70	63	3	136



#### **Program Participation & Completion**



#### Typical enrollment

- 3 months with high touch follow up with Care Coordinator
- Can extend as needed
- Finalizing graduation definitions



#### **Current Successes**

#### Outreach

01214 patients

#### Device Distribution

- 347 SMBP devices in distributed
- 326 submitted results
- Program Graduates
   71 patients
- Current Hypertension Control
  - 69% (as of 8/31/2022)

2022	Has Summited Results	Grand Total Outreach	%
	1		
Meeting Date	Results #	Total #	%
3/17/2022	37	225	16.44%
4/12/2022	81	389	20.82%
5/11/2022	136	661	20.57%
6/7/2022	165	749	22.03%
7/13/2022	241	1009	23.89%
8/10/2022	284	1102	25.77%
9/14/2022	326	1214	26.85%







### Break







## From Data to Understanding

THE DATAOPS JOURNEY

### Introductions



Gevork Harootunian Director of Data Science Decision Center

### Outline

The struggle with analytics

DataOps

Data integration

Data vs information vs knowledge

Dashboards and visualizations

## The struggle with analytics



of big data projects fail (Gartner, 2017)



of data science projects never make it to production (VentureBeat, 2019)



of analytic insights will deliver business outcomes (Gartner, 2019)





Some of the major reasons why data projects fail include



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The wrong talent

The wrong data

- The wrong **processes**
- The wrong **technology**
- The wrong **problem**
- The wrong **culture**







## Data Ops

- An approach to data analytics from an operational lens
- Captures the entire lifecycle of data from planning and data capture to reporting and action
- Aligns technology, processes, and people along key goals
- Think of it as a factory or kitchen. Lots of different steps. All prone to error. The key to a good data product is error reduction
- Improved collaboration, communication, integration and automation all throughout the process
- Foundation of data culture and democratization

Get it!	Data capture, data integration, ETL (extract, transform, and load)
Find it!	Data discovery, metadata
Rule it!	Data governance, automation, monitoring, and maintenance
Work it!	Data & analytics life cycle
Live it!	Goals, roles, culture





## Data Integration

Having an analytical warehouse is essential in your DataOps strategy with many benefits

- Innovative medical solutions
- Rich context for complex system
- Reliable decision making
- System performance
- Security and compliance
- Automation and sustainability



## Data is not knowledge


## **Dashboards** & visualizations

## What makes a dashboard effective

- A clear well articulated purpose
- Awareness of the intended audience
- Well designed and relevant metrics
- Actionable
- Coherent flow and context
- Color, style, and layout
- Sparse, minimum necessary
- Chart selection
- Iterative



# Types of dashboards

- Traditional BI categorization of dashboard types
  - Strategic
    - High level metrics to monitor long term goals
  - Operational
    - Like strategic dashboard but for shorter term goals or more real time operations
  - Analytical
    - Data and information rich with intent to deep dive on a issue
- Additional classifications
  - Exploratory
  - Explanatory
    - Answers 'why'

### How to present findings



### Traditional Reports



#### Dashboards or Visualizations



#### Storytelling



### We don't make decision on rationale alone

- Curate your dashboard to drive context and knowledge
- Let the flow of the dashboard naturally tell the story
- Don't be afraid of using multiple screens or pages. Let each page be absorbed
- Combine exploratory and explanatory aspects to include the audience in the discovery process so that they are engaged in the decision



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## **Closing Referral Gaps to Achieve Better Outcomes and Health Equity**

**6<sup>th</sup> Annual HIT Symposium** *Data & Technology to Support Health Equity* 





## **Guest Speakers**

### Adam Basua

Manager- Allscripts, Referral Coordinators, Surgery Schedulers Community Memorial Health System



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From averaging 3,500-4000 referrals per month to over 7,000 per month with VALER -- and not being fully staffed.

As a physician partnering and helping our clients who are struggling with manual referrals and auths is our delivery of care model.



### Steve Kim, MD

CEO & Co-founder Voluware, Inc.



Four Key Insights in Closing Referral Gaps:

**01** Data is the first step in understanding where to focus

**02** Approach must be tailored to address population needs

**03** Technology is an indispensable tool

• 04 Partnership boosts the impact

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### Tailoring to Your Population's Referral Needs



## Key Referral Challenges & Gaps



Referral backlogs, access delays, & bottlenecks

Manual follow-ups with specialists





## Where to Focus



# 01 Data



## **Referral Data Capture**

# CMHS needed one place to streamline, automate, and manage referrals & authorizations

- Staff referral productivity
- ✓ Identify bottlenecks and gaps
- Real-time referral status visibility
- Referral backlogs/close-the-loop
- Increased patient engagement

VAL	.ER 0.34.0-DEMO-vmt		Upload CCD	Authorizations ~	Med Auth ~	Grouped Auth $\sim$	Responses
Aut	horizations - All						
	TRACKING TAG	URGENCY	PATIENT	ENCOUNTER #	DUE DATE	STATUS	
	×	×	×		×	×	×
	VALNCHS-180615-000051	ROUTINE	DUCK, DONALD 05/06/1956   4568		06/15/202	22 PENDING	AUTH
	VALNCHS-180615-000050	ROUTINE	WALT, STITCH 05/09/2018   5796378			APPROVE	D
	VALNCHS-180615-000049	ROUTINE	CAPTAIN, HOOK 02/14/1978   23r545			PENDING A	AUTH
	VALNCHS-180615-000048	ROUTINE	TEST, GOOFY 10/25/1995   58474			NEW/REQU	JESTED
	VALNCHS-180615-000047	ROUTINE	WALT, STITCH 05/09/2018   5796378				JEST
	VALNCHS-180615-000046	ROUTINE	TEST, GOOFY 10/25/1995   58474		1	DENIED	
	VALNCHS-180615-000045	ROUTINE	DUCK, DONALD 05/06/1956   4568			PENDING /	AUTH
	VALNCHS-180615-000042	ROUTINE	CAPTAIN, HOOK 02/14/1978   23r545		1	PENDING A	AUTH
	VALNCHS-161123-000037	ROUTINE	TEST, PAM3   \$333333		1	APPROVE	D
	VALNCHS-161123-000036	ROUTINE	TEST, PAM3   \$333333		1	APPROVE	D



# 02 Approach



## Determining Approach from Data Analysis



### **Patient Data**

- Drives
  - ✓ Provider Specialties
  - Referral Types



### **Clinical Review**

- Timing
  - ✓ Transformed processing speeds



### **Improve Outcomes**

- Communication
  - ✓ Tracking
  - ✓ Visibility





# 03 Technology

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### VALER Comprehensive Referrals & Authorizations



Across All Payers



Fax, Web Portals



Professional, Facility, & Technical

#### **All Service Types**

- Surgeries
- ✓ Diagnostic Imaging
- Procedures, Labs
- Infusion therapy
- Specialty medications
- ✓ E&M consults
- ✓ Worker's Comp

oluware

Notice of Admissions

#### **All Specialty & Service Lines**

- Cardiology
- Oncology
- Orthopedics
- ✓ Spine Surgery
- ENT
- ✓ Transplant
- Neurosurgery
- Ophthalmology
- Urology

- General Surgery
- ✓ Plastic Surgery
- ✓ Breast Surgery
- Radiology
- Radiation Oncology
- ✓ Thoracic Surgery
- Cardiothoracic Surgery
- ✓ Vascular Surgery
- Dermatology

- ✓ Hematology
- ✓ GI Surgery
- ✓ OB/GYN
- ✓ Primary Care
- Pediatrics
- Neurology
- Sleep
- PT/OT
- Botox

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## **Enterprise Visibility and Reporting Options**

Continuously measure and evaluate timely, relevant comparative data for actionable strategies and sustained performance improvement



### **Last Touched Referral**

Date of last touched referral by clinic staff



#### **Nudges** (providers + patients)

Reminders regarding pending clinicals, and/or unsigned notes



#### **Time to Obtain New Referral**

How long it takes staff to get a new referral



### **Staff Productivity**

Staff members output each day





## **Technology Benefits**

### Gain

- Real-time referral status & visibility
- Improve referral productivity
- Identify referral bottlenecks





## CMHS Referral & Authorization ROI







# 04 Partnership

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## **PARTNERSHIP Boosts the Impact**

















### AUTOMATE. CONNECT. THRIVE.

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**Contact:** 



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Øoluware

voluware-inc



www.voluware.com

Steve Kim, Co-Founder & CEO

steve@voluware.com

# \*\* Appendix \*\*



## Integrated EHR Referral & Auth Workflow







## Group Discussion & Wrap-Up



## HCCN Update







**Primary Healthcare for All** 

## Thank you!

