



# Healthy Hawai'i Strategic Plan Team-Based Care Objectives Needs Assessment Report

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## EXECUTIVE SUMMARY

### Background

The Hawai'i State Department of Health's (DOH) Chronic Disease Prevention and Health Promotion Division collaborated with stakeholders statewide to develop the Healthy Hawai'i Strategic Plan's (HHSP), a roadmap to improve the health of Hawai'i residents by 2030. Within the HHSP, there are two objectives around team-based care: 1) to identify five measurable outcomes indicative of team-based care and monitor over time, 2) improve identified measurable team-based care outcomes by five percent. While there are many different definitions of team-based care, for the purposes of the HHSP objectives stakeholders defined team-based care as, "two or more health care professionals who work collaboratively with patients and their caregivers to accomplish shared goals." The purpose of this needs assessment was to interview key stakeholders with expertise in team-based care, who had not participated in the HHSP, in order gain additional perspectives and inform next steps.

### Methods

In the spring of 2021, interviews were conducted with representatives from 13 diverse organizations from across the health care system including large and small health systems, physician organizations, educational organizations, and payers. Key informants were identified using a quasi-snowball sampling approach, starting with a list of organizations identified by DOH as not having participated in the HHSP, and subsequent participants being identified by interviewees. Interviewees were asked about their organizations' team-based care efforts, the impacts of COVID-19 on those efforts, their vision of team-based care in Hawai'i by 2030, the barriers and next steps to achieve that vision, and the measures they think should be used to track progress on team-based care over time. Interviews were transcribed and coded for themes.

### Key findings

Organizations all reported that they are currently working to implement or support team-based care through either direct implementation of team-based care or by providing supports for practitioners. Many of their efforts were driven by current and former payer initiatives. Organizations reported that COVID-19 has created challenges for their team-based care efforts, such as redirecting resources away from team-based care toward COVID-19 efforts and making the logistics of warm handoffs of patients more difficult with virtual care. However, they also said that it facilitated team-based care, mainly by forcing the adoption of telehealth and emphasizing the importance of team-based care in managing patient health during the pandemic. All organizations reported making adaptations to the way they deliver health care during the pandemic, which may help to build momentum for cross-organizational collaboration and policy changes to support team-based care at the state level.

Key informants identified a diverse range of indicators of team-based care that could be tracked over time, from quality measures to indicators of the Quadruple Aim to measures of Hawai'i's infrastructure to support team-based care (e.g., workforce capacity). However, several stakeholders raised concerns about the appropriateness and feasibility of measuring team-based care since it is just one mechanism to reach the ultimate goals of improving patient outcomes, closing care gaps, improving provider satisfaction, obtaining better health outcomes, and lowering costs.

Although there was little consensus on measures, key informants did share similar visions for team-based care by 2030. They wanted to see improved infrastructure for team-based care with payment reform to enable sufficient funding for team-based care in all settings, a sufficient workforce to staff teams, data sharing across organizations, and statewide collaboration and coordination amongst all health care stakeholders. They identified numerous barriers that may inhibit achieving that vision, including the lack of shared vision and coordinated effort across all stakeholders; the current payment structures; the lack of infrastructure for communication, data sharing, and team-based care training; workforce shortages; and provider and patient factors.

Key informants suggested next steps centered around building a strong infrastructure to support team-based care, starting with convening all stakeholders to set a common goal, and then working to address identified barriers and select appropriate measures. Convening key stakeholders to agree on a shared direction is an important next step to making progress on team-based care objectives and aligns with the implementation strategies outlined in the HHSP. Once a shared direction is established, the workgroup can turn to identifying the right measurable outcomes for team-based care objectives in the HHSP.

## **Conclusion**

As outlined by key informants in this study, there are many challenges with implementing and establishing measures for team-based care that need to be addressed to increase the practice of team-based care in all settings in Hawai'i by 2030. However, there are also great opportunities, as key informants shared many of the same visions of where team-based care will be and how it will look in 2030. Convening the team-based care workgroup to establish a common goal for team-based care across all key health care stakeholders in Hawai'i, is an important next step in moving the HHSP team-based care objectives forward.

## BACKGROUND

In 2021, the Hawai'i State Department of Health (DOH) Chronic Disease Prevention and Health Promotion Division launched the [Healthy Hawaii Strategic Plan \(HHSP\) 2030](#), a plan to guide statewide efforts to reduce chronic disease and improve the health of Hawai'i's people for the next decade. The HHSP includes objectives in four sector areas, including community design and access, education, health care, and worksites, and was developed in partnership with diverse stakeholders throughout the state. Under the health care sector area, DOH and stakeholders identified the two following objectives aimed at encouraging more health systems and practices to adopt team-based care models to improve chronic disease health outcomes and expand access to care. While there are many different definitions of team-based care, stakeholders involved in the development of the HHSP objectives **defined team-based care as, "two or more health care professionals who work collaboratively with patients and their caregivers to accomplish shared goals."**



- 1. By 2025, identify five (5) measurable outcomes indicative of team-based care and monitor over time**
- 2. Improve identified measurable team-based care outcomes by 5%**

### Evaluation Purpose

The purpose of this evaluation was to conduct a needs assessment with key stakeholders across the state who are engaged in or have notable expertise in team-based care to gain additional perspectives from those who did not participate in the development of the team-based care objectives in the HHSP. Additionally, this evaluation sought to collect additional data to support the next steps for these objectives, which includes operationalizing the objectives and developing a plan to implement them. Thus, this evaluation aimed to answer the following questions:

- What is currently happening around team-based care in Hawai'i?
- Where should the state be in terms of team-based care by 2030?
- What are the next steps to make progress on team-based care by 2030?
- What are the barriers to implementing team-based care?
- What measures should be used to track state-level progress on the HHSP team-based care objectives?

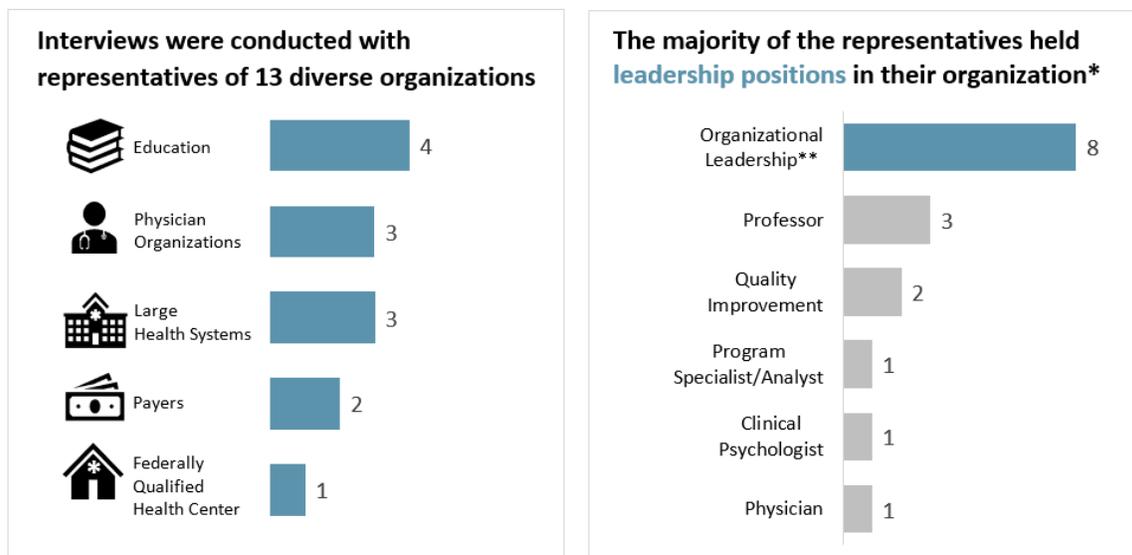
## METHODS

The UH Evaluation Team conducted semi-structured interviews virtually via Zoom between April and May 2021. The evaluation used a combination of a purposeful and snowball sampling methods to ensure representation from key stakeholders in different roles in team-based care (e.g., physicians, nurses, pharmacists) and from different health systems (e.g., large health systems, health insurance/payers, federally qualified health centers (FQHCs)). The sample started from a list developed by the DOH Chronic Disease Management Branch (purposeful sampling) of key organizations that had not currently been engaged in the HHSP discussions. Then, key informants were added to the sample through a quasi-snowball sampling, in which participants were asked to identify other key stakeholders that should be interviewed. A total of 32 unique organizations were recommended by DOH and stakeholders. Sixteen of these organizations were contacted for an interview. Representatives from 13 organizations participated in a 45 to 60-minute interview consisting of 11 questions (see Appendix A). Two representatives agreed to participate but had to cancel their interviews, and one representative did not respond to multiple email requests. The other 16 organizations were not contacted for an interview because the sample already included a similar type of organization (e.g., physician organization), interviewees were repeating broad themes, and time constraints prevented additional scheduling.

The interviews were transcribed, and then coded inductively to identify broad emerging themes by two independent coders with master's degrees in public health using NVivo 12. After the initial coding, the UH Evaluators reviewed the codes to ensure reliability. Codes were grouped into overarching themes to answer the evaluation questions.

## RESULTS

### Sample Characteristics

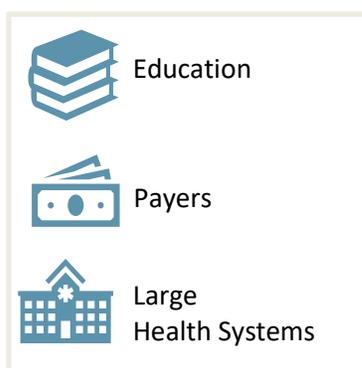


\*Two organizations included more than one person in the interview. Six representatives held dual roles that are not reflected in this chart (e.g., nurse and director, pharmacist and professor).

\*\*Organizational leadership included Chief Medical Officer, Vice President, Chief Strategy Officer, Operations Executive, etc.



- **Developing care management teams to support certain populations** (e.g., complex patients, the elderly), **specific chronic conditions** (e.g., diabetes), **and critical health care tasks** (e.g., medication reconciliation)
- **Opening a new primary care clinic in the team-based care model** (*EmPower Health Clinic Primary Care Clinic joint venture between HMSA and Queen's*)
- **Adopting technology to facilitate team-based care** such as shared electronic health records (EHR) within physician organizations and health care systems, data management tools that enable population health management and screening for social determinants of health, and central referral and scheduling systems



Educational organizations, payers, and some of the large health systems reported efforts that supported the practice of team-based care such as:

- **Developing model team-based care workflows** that can be implemented in health care settings
- **Providing training and technical assistance** for established providers and health systems on adopting team-based care
- **Creating team-based care curricula in health profession education programs**
- **Working to build the evidence-base for team-based care** through pilot programs and analysis of utilization, health outcome, and cost data
- **Advocating for improved funding** for team-based care
- **Providing funding supports and staffing** for team-based care
- MedQuest reported **incorporating team-based care requirements into their managed care contracts**

## COVID-19 Impact on Team-Based Care

Because interviews were conducted and the HHSP launched during the COVID-19 pandemic, key informants were asked about the impacts of the pandemic on their organizations' team-based care efforts. Key informants identified several ways the pandemic created challenges for team-based care efforts, which will likely impact progress on the HHSP objectives. However, they also reported that the pandemic facilitated the adoption of team-based care.

### COVID-19 Challenges

“Of course, the negative is patients have been away for a while. So here we are, missing a key member of our team, because we haven't had any, you know, consistent connection...”

And, then, I think all organizations have taken a financial hit with COVID, right? So how do we be very, very careful about whatever processes we use going forward and making sure we're going to have the most-- I would say most bang, for your buck, but it's not about money-- it's really using our resources wisely... to reach our intended goals.”

- **Patients, key members of the team, have delayed accessing care**
- **Financial and staffing resources had to be redirected** to COVID-19 efforts, which reduced the resources available to create robust team-based care
  - **Care and resources had to be shifted to helping patients with the social determinants of health** (e.g., food and housing supports)
  - **Responsibilities and duties increased for care team members**
  - **Increased need for behavioral health supports** strained Hawai'i's already limited behavioral health resources (a key component of team-based care)
  - **New team-based care initiatives had low participation**, due to hesitancy in accessing care
  - **Education programs were unable to do team-based care training in-person**, a challenge for new health care professionals
  - **Team-based care was more difficult as warm handoffs were not possible with telehealth.** Key informants reported that sometimes team members could not get in touch with patients and get them into care. They also reported needing new workflows for virtual team-based care.

### COVID-19 Opportunities

“...every one of us on the team, was calling patients...Problem-solving with them. Getting them food delivery, medication delivery, if needed. But otherwise, just being that, that warm voice on the other end of the phone ...and you know, we had some of the patients describe it as, as a lifeline for them.”

- **Forced the adoption of telehealth by providers and patients**, enabling better resource sharing, increased access to care, and more team-based care
- **Emphasized the importance of having a team** to do patient outreach and home visits
- Early decreased patient volume **gave organizations time to incorporate team-based care**
- **Team-based care efforts during the pandemic helped to build community with patients**

## Ideal Vision of Team-Based Care in 2030

Key informants were asked to describe their ideal vision of team-based care by 2030. Many key informants said that in their ideal vision, team-based care would be integrated into as many settings as possible so it is accessible to all patients who need it, and the many barriers that inhibit team-based care would be addressed. They also envisioned all stakeholders working together toward a common goal. Common thematic responses are shared below and in the word cloud in Figure 2.

### Common themes

- **Statewide collaboration and coordination** to provide team-based care across all health settings
- **Data sharing across organizations** for population health management and coordination of care
  - Statewide EHR system
  - Central resource system for social services
- **Payment reform** to support team-based care (e.g. adequate reimbursements for providers)
  - Value-based payments
  - Capitation payment systems
- **Strong workforce** able to fill care gaps statewide and trained to conduct team-based care
- **Providers working at the top of their licenses**
- **Patients are engaged** in their care team and health care decisions



Figure 2: Word cloud for the interview question, “If you imagine the ideal situation for team-based care in Hawai‘i by 2030, what does that look like?”

*“I would say that every patient who can benefit from team-based care should have a team tailored to that individual patient’s needs with a correct mix of talent to meet that patient’s needs..., putting that patient and their families at the center, where they live, work, and play, and then across all islands kind of flowing seamlessly through the care continuum.”*

## Team-Based Care Barriers

Key informants were asked about the specific barriers their organizations face in implementing team-based care, as well as about the barriers that may inhibit reaching the ideal vision of team-based care in Hawai'i by 2030. Many of the barriers identified at the organizational level were also raised as challenges at the state level, such as funding and payment structure challenges, workforce shortages, lack of shared infrastructure. Common themes are shared below to inform next steps for the HHSP objectives and statewide team-based care efforts.

### Common themes

- **Lack of a shared vision, shared resources, and coordinated effort among stakeholders** →
- **Funding and payment structure challenges**
  - **Reimbursement and payment structure are insufficient** to cover the additional team members
  - **Not all providers can bill** (e.g., pharmacists, CHWs, social workers)
  - **Behavioral health services are not part of traditional primary care services and are billed separately** in pay-for-performance programs for commercial and Medicare plans. This makes it difficult to conduct warm handoffs from a billable provider (e.g., physician) to a behavioral health provider in team-based care settings, as it creates second copays for patients. Also, payments for meeting quality benchmarks do not capture the role that primary care behavioral health services play in helping organizations meet those benchmarks (e.g., patients being handed off to behavioral health so doctors can see other patients).
  - **Payment models vary across health care systems** due to differing payer contracts
  - **Care is driven by payment and payer metrics**, not what is best for patients
  - **Lack of consensus on who should fund team-based care staffing and initiatives** (e.g., payers, FQHCs, hospital health systems, providers)
- **Gaps in infrastructure to support team-based care**
  - **Lack of universal EHR to facilitate communication** across all care team members. →
  - **Lack of a mechanism to easily communicate** between different health care systems (e.g., payers and clinics) and health care systems and community resource databases

**“We're not sharing our limited medical resources. If we really wanted this to be a team effort, we would all have to share. We are segmented so if you're in the Queen's system, you can only use the Queen's system services and you can't go to PMAG and say, 'oh, you know I want to work with this.' You can't do that. So we've created a competitive atmosphere where we need to create a collaborative atmosphere.”**

**“How do we make our health care system more efficient to support the team-based care model, through the use of tools...data sets, and communication tools, and EMRs, and databases and stuff like that? How do you get everything talking? So you just like...end to end so it's so much more of an efficient process?”**

- **Lack of infrastructure to expand team-based care training** (e.g., ways to disseminate curriculum to all professions, funding for training)
  - **Lack of infrastructure for providers to find care team members to hire** (e.g., CHWs)
  - **Lack of standard titles and roles of unlicensed team members** creates challenges for filling positions and patients' awareness of teams
  - **Workforce and training challenges**
    - **Shortages of care team professionals** (e.g., behavioral health providers, CHWs, primary care physicians, medical assistants, case managers, social workers, pharmacists), due to lack of training programs in Hawai'i, provider attrition, etc.
    - **Lack of professionals trained to work on a team** (e.g., psychologists may not be trained to work in primary care and understand labs or medications)
    - **Interprofessional training in team-based care is difficult** due to medical education being siloed and gaps in funding for training of additional care team members
    - **Rural communities lack the population scale and workforce** to support team-based care
  - **Challenges in forming effective teams**
    - **It takes time to find the right team members** and to establish the trust, communication, collaboration that teams need to work effectively
    - **Staff turnover** (especially for smaller organizations less able to pay competitively) can disrupt team dynamics and organizations' abilities to conduct team-based care
  - **Provider factors**
    - **Team-based care is a culture shift for established providers**
    - **Provider burnout** to take on one more thing
    - **High administrative burden accessing records for team based-care**
- “It's getting records to find out what happened in those transitions of care. It's getting credit, you know, being able to capture when a patient has had a quality measure addressed, like colon cancer screening as an example, and making sure those records get somewhere, so that we can get credit for it...all that song and dance you have to go through just to, to, to keep those databases up to date. It's just so much time and money spent on all of that, just the administrative part of it, it's, it's wasteful.”*
- **Patient factors**
    - **Patients may be unable to afford the additional copays to see additional care team members added to care team** (e.g., physical therapists)
    - **Lack of patient engagement in their care** either because they have other priorities or are not used to being engaged
    - **Patients may lack trust in non-physician providers**

## Next Steps for Team-Based Care

Key informants were also asked, “What do you think the next steps are to get from where we are today to where you envision team-based care to be in 2030?” Common themes revolved around **building a strong infrastructure** for team-based care including 1) **setting a statewide common goal** for team-based care; 2) providing team-based care **training for care team members**; 3) **establishing reimbursement or payment structure to support** team-based care; 4) **establishing ideal patient care** (which may or may not be team-based care); and 5) **addressing challenges to team-based care**.

### Common themes

- **Set a common goal for team-based care**
  - **Bring stakeholders together** to collaborate across organizations and agree on the direction for team-based care
  - **Align initiatives and metrics**
  - **Establish standards** for team-based care (e.g., care team roles, CHWs)
- **Increase training for care team members**
  - **Build infrastructure to expand team-based care training to more professions**
  - **Add team-based care to all health care curricula** (e.g., medical assistant, nursing)
  - **Integrate more key professions** into health care practices (e.g., behavioral health, pharmacy)
- **Establish reimbursement or payment structure to support team-based care**
  - Including policies to create a single copay for patients who are seen by providers (e.g., behavioral health) in team-based care settings
- **Establish ideal patient care (may or may not be team-based care)**
  - Maintain patient-centeredness and reassess how to meet patients’ needs
  - Remove payment from the discussion
  - Build from what was learned from COVID-19 pandemic (e.g., telehealth, remote care, seamlessly translating from island to island)
- **Address challenges to team-based care**
  - Identify and reduce barriers for providers in adopting team-based care (e.g., finding staff)
  - Gather more data and prove that team-based care works

“Continuously work with the physicians, the staff, and the community with whatever is out there and bringing payers together to adopt health care goals to benefit our community and our state.”

“I would like to see that we remove all discussion around reimbursements and plans and payments and value, and...define what ideal care would look like, and then consider the payment piece. I think that we have a really difficult time considering what might be best, whether it's, you know, getting the patient's perspective to define that, also blending that with the perspective of the team or provider, **because we're always thinking about how is this going to get paid.**”

## Measures

As mentioned above, the HHSP objectives around team-based care specify that, “By 2025, identify five (5) measurable outcomes indicative of team-based care and monitor over time.” Key informants provided their thoughts on what those five measurable outcomes should be, and shared how their organizations currently track improvements in team-based care.

Several key informants felt that **measuring team-based care was not feasible or appropriate** since team-based care is not the desired outcome; it is just one mechanism to achieve the true desired outcomes of the Quadruple Aim (improved patient outcomes, improved provider experience, improved patient experience, and lower costs). They also pointed out that there are many factors that could lead to the desired outcomes, so it will be difficult to attribute these outcomes to team-based care alone. Finally, they felt that measures at the state level are difficult to identify because of the diversity in organizations’ capacity to implement team-based care. These points are similar to those expressed by stakeholders who participated in the team-based care workgroup and developed the objectives for the HHSP.

“I mean, at the end of the day, truly we don't care about team-based care. What we care about is providing the best care for our patients, right? And we've identified team-based care as the way to achieve that ultimate goal....because the last thing you want to do is do team-based care just for the sake of team-based care...”

Despite the concerns raised, all key informants provided suggestions for the five measures of team-based care. There were a variety of metrics proposed to track team-based care over time, of which very few were repeated by multiple stakeholders. For ease of comprehension, suggested measures were grouped into four overarching themes: 1) **Measures of changes to infrastructure needed to support team-based care** (Table 1); 2) **Measures of the Quadruple Aim** (Table 2); 3) **Quality measures** (Table 3); and 4) **Other process measures** (Table 4), under which measures are grouped into subthemes.

**Table 1: Measures of Changes to Infrastructure Needed for Team-Based Care**

<b>Workforce Metrics</b>	Numbers of active, licensed providers statewide (e.g., social workers, pharmacists, physician assistants, nurse practitioners)
	Settings that licensed providers are working in (obtained through a survey)
<b>Information Sharing Between Health Systems</b>	Changes in interoperability of health care systems over time ( <i>Information Technology measure of databases ability to interact, specifically this representative wanted a measure of resource databases being able to connect to EHRs</i> )
	Hawai'i Health Information Exchange (HHIE) utilization measures (e.g., how many people are posting and pulling data from it?)
<b>Collaboration Across Health Systems</b>	What relationships have practices developed with community partners to provide access to their patients to get care coordination and help with social determinants of health ( <i>qualitative survey responses</i> ) (CPC+)

**Table 2: Measures of the Quadruple Aim**

<b>Improved Provider Experience</b>	Provider satisfaction
	Provider burnout
	Reduced workload
	Trust of team members
<b>Improved Patient Experience</b>	Patient engagement in care and wellness or disease specialty programs
	Continuity of care ( <i>seamless services or coordination of care as patients transition between different providers and settings</i> )
	Indicators about the establishment and achievement of patient-centered goals
	Patient perspectives on if care is better coordinated
	Patient perspectives on if it is easier to navigate the health care system
<b>Lower Costs</b>	Changes in total cost of care over time
	Visit volume and costs
	Actual costs compared with predicted payer costs
<b>Better Outcomes</b>	Population specific outcome measures (e.g., reduced falls for older adults)
	Prevalence of chronic conditions in the state (e.g., diabetes, kidney disease)
	Reduced progressions in chronic diseases (e.g., decrease in the number of people that move from stage III to IV for chronic kidney disease; decrease in depression measures over time)
	Decreased chronic disease complications
	Reduced polypharmacy

**Table 3: Quality Measures\***

<b>Disease Prevention</b>	Screenings rates (e.g., cancer, diabetes, hypertension, mental health substance abuse)
	Immunization rates
	Percentage of patients receiving annual wellness check visits
<b>Disease Management</b>	Disease specific metrics (e.g., hemoglobin A1c for diabetes)
	Medication adherence (e.g., statin use, antiplatelet therapy for cardiovascular disease)
	Number of visits per year for patients with certain chronic conditions
<b>Utilization</b>	Readmission rates
	Emergency department utilization
	Reduced preventable hospitalizations
<b>Access to Care</b>	Referral wait times (e.g., behavioral health)
	Rate of people able to be seen out of the number referred
	Percentage of recommended services patients are getting compared to what the treatment guidelines and the standards of care ( <i>studies show patients get only 45% of services</i> )

\*Note: Several organizations reported that they internally track improvements in team-based care over time using different quality measures (e.g., Accountable Care Organization (ACO), Health Effectiveness Data and Information Set (HEDIS), CPC+)

**Table 4: Other Process Measures**

<b>Type of Team-Based Care Model Implemented</b>	Survey of practices on what type of interdisciplinary model of care they are using (e.g., co-locating and hiring care team members, contracting with external care coordination teams, physician organization or health care system provides it?) and how that changes over time. <i>(Qualitative data)</i>
	What type of care coordination services did the team offer within their practice? <i>(CPC+)</i>
<b>Documentation of Team-Based Care</b>	Number of practices with a team-based care model of care <i>(Quantitative data obtained through provider survey)</i>
	Number of patients in a physician’s panel that have a care team documented in their EHR
	Number of care team members that interact with a patient, and the frequency and duration of interactions
<b>Patient Awareness of Care Team</b>	Ask “Does your health care provider work as part of a team to care for you?” on the Behavioral Risk Factor Surveillance Survey
<b>Team Components</b>	Number of complex patients with a care coordinator
	Number of Physicians Assistants or Advanced Practice Registered Nurses in each practice within a physician organization
<b>Team Communication</b>	Is information communicated among the care team?
	Is the appropriate information shared between the team members?

## DISCUSSION

During strategic planning meetings for the development of the HHSP, the team-based care workgroup struggled to define team-based care and set objectives for the next ten years. Workgroup members discussed that team-based care varies across different types of practices and health systems, which makes it difficult to define and track over time. They could not come to agreement on a specific objective to move team-based care forward. As a result, they established the current first objective of identifying five measures indicative of team-based care, an objective which requires further stakeholder discussions and consensus building.

Similar to the team-based care workgroup’s challenges and conclusions, key informants in this study identified a wide array of measures to track team-based care, very few of which were suggested by multiple stakeholders and could be easily established as one of the objective’s five measurable outcomes. Additionally, some stakeholders felt that measuring team-based care was not appropriate because team-based care is not the ultimate goal, but rather providing better quality patient care is. This further indicates that there is a lack of stakeholder consensus around the team-based care objectives and measures, and a lack of a clearly defined collective goal for all team-based care.

Fortunately, **key informants agreed that one of the essential next steps for making statewide progress on team-based care is to convene all stakeholders and set a common direction.** While they acknowledged that competition, lack of shared resources, and other factors will make it challenging to establish a common goal, they felt that if everyone could agree on a general direction, indicators could be chosen, and statewide progress could be made. Findings from this study suggest that establishing a shared goal may not be as

challenging as stakeholders anticipate. Many of the themes for the ideal vision of team-based care by 2030 and definitions of team-based care were common across the different organization types. Furthermore, all organizations interviewed are currently working on team-based care efforts, which means that there is some common interest across health care stakeholders, and therefore, collaborative goals could ostensibly be identified and agreed upon. Once the shared vision is established, it will be easier to establish which measurable outcomes should be monitored to track progress on the HHSP objectives and team-based care over time.

Lessons from the COVID-19 pandemic also show that the establishment of a shared vision for team-based care across stakeholders is feasible. Stakeholders have established that they can unite around a common goal—addressing the COVID-19 pandemic at the state level—despite competing interests and priorities. They have also made operational changes to conduct or facilitate team-based care, such as engaging a variety of care team members to care for their patient panels or utilizing telehealth to administer care. Momentum from the pandemic may help DOH to build consensus around team-based care vision and measurable outcomes.

Despite the lack of consensus on measurable outcomes, key informants identified several promising indicators that should be discussed with stakeholders in future workgroup convenings to set goals and align metrics. For example, since the Quadruple Aim seems to be a common goal for many health systems, it may be a good framework to use to help stakeholders to establish a shared direction for team-based care broadly. It may also be a way to select the five measurable outcomes to track progress on team-based care over time. Stakeholders should discuss if there is an indicator that could be chosen for each of the aims—patient experience, provider experience, costs, and health outcomes—and measured across different types of health systems.

Quality measures are another promising set of indicators. Key informants reported that many of their organizations are already striving to make progress on quality measures and that they are already collecting and reporting on them. Using quality measures as the team-based care indicators would ensure that data can be feasibly, reliably, and regularly collected. However, key informants said that quality metrics do not always align, which could create challenges both with comparing across health systems and over time. Also, key informants noted that there is no way to attribute improvements in these measures to team-based care, which may or may not be important for stakeholders once a shared vision is established.

Additionally, the overarching themes that emerged across team-based care visions, barriers, and next steps, may be another way for stakeholders to come to agreement on a shared goal and measures of progress toward that goal. In all three of these areas, key informants agreed on the need to improve infrastructure to support team-based care, including the need for payment transformation, adequate workforce, training, and data sharing systems. Stakeholders should consider if reducing any of these barriers are a goal that they want to strive to achieve collaboratively. If so, some of the process measures identified by key stakeholders to track changes in Hawai'i's infrastructure to facilitate the implementation of team-based care in all settings may be more appropriate than measures of team-based care implementation itself.

Key informants also emphasized that a major barrier to establishing measures for team-based care at the state level is that team-based care can be implemented in multiple ways depending on the health care setting, so data cannot be aggregated or compared. Thus, it may be worth considering if the objective's five measurable outcomes could include ones specific to a type of organization or team-based care model. For example, one measurable outcome could be identified for physician organizations providing team member staffing for private practice physicians, and another could be for small private practices hiring and co-locating team

members. This could overcome the fact that there is no perfect measure that will work for all models of team-based care and would enable progress to be monitored on different models.

Finally, while some key informants raised the concern about the feasibility of measuring team-based care at the state level, key informants were not asked to consider if collecting data for their suggested measures was realistic or possible. For example, some suggestions were to survey providers about their satisfaction or if they were on a care team. While it may be possible for physician organizations or payers to collect this data, previous DOH efforts to survey private practice physicians resulted in low-response rates and gaps in data. Therefore, future discussions to establish measurable outcomes of team-based care should include an assessment of the feasibility and availability of data for the identified measures.

Ultimately, what is clear from this needs assessment is that there is a lack of consensus on the appropriate measures and statewide direction for team-based care and a need to reconvene stakeholders. Convening key stakeholders to identify shared outcomes is in alignment with the implementation strategies outlined by DOH for the team-based care objectives in the HHSP. Based on the findings of this needs assessment, the initial convenings should focus on bringing key stakeholders together to establish a shared vision and direction. Once a shared direction is established, the workgroup can turn to identifying the right measurable outcomes for team-based care objectives in the HHSP.

## Limitations

There are several limitations to the findings in this needs assessment. First, although a diverse group of stakeholders was interviewed, quasi-snowball sampling resulted in many educational representatives and physician organizations being interviewed, which may have skewed the findings toward perspectives relevant to these organizations. Next, due to time constraints and inability to recruit certain organizations to participate, the study lacked several key perspectives, including those of community health workers, medical assistants, small private practice physicians, and patients. Additionally, the majority of respondents were from O‘ahu or were O‘ahu-based statewide organizations. Although, statewide organizations gave perspectives related to rural and neighbor island community challenges, the findings do not represent the perspectives of key informants working in these locations. Further engagement of diverse stakeholders, that did not participate in this study or the team-based care workgroup, will be important to ensure the goals and measures set to achieve the HHSP team-based objectives are truly shared statewide goals.

## CONCLUSION

As outlined by key informants in this study, there are many challenges with implementing and establishing measures for team-based care that need to be addressed to increase the practice of team-based care in all settings in Hawai‘i by 2030. However, there are also great opportunities, as key informants shared many of the same visions of where team-based care will be and how it will look in 2030. Convening the team-based care workgroup to establish a common goal for team-based care across all key health care stakeholders in Hawai‘i is an important next step in moving the HHSP team-based care objectives forward.

## Appendix A: Interview Guide

### Key Informant Interviews Questions

1. What is your name, position title, and organization?
2. Can you tell me about your organization?
3. How does your organization define team-based care?
  - a. What types of care team members are included in your organization's definition of team-based care?
4. What is your organization doing to implement or support team-based care?
  - a. How does your organization track improvements in team-based care?
5. What barriers does your organization face in implementing or supporting team-based care?
6. How has the COVID-19 pandemic impacted your organization's team-based care efforts?
7. If you imagine the ideal situation for team-based care in Hawai'i by 2030, what does that look like?
8. What do you think the next steps are to get from where we are today to where you envision team-based care to be in 2030?
9. What are possible barriers that could hinder achieving the ideal vision of team-based care in Hawai'i?
10. What measures do you think should be used to track team-based care progress in our state over the next 10 years?
11. Who else do you think we should interview to better understand what is happening with team-based care in Hawai'i and to establish what measures should be used for the strategic plan?