


**ABBOTT NORTHWESTERN HOSPITAL**







## Critical Care & Telemedicine


### Overview of a programs development

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- General Overview
- What is Telemedicine
- Designing a program
- Implementation
- Evolution
- Nursing considerations
- What the future holds



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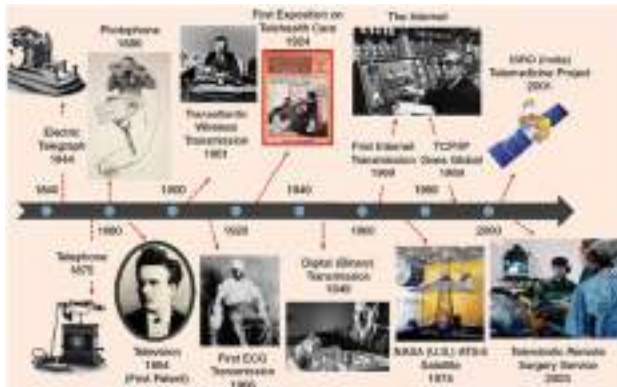
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## Brief History of Telehealth

Watson Health  
**100 TOP HOSPITALS**  
2019

MAGNET  
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**BEST HOSPITALS**  
US NEWS  
2019



1962 - The past showed us the future

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## Types of telemedicine

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US NEWS  
2019

### Many types – MOST COMMON INCLUDE:

- **Interactive/synchronous medicine:** Physicians & patients communicate in real time
- **Remote patient monitoring:** Use of virtual equipment to monitor/record patient data, and/or monitor patient's condition (usually chronic diseases – diabetes, asthma & cardiovascular disease, etc.)
- **Store & forward:** Providers share patient's health info with other healthcare professionals (Great in rural settings where access to specialists is limited, radiology, chronic disease management, etc.).
- **Medication Management:** Medication counseling or management by a pharmacist or pharmacy technician



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## TERMINOLOGY



- **Tele health** - Use of digital/virtual technologies (computer, phone, internet, streaming media, etc.) to improve or support things related to health (health education, health care or public health, health administration, etc.)
- **Tele medicine** – Use of digital/virtual technologies for remote clinical services – delivering care and treatment
- **Tele-ICU** - the diagnosis & treatment of the most critical hospital patients by a remote intensivist using digital/virtual technologies.
- **eICU** – Trademarked name
- **TCC** – Tele Critical Care Provider



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## ALLINA TERMINOLOGY



### Tele-support-

Any remote support given to a provider caring for critically ill patients from another location

- Curbside “Can I run this by you?”
- Typically the non-billable calls
- Within and outside of Allina Health



*"I think we just have time for one more quick question."*

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## ALLINA TERMINOLOGY



### Transfer decision support (initially) –

- Collaborate with site provider to decide if a patient could be safely/appropriately managed at the site.
- If not appropriate to stay, TCC provider collaborated with Access Center to determine transfer options (Transfer to ED boarding, ICU, etc.)

### Tele-Critical Care Collaborative Management –

Allina Health TCC provider provides ongoing support to primary team caring for patient

- Includes initial virtual visit, writing notes, and writing orders
- Intensivist virtually attends Multi-disciplinary Rounds at designated sites & is familiar with patients
- Following up on previous consults

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## Concerns about telehealth



- Tests will have to be done locally before and/or after visits
- Technical issues may occur
- Risk for disconnect/impersonal experience without direct interactions
- Possibly fragmented care/gaps
- Privacy/security concerns



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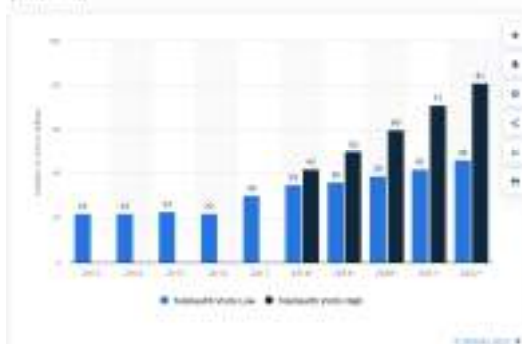
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## Why use Telehealth services?



- Improved access to services/specialist not available in area
- Reduce exposure risk for patients and providers
- Saves time
- Saves money
- Often easier to be seen quickly
- It's a part of the future of medicine

Number of telehealth visits in the U.S. from 2013 to 2022 (in millions)

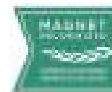


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## Why use Telehealth services?



- Pandemic – no place for patients to go : **A State of Minnesota C4 update**

COVID-19 Update	<p>New cases: 16,204 (12/31 - 1/3)</p> <p>Deaths: 36</p> <p>COVID ICU: 36%</p> <p>COVID on vents: 198</p> <p>ED Boarders: 229 on bed board, closer to 300 in reality</p> <p>HCMC holding 56 in the ED as of 10:40 this morning, putting overall numbers closer to 300 statewide</p> <p>Doubling of Peds COVID numbers in 1 week, reflective of Omicron variant</p> <p>Noticing increase in vaccinated patients (at least 1 dose) hospitalized with COVID-19, 33% at MHFV</p>
C4 Update 11-15	<p>Total Req/Placements: 26/4</p> <p>ICU: 28/3</p> <p>Med/Surg: 8/1</p> <p>COVID+14</p>

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# Minnesota on Magenta

## On Critical Care Divert

### Which Staffing Contingencies are in use?

Numerous pay incentives for both exempt and non-exempt staff, shift bonuses, recruitment bonuses.

Numerous shift bonuses, pay incentives, and recruitment bonuses  
Just in Time bonuses and other PIB bonuses

Extra shift bonus, Travel RN's  
Early sign up on schedules for OT  
Clinic RN nurse extenders to help in

Shift bonuses for RNs, NAs, RTs, utilizing agency as available, cross training some outpatient staff to assist with inpatient surge.

We have changed nurse to patient ratios due to surge staffing, leaders take patients as needed, DoD staff are on site to fill staffing needs, we have an ER to

Have been in place:  
Temp increases in FTE

Added additional shift bonuses  
Have been in place: temp increases in FTE  
Added additional shift bonuses

Demerits for additional travel time

Will admit 24 years and younger meeting admission criteria when beds are available in PICU.

Children's is not admitting to med/surg via C4. Providers requesting general med/surg pediatric admission should call

Reminder; these numbers reflect those that may be available for humanitarian/civilian requests through C4.  
Facilities may still call the referral line for veteran transfers.

Load leveling/limiting procedures requiring inpatient beds (decreased by 50%). Moved ortho electives & other procedures possible to outlying hospitals  
We are reviewing all Adult surgical cases ensuring ICU availability.

Med/surg beds available for patients under age 25 who are appropriate for Gillette services. Acceptance of patients will be based on a provider to provider call from the transferring hospital to our covering hospitalist physician.

44 Covid beds in use, both campuses are full capacity and overflow open

opened overflow units for general medical patients and double occupying covid positive patient rooms

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## United States and the World on Magenta

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**BEST HOSPITALS**  
NATIONWIDE

Allina Health received calls & accepted patients from out of state until we were no longer could

Spain Hospital Hallway

California Hospital PODS

Massachusetts field hospital

Chicago Hospital PODS

Michigan ED

Canada hallway

## Developing Regional/Rural Site Support

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**BEST HOSPITALS**  
NATIONWIDE

Patient population prior to Covid for most regional/rural sites:




- Usually not vented/intubated
- Pressor limits to 2 or less (some sites none)
- Large variation in critical care skill level and comfort level of staff
  - Providers, nurses, RT, etc.
- Limited access to resources
- Limited access to on site specialist – patients typically transfer

- Patients unable to be moved
- Sites overfull
- Higher patient acuity levels
- Boarding large numbers of patients
- Limited staff

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## Background






ANW was approached In **2019** to provide tele-critical care support

- **Fortunate that a TCC program development was underway**

**COVID-19 pandemic impact**

- Change in access to medical care
  - Patients delaying care
- Critically ill patients in rural areas
- Limited resources/bed scarcity




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### So lets start a telemedicine program..... During a Pandemic

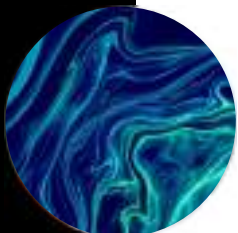
- Having limited experience
- With little or no resources
- Short staffed
- In a very short amount of time



Turn impossible  
into possible


### Next steps

- Legal/Rules/Regulations
- Care model / staffing plan
- Equipment
- Training/Education






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## LEGAL/RULES/REGULATIONS






- Treating patients in hospitals:
  - Provider License/Privileging/Credentialing –
    - At site patient is located at
    - AND for the state patient is located in
- Approved Telemedicine Billable Providers
 




Doctors	Registered Dietitian
Advanced Practice Providers (NP/PA)	Social Worker
Clinical Nurse Specialist	Clinical Psychologist
Midwife	
CRNA	

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## LEGAL/RULES/REGULATIONS

### Billing and documentation

- Billing:
  - Site
  - Providers (site vs. TCC)
  - Commercial payers (Rule/restrictions for what the insurance companies pay)
- Documentation
  - Varies a little – MUST include telehealth details
    - **Location of patient**
    - **Location of provider**
    - **Video connection start/end time**

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## Connection Platforms



- Microsoft Go To Meeting
- EPIC – video call capability
- CISCO - Jabber
- **VIDYo**
- Cerner
- Meditech
- \*Prefer HIPPA compliant but can use:
- FaceTime
- Google Hangout

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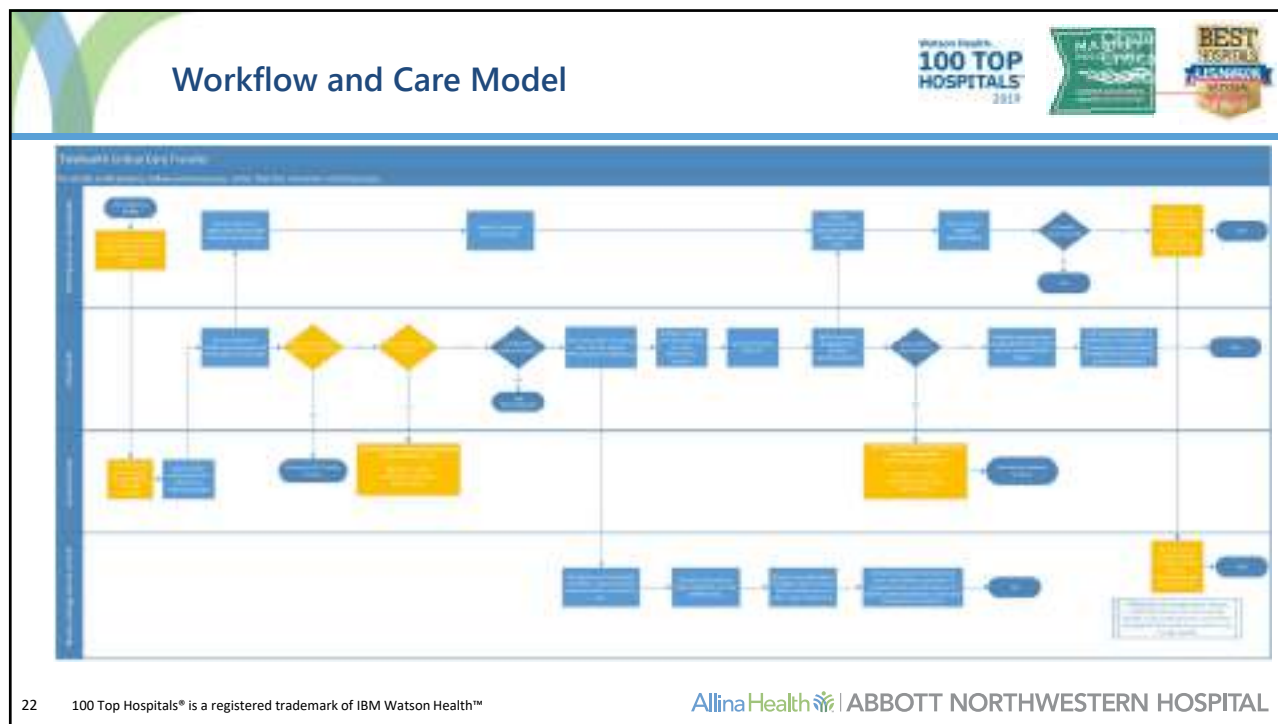
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## Workflow and Care Model






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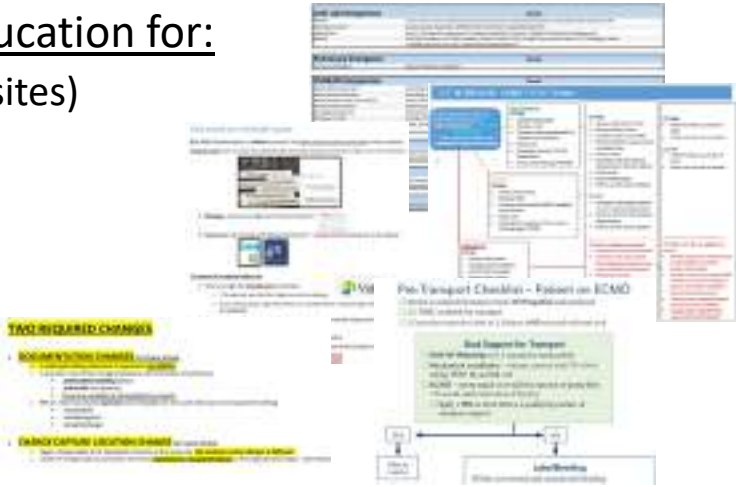


## TRAINING AND EDUCATION

Develop training and education for:




- Providers (TCC and at sites)
- Ancillary staff
- Stakeholder groups
- Patients
- Family members



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## The Original Allina Health TCC Program

**Service:**  
Service for any staff caring for critically ill patients in regional ICU/SCU's (excluding eICU sites)

**Equipment:**

- Equipped **every site** with carts – even metro sites
  - ✓ Started with sharing existing carts at sites (tele-stroke, etc.)
  - ✓ Sites with limited/no carts got laptop carts




**Staffing:**

- ✓ Dedicated daytime TCC provider (initially volunteers since it was not an approved program)
- ✓ Night time and weekend coverage by ANW Chief of the day
- ✓ United and Mercy providers to support if needed

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## What the service evolved to

**Service – Approved as a temporary program (for 30, then 60 days, then continuing):**  
 Service for any staff caring for critically ill patients in regional ICU/SCU/ED or any other area that is managing critically ill patients INCLUDING sites that use eICU services.

- Request for more robust service: Added on MDR's at Regina

**Equipment:**




- Equipped **every site** with carts – even metro sites
- ✓ Started with sharing existing carts at sites (tele-stroke, etc.)
- ✓ Sites with limited/no carts got laptop carts

**Staffing:**

- ✓ Dedicated **7 day a week** daytime TCC provider
- ✓ Night time coverage by ANW Chief of the day
- ✓ United and Mercy providers to support if needed
- ✓ Addition of morning TCC RN position to offload provider work and support sites


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## Need for system and state triage




Tele-Critical Care Transfer Decision Support –  
 Process to determine transfer priority by:

- Connecting with site provider/staff
- Perform virtual assessment of patient OR provide tele-support (non-Allina Health)
- Chart review and consultation including writing a note and providing management assistance
- Assess if patient can be retained at regional location
  - With Intensivist support
  - Non-ICU level of care
  - Code status change – palliative/comfort care
- Determine system/state prioritization for patient transfers – taking into account:
  - Patient acuity
  - Site resources
  - Compare risk/benefit to other patients waiting for ICU bed(s)



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## Adding a TCC RN






**Problem - TCC provider workload was getting hitting provider bandwidth**

- Sites requesting additional support on care/treatment of critically ill patients at higher acuity level than typical for site
- Data collection needs




**Solution – add TCC RN position to:**

- Schedule patient rounding times/perform follow up rounds on patients
- Review charts for items to be addressed/opportunities for improvement (core measures, ABCDEF, follow up on labs, etc.)
- Connect with site staff and offer support/answer questions
- Collect/analyze data:
  - ✓ Track TCC data (call volumes, phone/video connections, diagnosis, outcomes, etc.)
  - ✓ Review/analyze and identify opportunities improvement




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## Future

**Regional Site Feedback on TCC Service:**

- Regional sites overwhelmingly appreciated service
- Unanimous interest in continuing TCC service
- Desire to maintain a certain acuity level to keep skills up
- Desire to expand service – add tele-ICU level of care
  - 2 Allina Health sites currently pay an outside agency for eICU






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## Future




**Tentative future design – progress in stages to a final goal of:**

- Tele-ICU level of care and Triage services
- **TCC provider(s)** Full time - 24/7/365
  - Receives Access Center Calls & Triages all Allina Health critical care bed requests
  - Consult service for all regional ICU/SCU patient (tele-ICU care)
- **TCC RN's 24/7/365**
  - Receives all tele-ICU calls and triages them
  - Performs follow up video rounds on patients and chart reviews
  - Data collection
- **Part time CNS to facilitate workflow**
  - Support education
  - Ensure cohesive practice (work with sites on policies, protocols, etc.)



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## TCC Data






Number and type of connections	10/4/22 to 3/18/22
Phone	4565
Video	1366
eSteth	831
<b>Total consults by connection type</b>	<b>6762</b>

The week of 12/25 to 12/31 we had 207 patient connections

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Please Email Nova with Questions: [Nova.Schmitz@Allina.com](mailto:Nova.Schmitz@Allina.com)

**Thank you for attending, and more importantly for all you do!**

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