Hypertension Control and Undiagnosed Hypertension in a Pandemic: One Community Health Center’s Approach

Jim Schultz, MD, MBA, FAAFP, DiMM, FAWM
Chief Medical Officer
Neighborhood Healthcare
RightCare, August 26, 2020

Phimai Temple, Isan area of Thailand, Jan 28, 2020
Goals and Objectives:

- Discuss One CHC’s HTN control efforts and how these have changed in a Covid pandemic
- Elevate awareness of the problem of undiagnosed hypertension
- Describe ways to determine the rate of undiagnosed hypertension in a medical practice setting
- Describe resources for and practical methods of reducing undiagnosed hypertension in a medical practice setting
1. How many people in the US have undiagnosed hypertension?
   A. 2 million
   B. 5.4 million
   C. 12 million
   D. way more now than before March 2020
2. How do I know if I have hypertension patients hiding in plain sight?

A. use the CDC Million Hearts Hypertension Prevalence Estimator
B. use my registry to run a report
C. A and B
D. I don’t have any at all!
3. What is the most common reason for hypertension going untreated in our active patients?

A. lack of insurance coverage
B. not going to the doctor
C. no primary care physician
D. clinical neglect
E. inefficient clinical systems
4. What is the best way to rapidly improve your group’s HEDIS hypertension control rate?

A. improve BP measuring technique
B. reduce clinical inertia by use of treatment guidelines or protocols
C. entering home BP readings into the BP field in your EMR
D. all of the above
E. A and B
5. How can you reduce mortality and morbidity related to undiagnosed hypertension?
   A. Pre-visit planning/proactive office encounters
   B. Promiscuous use of a registry
   C. Point-of-care real time reporting
   D. Prayer
   E. All of the above
Neighborhood Healthcare:

2020 stats:
16 sites/2 counties
74,000 patients
307,000+ visits
24,000 BH only visits
21,000 Pediatric pts
$90+M budget

~58 FTE medical providers
7.5 FTE Dentists (3 NHCare sites)
3 FTE PharmD
26+ FTE BH
Contracted Medical/Dental

16 primary care sites, all PCMH-3 accredited (all with embedded BH)

Board of Directors: >50% patients
Neighborhood Healthcare:

- Full range of Primary Care
- Prenatal care
- Psychiatric care, including child, SMI, tele-psych
- Embedded BH in all primary care sites
- Medication Assisted Addiction Therapy
- PharmD/MD-led MTM
- Retinopathy Screening Program-tele med
- Dental, Podiatry, Chiropractic and Acupuncture
- Intensive Diabetes and rapid control program
- Extended Hours
- Retail clinic
- Embedded medical clinic in Interfaith Services (social services agency/shelter/soup kitchen)
Neighborhood Healthcare

• **Monthly visits at NHCare:**
  - ~1400-1500 visits/day
  - 20,000 Primary Care
  - 2000 psychiatric/BH (24,000/yr)
  - 1200 dental (14,400/yr)
  - >5000 ‘walk ins’
    - (60,000 ER visits/yr avoided)
  - ~15% unfunded/uninsured
  - ~80% MediCal
Neighborhood Healthcare: FQHC Payment Model

**PPS rate: $X per visit** with clinicians with certain licenses:

- MD/DO, PA, NP, PhD, Dentist, Chiro, Acupuncturist, Optometrist, LCSW, ?MFT
- scope of service limitations
- OSHPD3 requirements
- see all without regards to ability to pay
- Coding/complexity doesn’t change reimbursement

**NO reimbursement for:**

- PharmD, Health Coach, RN, PT, OT, ST, RT, Patient Navigator, Outreach Worker, etc.
NHCare BP Control Results

3 year trend
Peak 80%

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<th>Rate</th>
<th>Goal</th>
<th>Num</th>
<th>Den</th>
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<td>64%</td>
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8 month trend - 2020
Current: 72%
N~12,000

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- Rate: Green
- NHC: Black
- Site: Red
NHCare DM BP Control Results

3 year trend
Peak: 81%

8 month trend- 2020
Current: 75%
N~6400
NHCare BP Control Disparities Analysis

Bar chart showing percentages for different languages:
- Arabic: 86%
- Korean: 80%
- Kurdish: 80%
- Spanish: 80%
- English: 79%

Bar chart showing percentages for SMI:
- Blank: 78%
- No: 80%
- Yes: 79%

Bar chart showing percentages for INSURED:
- Blank: 78%
- No: 75%
- Yes: 80%
NHCare BP Control - Methods

• Data at point of care
• Quality emphasis- DM, HTN, CA screening
• reporting
• Pt engagement
• MA/staff training- motivational interviewing
• Hiring practices
• Leadership commitment and accountability
• Use of non-MD staff
• BH/SDoH/holistic emphasis
Data at the ‘Right’ Time- Alerts ‘app’
Data at the Point of Care: Registry, ‘alerts app’

- Real time data
- Actionable (click red to order)
- Verifiable (eg ASCVD risk)
- Task completion (click red to enter chart info)
- Relevant to MD
- Transparent
Data at the Point of Care: Registry, ‘alerts app’
Data at the Point of Care: Registry, ‘alerts app’

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What is a Z Score?

A Z Score combines our 5 core clinical measures into a single number. This gives us an overall score to compare to providers. We calculate the signed number of standard deviations that the individual measures vary from their mean and then add them all.
Hiding in Plain Sight (HIPS)
Patients With Undiagnosed Hypertension
Hiding in Plain Sight

Hilary K. Wall, MPH; Judy A. Hannan, RN, MPH; Janet S. Wright, MD

This Viewpoint discusses the need to improve hypertension control to reduce preventable myocardial infarctions and strokes.

According to the 2011-2012 National Health and Nutrition Examination Survey (NHANES), a nationally representative, cross-sectional survey of the noninstitutionalized US population that combines interviews and physical examinations, 1 of 3 US adults (estimated at approximately 71 million people) has high blood pressure and almost half of these individuals (48.2%) do not have their blood pressure under control. Closer examination of the population with uncontrolled blood pressure reveals that 36.2% (estimated at approximately 13 million people) are neither aware of their hypertension nor taking antihypertensive medications.
Hypertension Stats - US

- Hypertension:
  - 29% prevalence among US adults (2011-2012)
  - 33% among adults 40-59
  - 65% among adults 60+
  - 42% among non-Hispanic blacks
  - Up to 40% of HTN patients are NOT diagnosed
  - ~67-71M adults have hypertension

- Slide courtesy of CDC
Hypertension- Treatment Impact

- Impact of Hypertension:
  - Normal BP: Life 5 years longer

- Reduction in BP by 5mmHg:
  - ↓ stroke risk by 34%
  - ↓ ischemic heart dz by 21%
  - Antihypertensive Rx associated with:
    - ↓35-40% stroke risk
    - ↓20-25% heart attack risk
    - ↓>50% CHF


Hiding in Plain Sight (HIPS)

- 34M US Adults with uncontrolled HTN

- 14.1%
- 16%
- 5.7%
- "Unaware"

Aware and treated
Aware and untreated
"Unaware"

Slide courtesy of CDC
Hiding in Plain Sight (HIPS)

• Why undiagnosed?

• No insurance?
  • 81.8% have health insurance

• No PCP?
  • 82.5% report having a usual source of care

• Don’t go to the MD?
  • 61.7% have received care two or more times in the past year

HIPS JAMA conclusion:

Recommendations:

- Assess practice data
- Develop **systematic approach** to identify potentially undiagnosed hypertensives
- Estimate HTN prevalence, use to track

‘The nation can and must improve hypertension control to reduce preventable myocardial infarctions and stroke...improvement can only occur if all patients with hypertension are promptly identified, accurately diagnosed, and provided with evidence-based treatment and support.’
HTN Control Rates-
Your control rate may be wrong!

- Math!: ‘BP Control rates’:
  - Typical calculation methodology:
    - denominator: ‘search for ICD code 401.x or I10’
    - numerator: ‘last SBP < 140 AND last DBP <90’

Required Data Elements for the Denominator*:
- Office Visit Encounter or Face-to-Face Interaction Code during the measurement period
- Hypertension Diagnosis Code (with attached SNOMED) that occurs prior to OR within 6 months of the start of the measurement period

Required Data Elements for the Numerator*:
- Documented Blood Pressure (Diastolic result < 90mmHg and Systolic result < 140mmHg) during the most recent encounter of the measurement period

NQF Measure 18 Data Definition
Your control rate may be wrong!

- Math! Example
- 1000 patient with dx of 401.x or I10
- 750 meet numerator criteria (<140 and < 90)
  - \[ \text{75\%} \] - pretty good!

- What if you have 500 undiagnosed patients?
- Denominator changes to 1500
  - Control rate changes to \( \frac{750}{1000+500} = \frac{750}{1500} = \text{50\%} \)
Hiding in Plain Site at Geisinger

- Used data from 400K+ adult outpatients to ID patients with HTN
  1. The problem list
  2. ICD-9 diagnosis
  3. Antihypertensive medications Rx
  4. Two elevated BP values based on JNC-7 criteria
     2 systolic measures ≥140 or 2 diastolic measures ≥90
- Found 106K patients with one or more criteria
- **30%** based solely on #4 (i.e. undiagnosed)
- HTN Prevalence – ~18.6% vs ~26.5%

Hiding in Plain Sight at Palo Alto Medical Foundation

- 250,000 adult patients 2006 - 2008
- For patients with ≥ 2 BP readings of 140/90 or higher, an antihypertensive medication prescription, or both,
  - 37.1% did not have an ICD-9-CM code
- HTN prevalence went from 18.0% to 28.7%
- And: Much more likely to be on an antihypertensive with a HTN diagnosis
  - 92.6% diagnosed vs 15.8% undiagnosed, P < .001

CDC Undiagnosed Hypertension

- **Establish clinical criteria** for potential undiagnosed hypertension using current evidence-based guidance. Work with your health care team to determine the number of elevated blood pressure readings and the degree of elevation that should trigger a red flag for a patient.

- **Search electronic health record (EHR) data** for patients who meet your established clinical criteria. For example, some providers have searched EHR registries using algorithms to extract relevant information. Pick the approach that works best for your practice based on your available resources.

- **Implement a plan** to communicate with these patients and to treat those with hypertension.
  - The plan could include 24-hour ambulatory or home blood pressure monitoring, automated office blood pressure readings, or repeated in-office measurement. For patients with confirmed hypertension, follow standardized treatment protocols and provide feedback to your care team about how best to support patients in achieving and maintaining blood pressure control.

- **Calculate the hypertension prevalence in your practice** and compare your data against local, state, or national prevalence data. Comparing the prevalence of hypertension among your patients to national or local values could add much-needed context to blood pressure control rates and may help identify more patients who might benefit from additional clinical action.

http://www.cdc.gov/features/undiagnosed-hypertension/
Prevalence can give a hint

- What is your reported HTN prevalence?
- What is your predicted prevalence based on your population?
- Is there a mismatch?
Million Hearts Prevalence

https://millionhearts.hhs.gov/tools-protocols/tools.html
Prevalence estimator Toll

Socioeconomic Status
Comorbidities: DM, Obesity, CKD, Age, Race/ethnicity

https://nccd.cdc.gov/MillionHearts/Estimator/PatientInformation
## Hiding in Plain Sight (HIPS) - NHC Results - Prevalence match

**Overall Prevalence:** 27.5%
Hiding in Plain Sight (HIPS)

- CDC HTN Prevalence estimator tool
- [https://nccd.cdc.gov/MillionHearts/Estimator/](https://nccd.cdc.gov/MillionHearts/Estimator/)
Identifying specific patients

- Registry:
  - Patient without the diagnosis of hypertension (problem list or assessments) but WITH:
    - More than one office visit in a year, AND
    - SBP >139 more than once, OR
    - DBP > 89 more than once, OR
    - Prescribed an antihypertensive med
# Undiagnosed Hypertension - Cross Section/Rolling 12 Months

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<td>4.1%</td>
<td>3.8%</td>
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<td>3.5%</td>
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<td>12.3%</td>
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<td><strong>Average</strong></td>
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<td><strong>6.9%</strong></td>
<td><strong>6.8%</strong></td>
<td><strong>6.8%</strong></td>
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<td><strong>HIPS Goal</strong></td>
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**Mean = 6.9%**
Get those potential HIPS patients into the office

- MD visit, or
- With protocol:
  - RN BP check
  - MA Care Coordinator
  - Population Health staff
- Proper BP measurement and recording technique is key
  - Details: e.g., which BP is entered into the structured data field
### Hiding in Plain Sight (HIPS)-CDC/NACHC Project

#### Undiagnosed Hypertension Cohort – four health centers

<table>
<thead>
<tr>
<th>CHC</th>
<th>Patients in Cohort (Identified as potentially undx for HTN on 1/31/2015)</th>
<th>Patients with Visits (2/1/2015 - 6/30/2015)</th>
<th>% with Follow-up Visits</th>
<th>Count</th>
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<td><strong>Total</strong></td>
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<td><strong>2,794</strong></td>
<td><strong>46.8%</strong></td>
<td><strong>2,239</strong></td>
<td><strong>80.1%</strong></td>
<td><strong>555</strong></td>
<td><strong>19.9%</strong></td>
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</table>

→ ~10,000 patients identified as at risk for undiagnosed HTN in 10 CHCs
→ ~1,000 more patients diagnosed and being managed in four months
NHC % potential HIPS with office visit (n=491)
Hiding in Plain Sight (HIPS) - NHC Results

NHC potential HIPS with HTN DX Confirmed (n=129)

79% do not have HTN (at this time)
Hiding in Plain Sight (HIPS) - NHC Results

NHC HIPS percentage (N= 27,675 adult pts with >=1 visit)

Hiding in Plain Sight (HIPS)- NHC Results

### UN DX HTN

(age > 18, not dx HTN (Million Heart definition), 2 or more BPs > 140/90 in the last 9 months)

- **# UNDX HTN (9 mo):** 300
- **# HTN:** 12K
- **undx : dx:** 2.57%

### UN DX HTN

(by facility)

- **# UNDX HTN (6 mo):** 179
Hiding in Plain Sight (HIPS) - NHC Results

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<td>2/21/2020</td>
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Total: 767 - 496
HIPS- NHCare Results- Why so low?
HIPS - NHC Results - Why so low?

Huddles + eCW alerts app

Right information
To the right people
At the right time
In the right format

Own your data
Get your own programmer!
Population Health - Comprehensive Registry / **One Call** Concept

<table>
<thead>
<tr>
<th>Patient</th>
<th>Last appt</th>
<th>Next appt</th>
<th>BP</th>
<th>A1c</th>
<th>CVD Risk</th>
<th>Provider</th>
<th>Last Action</th>
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**PCP/ Last/Next appt/ CVD risk/ BP/ A1c /ALL/ Needs/ Last Action**
NEIGHBORHOOD HEALTHCARE HIPS INTERVENTIONS

Workflow in-office:
• BP measurement training/standardization
• Huddle- include ‘check last BP”
• Recheck BP if elevated
• Configure alerts app to alert for last BP
• Configure alerts app for 2 BPs/no dx

Pop Health approaches (out-of-office):
• RN or Care Coordinator visit for elevated BP/no dx
• Registry recall lists for elevated BP/no dx
• Incorporate HIPS into MTM (PharmD) visits
• Phone follow up visits

Clinical:
• HTN Treatment Protocol
• Motivational interviewing/health coaching
• Use of home BPs (ambulatory automatic BPs pending)
• Use of integrated BH (depression, non-adherence)
• Scorecards (unblinded, individual and by site)
HTN Treatment Protocol

[Diagram of HTN Treatment Protocol]

- Stage 1 Hypertension (Sbp 140 - 159 or DBP 90-99 mmHg)
  - Thiazide-type Diuretics for most. May consider ACEI, ARB, CCB or combination.
  - 2-drug combination for most (usually thiazide type diuretic and ACEI or ARB or BB or CCB. Consider starting diuretic first and adding second drug after monitoring for side effects).

- Stage 2 Hypertension (Sbp>160 or DBP>100 mmHg)
  - ACE-Inhibitor/Thiazide Diuretic
    - Lisinopril / HCTZ (Advance as needed)
      - 20 / 25 mg X 1 daily
      - 20 / 25 mg X 2 daily
    - Pregnancy Potential: Avoid ACE-Inhibitors

- If not in control in 2-4 wks. on max dose, consider medication non-adherence before going to the next step.
  - Calcium Channel Blocker
    - Add amiodipine 5 mg X 1 daily → 5 mg X 1 daily → 10 mg daily

- If not in control in 2 -4 wks. at max dose, consider medication non-adherence before going to the next step.
  - Spironolactone otherwise Beta Blocker
    - IF on thiazide AND eGFR ≥ 60 ml/1.73² AND K < 4.5
      - Add spironolactone 12.5 mg daily →25 mg daily
    - Otherwise
      - Add atenolol 25 mg daily → 50 mg daily (Keep heart rate > 55)

- Consider medication non-adherence. Use the non-adherence tool in POINT.
- Consider simvastatin if taking amiodipine. Simvastatin maximum dose is 20 mg.
- Consider interfering agents (e.g., NSAIDs, excess alcohol)
- Consider white coat effect. Consider BP checks by medical assistant (e.g., two checks with 2 readings each, 1 week apart)
- Consider discontinuing Lisinopril / HCTZ and changing to chlorthalidone 25 mg plus Lisinopril 40 mg daily.
- Consider additional agents (hydralazine, terazosin, reserpine, minoxidil).
HTN Treatment Protocol - Reducing Clinical Inertia

ACE=Inhibitor²/Thiazide Diuretic

Lisinopril / HCTZ
(Advance as needed)
20 / 25 mg X ½ daily
20 / 25 mg X 1 daily
20 / 25 mg X 2 daily

Pregnancy Potential: Avoid ACE-Inhibitors²

If not in control in 2-4 wks. on max dose, consider medication non-adherence before going to the next step.

Calcium Channel Blocker

Add amiodipine 5 mg X ½ daily → 5 mg X 1 daily → 10 mg daily
(HIPS)- NHC Results

People!

Erika Bazan, MA
Maria Acosta, MA
Erica Cruz, MA

Tools:

Pre-visit planning
Registry use
Follow up tracking
Continuing Ed
Staff progression ladder
Actionable good data at point of care

TEAM
Hiding in Plain Sight (HIPS)

**Resources:**
- [http://mylearning.nachc.com/diweb/fs/file/id/229350](http://mylearning.nachc.com/diweb/fs/file/id/229350)

- HTN control an organizational priority
- A process to address BP at every visit
- Accurate BP measurement
- Evidence-based HTN treatment guidelines
- Staff equipped to facilitate self-management
- Proactive office encounters/huddles
- Registry to identify and track
- Clinician-managed Rx escalation protocols
- PDSA- use own data to drive improvement
- Make it easy to do the right and best thing
NHCare: CDC

**NHC:**

**Workflow in-office:**
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**CDC:**

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- PDSA- use own data to drive improvement
- Make it easy to do the right and best thing
Hiding in Plain Sight (HIPS)

Other issues:
- Pts not coming in to the office
  - 50% hospital discharge no show rate
  - ER-philosophy
  - Assigned but not engaged (10-20% success rate)
- HEDIS vs. USPSTF and ABPM
- Use of home readings in Covid pandemic
- ‘Unreimbursable’ activities
  - No global risk payoff
  - Population Health
  - Care Coordinator visits
  - Phone follow ups
- EMR issues
  - Custom alerts limitations
  - Pop health/registries limited
- **REAL OUTCOMES** data- MI, PCI, CVA, Death
HEDIS reporting

‘Exclusions: Do not include BP readings:

- Taken during an acute inpatient stay or an emergency department (ED) visit
- Taken during an outpatient visit which was for the sole purpose of having a diagnostic test or surgical procedure performed (e.g., sigmoidoscopy, removal of a mole)
- Obtained the same day as a major diagnostic or surgical procedure (e.g., electrocardiogram [EKG/ECG], stress test, administration of intravenous [IV] contrast for a radiology procedure, endoscopy)

**Reported by or taken by the member’**

HIPS and the USPSTF 2015

Screening for High Blood Pressure in Adults: U.S. Preventive Services Task Force Recommendation Statement

Albert L. Siu, MD, MSPH, on behalf of the U.S. Preventive Services Task Force*

**Description:** Update of the 2007 U.S. Preventive Services Task Force (USPSTF) reaffirmation recommendation statement on screening for high blood pressure in adults.

**Methods:** The USPSTF reviewed the evidence on the diagnostic accuracy of different methods for confirming a diagnosis of hypertension after initial screening and the optimal rescreening interval for diagnosing hypertension.

**Population:** This recommendation applies to adults aged 18 years or older without known hypertension.

**Recommendation:** The USPSTF recommends screening for high blood pressure in adults aged 18 years or older. (A recommendation)

The USPSTF recommends obtaining measurements outside of the clinical setting for diagnostic confirmation before starting treatment.

Ann Intern Med. doi:10.7326/M15-2223
For author affiliation, see end of text.

* For a list of USPSTF members, see the Appendix (available at www.annals.org).
This article was published online first at www.annals.org on 13 October 2015.

HIPS and the USPSTF 2015

- ABPM: automated regular BPs taken at home
- HBPM: home BP monitor by pt
- ‘...convincing evidence that ABPM
  is the best method for diagnosing hypertension’
- ‘...significant discordance between the office diagnosis...and
  12- and 24-hours average blood pressure using ABPM...’
- ‘...the USPSTF recommends ABPM as the reference standard
  for confirming the diagnosis of hypertension.’
- ‘...confirmation with HBPM may be acceptable.’
Steps to take - Summary

• Refine and Standardize BP Measurement
• Establish a real time point-of-care alert
• Find and recall your potential HIPS patients
  • Think outside of the parameters of a usual office visit
• Establish and use treatment pathways to minimize clinical inertia and maximize follow up
• Measure and report results down to the individual provider and team level
1. How many people in the US have undiagnosed hypertension?
   A. 2 million
   B. 5.4 million
   C. 12 million
   D. way more now than before November 11
2. How do I know if I have hypertension patients hiding in plain sight?

A. use the CDC Million Hearts Hypertension Prevalence Estimator
B. use my registry to run a report
C. A and B
D. I don’t have any at all!
3. What is the most common reason for hypertension going untreated in our active patients?

A. lack of insurance coverage
B. not going to the doctor
C. no primary care physician
D. clinical neglect
E. inefficient clinical systems

4. What is the best way to rapidly improve your group’s HEDIS hypertension control rate?
   A. improve BP measuring technique
   B. reduce clinical inertia by use of treatment guidelines or protocols
   C. entering home BP readings into the BP filed in your EMR
   D. all of the above
   E. A and B (ABPM/home reading not accepted by HEDIS)
5. How can you reduce mortality and morbidity related to undiagnosed hypertension?

A. pre-visit planning/proactive office encounters
B. promiscuous use of a registry
C. point-of-care real time reporting
D. prayer
E. All of the above
Hello, Corona!

BKK Suvarnabhumi to Surin final overview
(nakhon nayok, pak chong, korat, phimai, b...

Planned on January 1, 2020

Expert bike ride • 8,363 mi from Escondido • Very good fitness required. Mostly paved or hardpacked surfaces. Suitable for all skill levels.

34 h 18 • 335 mi • 15,000 ft • 14,525 ft

Most people would complete this in 5 - 11 days
Hello, Corona!

https://www.google.com/search?q=air+travel+from+wuhan+to+thailand&rlz=1C1GCEU_enUS820US820&xsrf=ALeKk00TFEpeU71Xj5Ov0L_sF9KJ4O2gA:1590689683583&source=lnms&tbm=isch&sa=X&ved=2ahUKEwjBy6DslNfpAhUDrZ4KHZ25BUoQ_AUoBHoECAhQBg&biw=3200&bih=1600#imgrc=41y5TX5y7fjImM
Hello, Corona!

DSPATCH

Tourists Dwindle as Thailand Readies for Coronavirus Threat

Billions of dollars are at stake as Bangkok walks the line between closing borders and angering Beijing.

BY TYLER RONEY | FEBRUARY 7, 2020, 5:37 PM

https://foreignpolicy.com/2020/02/07/bangkok-virus-wuhan-china-tourists-dwindle-thailand/
Corona Assumptions as of Saturday, March 7

- Based on Wuhan, Washington, Italy, Iran, (later NYC)
- SURGE
- NO PPE
- Staff will get sick/die/be called into hospital work
- No testing available/limited
- Aerosol vs. contact spread
- Asymptomatic carriers (despite WHO/CDC)
- Almost all of our patients are ‘high risk’
- Pediatric petri dishes
NHCare Response

- Pre-ICS Sunday March 8: Teams meeting of Exec Comm/key operational leaders
- Activated ICS for Monday Mar 9
  - Assigned Incident Command roles

(Acknowledgement: participation in County EOC and state drills including past Zebra/Bioterror training exercises, some past federal funding for bioterror)
Key payer changes

CMS/HRSA/State OKs payment for telephone and video visits

NHCare Response

- Surge
- PPE
- Contagion risk reduction
- Financial protection
NHCare Initial Response - Surge

- Cancelled all PTO
- Planned for drive up visits
- Changed patient flow
- Designated high volume Covid sites/spaces

- But: Surge PLUNGE
NHCare Initial Response - PPE

- Identified current inventory and estimated days’ supply
- Repurposed dental PPE, including from community
- Consolidated (3 offices)
- Stopped dental, pod, chiro, acu, retinal, routine medical (end week Mar 9)
- Designated Covid sites or portions of sites
- Moved to telephone visits (3 days)
NHCare Initial Response- PPE

- Burn rate calculation/tracking
- Centralized supply with rapid response resupply to sites
- Designated PPE control officer
- Purchasing reaching out
- Delayed deferrable/non-urgent care
- Goggles for docs
- Home brewed shields
- **Info Wars- data to combat weirdness**
NHCare Initial Response - Televisits

- Pre-covid: 1400-1500 v/d
  - Medical, BH, Dental, Chiro, Acu, Pod, Retinal, Tattoo removal
- Post covid: 1400 v/d (1100-1550)
  - Medical/ BH only, + emergency dental/pod
    - 15% live
    - 5% video
    - 80% phone
    - Peds 60%, Adult 100%, BH 140% of prior
NHCare Initial Response - Televisits

Daily Visit Average by Visit Type

- Daily Visits
- In-Person Visits
- Phone Visits
- Video Visits
NHCare Initial Response - Televisits
NHCare Initial Response - Televisits

Mar 3, 10

- f/u HTN
- routine f/u
- possible high bp, lack of sleep
- Immigration Physical
- f/u DM
- Dental, orthopedics
- high blood sugar/ frequent urination
- f/u BP
- health maintenance
- cold sore in mouth
- f/u
- severe cough
- f/u US/labs
- med refill/ HepC screening
- f/u glucose
- INS physical
- f/u cryo
- f/u BP
- ER f/up
- medication refill
- INS
- R knee injury with nail
- post surgery f/u
- IH hgb

Mar 17

- Visit Type:
  - PhoneVisit f/u HTN
  - PhoneVisit f/u health
  - Videovisit Health F/u
  - PhoneVisit pre-diabetes
  - Videovisit health concern
  - PhoneVisit Genital problems
  - PhoneVisit f/u mood
  - PhoneVisit Covid-19 Symptoms / cough
  - PhoneVisit f/u
  - FU cough
NHCare Initial Response- Televisits

- Preserved live visits
  - Benefit>Risk, Clinician decision
  - Well baby/child to 2y/o, with immis
  - Family Planning (IUD/Nexplanon)
  - High grade colpos
  - Acute non-resp illness/injury
    - Isolated site or space
  - Covid PUI/ill with contact
    - Phone, in car
    - Surge Tents with outside testing
  - NOW: Risk stratified but patient can override
NHCare Initial Response- Televisits

- Video visits
  - Digital divide
  - Platforms tried:
    - Healow app
    - Zoom
    - Home built using OpenTok
    - Doximity
    - Doxy.me
    - MedConsults.com
  - Final: Oxy.me/Zoom with Scribes ($, HIPAA ok, no app, multi-call)
  - 20-40% of patients able to navigate
NHCare Initial Response - Contagion Risk Reduction

- Cohorted care teams
  - Prevent 100% exposure
  - Built in quarantine
- Furloughs- (no work for some)
- Split offices (‘Clean’/’Dirty’ sides)
- Outside triage/surge tents/testing
NHCare Initial Response - Contagion Risk Reduction

- Stopped non-emergent dental and pod; stopped chiro, acupuncture, retinals, tattoo removals
- Testing in full PPE (N95/shield/gown/glove)
- All others in surgical masks; pt care + eye pro, N95 recommended
- No nebs
- New ‘clean’ lab established
- Distancing/Plexiglas barriers at reception
- Mobile lab/VS
NHCare Initial response- Business Survival

- Payment for phone/video
- CARES/PPP
- Grants ($2-3M- HRSA/Feds)
  - 3% budget
  - 12 days’ cash flow
- Terminations/ furloughs
- Partial furloughs
- No MD/midlevel terms/furloughs
- March-July finances OK despite market crash- visit driven, didn’t miss a beat
NHCare Initial response - Quality Maintenance

- Alerts app visible for all, any type of visit
- Tracking logs for live visits and referrals with ‘actions’
- HEDIS team repurposed initially
- QM teams paused, now restarted via Teams
- Clean lab
- Mobile phlebotomy (purpose-written grant successful), now expanding
  - Adding vitals, video visits
- Vaccines continued
  - Peds, pneumovax; now adding others
- Increased contact frequency
- Reassurance for live visit safety
NHCare Rapid Change Methods

- PDSA cycle experience
- ALERTS app (we developed- added COVID risk score)
- Daily TEAMs meetings for ICS
- LEAN → Kaizens (18!)
  - Video visit
  - Texting patients
  - Mobile check in
  - Outreach- clinical, insurance
  - Virtual visit hub
  - Remote scribing/interpreting
  - Staff redeployment
  - Etc etc

- Procured testing (LabCorp; unapproved Confirm Bioscience serologies as first screen in certain situations- update as of 6/1, now with FDA EUA but High Complexity so can’t use )

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<tr>
<th>On Demand Visits</th>
<th>Mobile Visits with EMV</th>
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<td>BH Referral Workflow</td>
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Keys to Success - Behavioral

• Start with great staff!
• Rapid cycle change
• Get the right people. Move people on and off team prn
• Read!!!
• Delegation vs. speed/consistency- find the balance
• Distill complex and varied information
• Communicate! many channels!
• Use tech (Teams/Zoom, devices)
• Include in planning from the start:
  • IT
  • Purchasing/procurement
  • Facilities
• Pay attention to Wellness
What’s Next?

• Re-opening:
  • Video vs telephone
  • Digital Divide
  • Home Hospital
  • Mobile lab/vitals ➔ EMV via video; mobile HEDIS activities
Improvement methodology
Tools and References

- HIPS article abstract: [http://jamanetwork.com/journals/jama/article-abstract/1935131](http://jamanetwork.com/journals/jama/article-abstract/1935131)
- Million Hearts Prevalence Estimator Start Page: [https://nccd.cdc.gov/MillionHearts/Estimator/PatientInformation](https://nccd.cdc.gov/MillionHearts/Estimator/PatientInformation)
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Shingo-La,
Indian Himalayas
16,750’