



Greater Sudbury Community Paramedic Programs

An Investment in the Health
of our Community

Why Community Paramedicine?



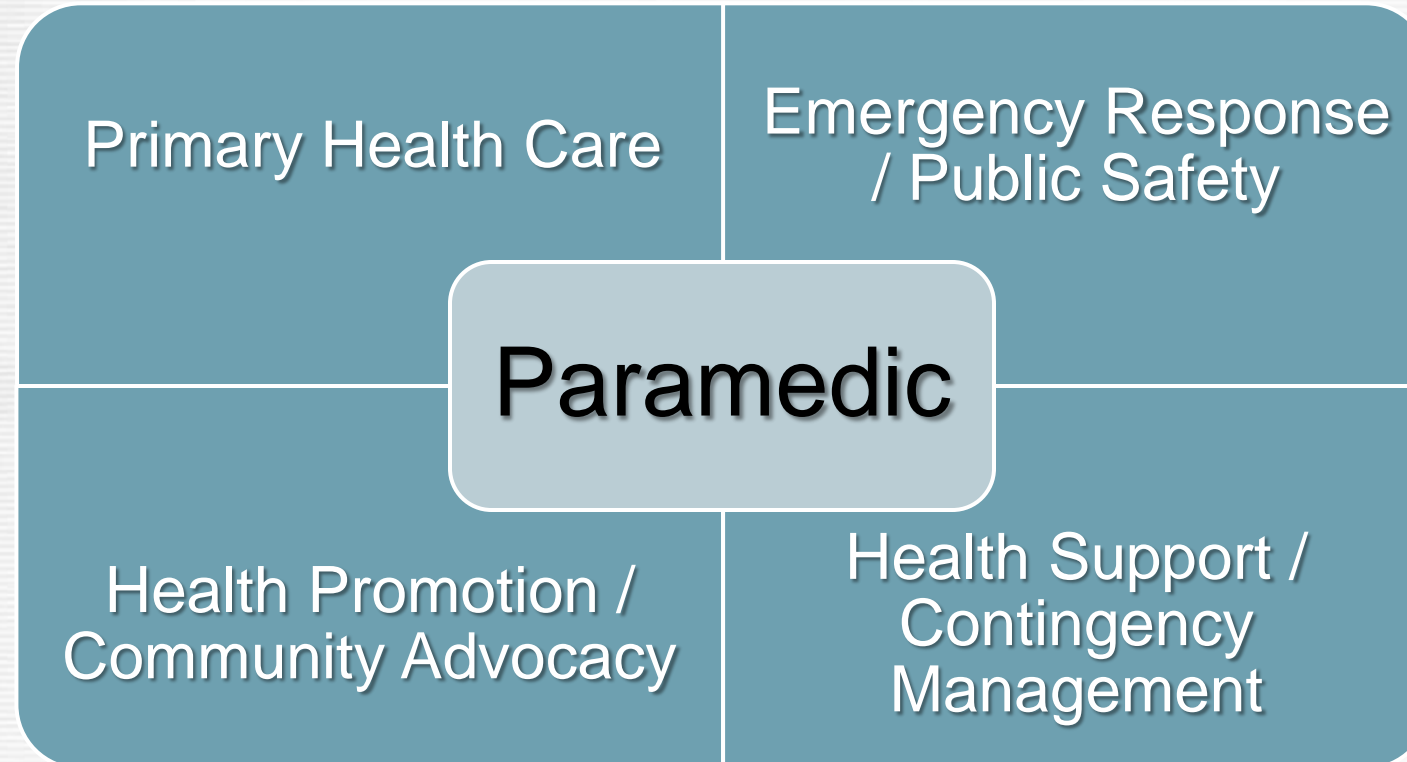
↑ Incidence
of Chronic
Disease

Aging
Population

=

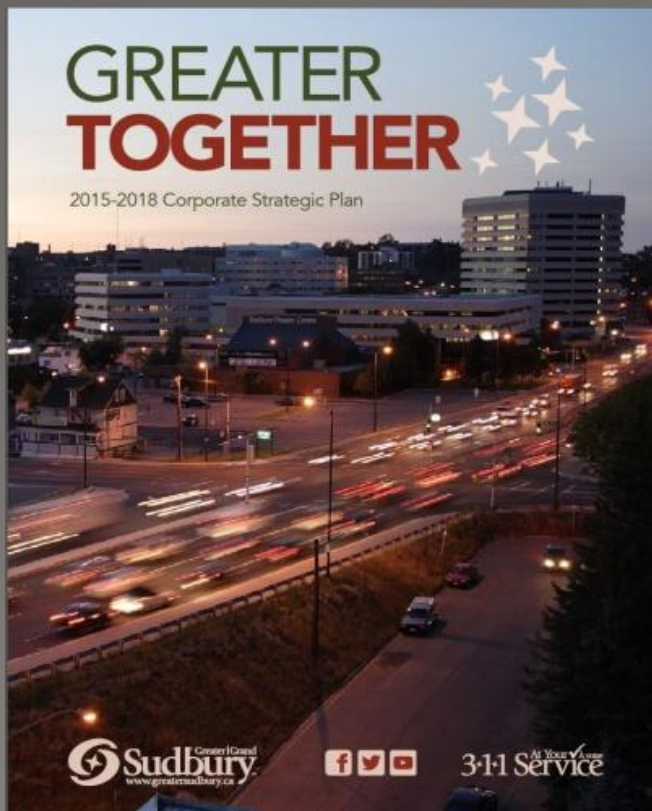
↑ Health
Care
Demands

Reconceptualising the Paramedic as a Mobile Health Provider





Community Paramedicine aligns with Community and Health Care Priorities



Hallway Health Care: A System Under Strain

1st Interim Report from the Premier's Council on Improving Healthcare and Ending Hallway Medicine

January 2019



Living Longer, Living Well

Report Submitted to the Minister of Health and Long-Term Care and the Minister Responsible for Seniors on recommendations to Inform a Seniors Strategy for Ontario.

Dr. Samir K. Sinha, MD, MPH, FRCP
Provincial Lead, Ontario's Seniors Strategy





Community Paramedic Program Funding

- ▶ 2014 MOHLTC funded 2 CP programs in Sudbury
- ▶ CGS funds in-kind donations of a vehicle, management oversight and some medical supplies to these CP programs

2018	Health Promotion	Care Transitions	Totals
LHIN Funding	\$100,700	\$227,800	\$328,500
CGS/Partner Agency Contribution	\$32,987	\$147,165*	\$180,152*
Combined Program Costs	\$133,687	\$374,965*	\$508,652*



Care Transitions Community Paramedic (CTCP)

2 CTCPs



Services Provided



Benefits



- 12 hour shifts
- 7 am to 7 pm
- 365 days / year
- Visits
 - Scheduled
 - Just in time

- In home blood testing / results
- Medical interventions
- Scheduled / Urgent home visits
- Disease management education
- Physician oversight

- Improves quality of life
- Manages chronic disease
- Lowers 911 calls
- Decreases hospital readmissions



CTCP Patient impact...Meet Sara

Improvement of
Chronic disease
management

Heart function
from 16% to 52%

Identified
undiagnosed
medical conditions

Type 2 Diabetes
Atrial Fibrillation
Sleep Apnea

Patient advocacy
and appropriate
referrals

Social Isolation
ODSP
CPAP

Significant improvement
of Sara's quality of life



Improved health, less
reliance on Hospital services



Average Daily Cost of CTCP Program	\$1000
Average number of CTCP visits per day	4.02
Cost per Community Paramedic home visit	\$248.76

CTCP Home Visit vs. Hospital Services



Average daily cost of an ED visit	\$135.70
Average cost per day of an inpatient admission	\$1084
Cost of an average hospital stay	\$4974
Chronic Disease Management Clinic/visit	Diabetes - \$86 Heart Failure - \$237 COPD - \$68

CTCP Home Visit vs. Hospital Services



CTCP Efficiency: Pre and Post Enrollment

Total Cost to Health Care System per Patient

Total Cost Pre/Post Costs include – ED visit, Inpatient costs, Chronic disease management clinic visit vs. Community Paramedicine costs



\$10K
per
Patient



Care Transitions Community Paramedic Program

“Community Paramedic intervention has shown to
be highly cost effective for the Health Care system...
In reducing total costs per patient by
↓ **50%**”



*IMPROVING TRANSITIONS: EVALUATION OF THE
GREATER SUDBURY CARE TRANSITIONS COMMUNITY PARAMEDICINE PROGRAM McNeil et al.
2016*



Care Transitions: Next Steps

1. Maximize Efficiency / Optimize Value
2. Patient Care in The Home
3. Pilot - Direct Referrals from Family Health Teams
4. Remote Patient Monitoring





Health Promotion Community

Paramedic (HPCP)

1 HPCP

Services Provided

Benefits



- 8 hour shifts
- 8:30 am to 4:30 pm
- Monday to Friday

- Older adult clinics
- Rapid Mobilization Table
- Shelter clinics
- Paramedic referrals
- Education

- Improves quality of life
- Chronic disease prevention
- Early identification of chronic disease
- Advocate for vulnerable populations
- ↓ 911 calls and hospital admissions



HPCP Patient impact...Meet Jim

Identification of
Patient at risk

Appointment double
bookings and unmet
transportation
needs

Referrals to
Community
Programs

HealthLinks
Care Transitions CP
NE LHIN Home &
Community Care

Patient Advocacy

Pushed to urgent
status housing list

Significant improvement
of Jim's quality of life



Improved health, receiving
appropriate care and
housing





CP Clinics: Background

Weekly Wellness clinics in subsidized older adult building common rooms.

Trained Paramedics assess:

- Blood Pressure and weight
- Overall health and nutrition
- Mental health
- Mobility and falls risks
- Cardiovascular disease and Diabetes risk assessment



Once a risk factor profile is established then discussion, education and appropriate referrals are completed to support Healthy lifestyle changes



Health Promotion: CP@Clinic

Diabetes Risk

71%

**Moderate / high
diabetes risk completed
Fasting Capillary Blood
Glucose tests**

Cardiovascular Disease Risk

32%

**Found Elevated blood
pressure on first visit**

Risk Factor Discussion

81%

**At Least one Risk Factor
Discussion with a
Paramedic**

Falls Risk

70%

**Identified as High fall risk
were given Timed Up and
Go (TUG)**

Health Promotion: Clinics

Costs



~28,539.38

**Annual Clinic Cost
per building**



Average of \$1,626

(ranging between \$499 to \$2,254)

**Average Cost of 911 call
911 Response → Transport
to ED → ED Assessment**

Health Promotion: Clinics

Cost Avoidance



↓ 31%

**Lowered 911 Calls to
intervention building
in one year**




Average of \$53,638

**Annual estimated
resource gains**



Health Promotion: Clinics

For every one dollar invested into  there is a return of \$1.88 in resource gains to Paramedic Services and the healthcare system

2:1 Return on Investment



Health Promotion Community Paramedic (HPCP) Initiatives

Hands Only CPR

Paramedic Referrals

Rapid Mobilization Table



- Free training to **1537** citizens (2014 to present)
- 2018 trained **635** Citizens



Oversight of **282**
Paramedic Referrals to
LHIN Home and
Community Care in 2018



- 2018
- **14** presentations
 - Engaged in **124** working groups
 - Involved in **49%** of total RMT discussions





HPCP: Assessing the Need

- Adults 65 yrs and older will ↑ by 25% by 2036
 - Citizens at risk of harm - With 282 Paramedic Referrals in 2018, we see that many of our patients have unmet needs in their home
-
- ¼ of older adults have 4 or more chronic conditions
 - Chronic conditions lower independence which can lead to reliance on emergency services and health care system when no supports are in place





Health Promotion: Next Steps



**Harm
Reduction
Response
Post Opioid
Overdose**



**Equitable
Expansion of
Wellness
Clinics**



**Increase
Rapid
Mobilization
Table
Participation**



**Heart Safe
Community**



**Multiple
Caller Home
Visit
Program**



Health Promotion – CP@Home

Multiple Callers

2018 EMS 911 calls for
service = 27,732



2018

750
individuals

Account
for

4,793
911 calls

of
individuals
called 911
≥ 4 times in
2018

Total # of 911
calls initiated by
this group of 750
multiple callers
over 2018

Predicted

↑24%

Multiple caller
rates have
increased from
2017

Service
Levels

?

How can Paramedic
Services maintain
current service
levels?



Paramedic Emergency Department Diversion

HSN Crisis Intervention
Services – Cedar St.



HSN Withdrawal
Management
Services – Pine St.



City of Lakes Family
Health Teams



200 Larch Street
Place - NPLC



Enrich Mental Health and
Addictions Diversion
Directives

Expand Diversion
Principles to a Primary
Care Model





CP Clinics: Next steps

- CMHA outreach requesting CP collaboration
- Greater Sudbury Housing Corp. requesting Clinics in their buildings due to benefits from CP@Clinic



HPCP currently unable to add additional commitments due to workload capacity





Vulnerable Populations: Increasing Demand

- Rising demand for HPCP at biweekly Rapid Mobilization Table (RMT)
- HealthLink referral for those found at risk with a lack of appropriate community supports

Anticipate increased HPCP support for these referrals and programming:

- Closure of Salvation Army Men's shelter
- Harm reduction strategy – mandatory presentation of all Paramedic suspected opioid overdose patients





HPCP: Community Paramedic Remote Patient Monitoring (CPRPM)

- Remote monitoring of chronic disease patients vital signs and CP provision of education / coaching
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- Program research shows 911 calls ↓ 26 % and ED transports ↓ 31 %
 - Over all ROI = 542%
 - Paramedic services time reallocation = 764 hrs
 - Paramedic services cost avoidance = \$331,576
 - Estimated overall ROI to Health care system = \$4,731,350





HPCP: Mobile Integrated Health Teams

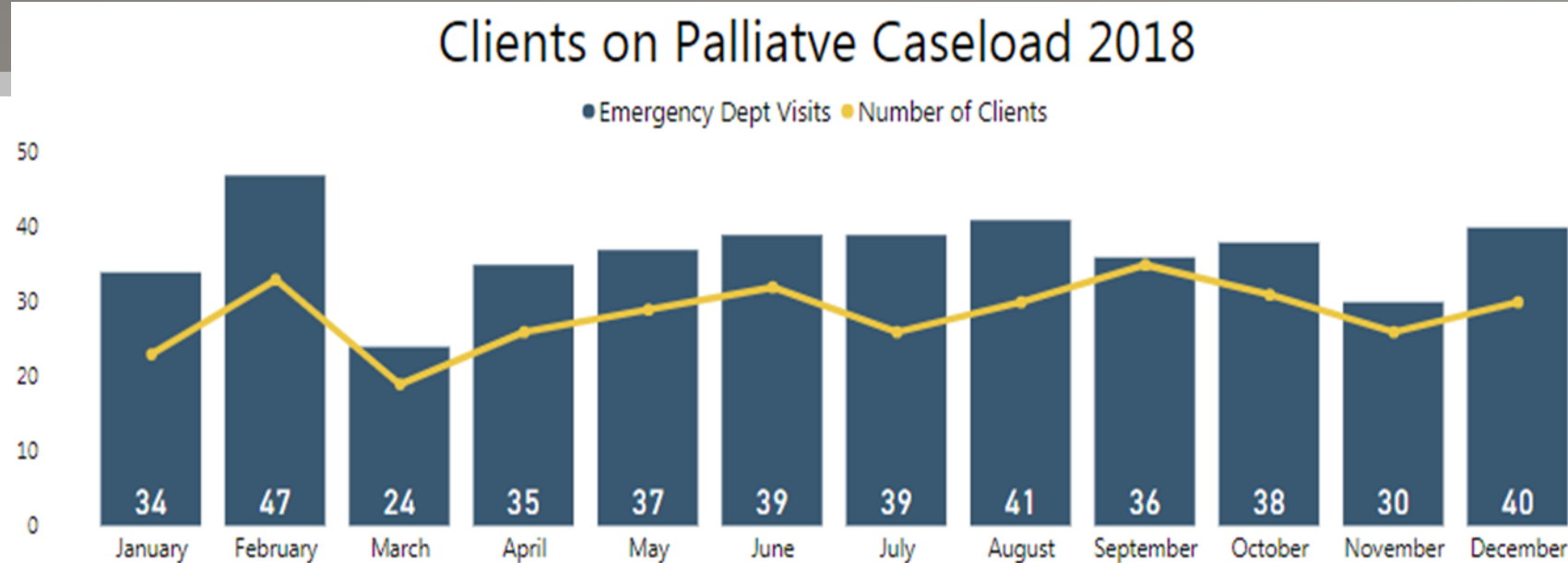
1. Harm Reduction post high acuity 911 response
 2. Health promotion response to low acuity responses for “mental health” and “falls” 911 call types
-
1. Collaboration with partner agencies such as Police and addictions professionals to provide outreach post opioid overdose. Response team to consist of Paramedic, Police, Addictions worker for patients identified through a high acuity 911 opioid overdose incident.
 2. HPCP dispatched with Occupational therapist / Mental Health worker for Health Promotion, education and referrals to low acuity calls such as a fall / mobility issues or Mental Health needs.





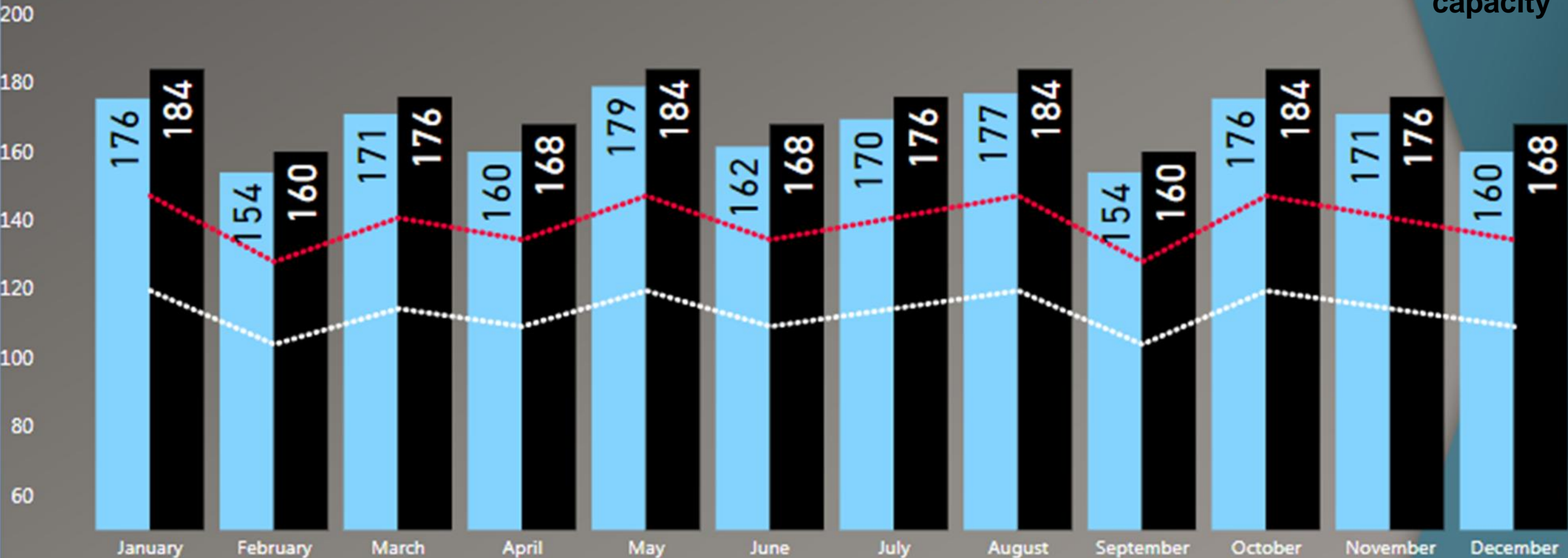
HPCP: Palliative Care Provision

Sudbury Patients on a Palliative caseload who presented to the Emergency Department



HPCP Workload Vs Shift Hours

● HPCP Current Workload ● HPCP Max Workload ● 65% Capacity ● 80% Capacity



96%
workload
capacity



Thank You

