Hearts as a Quality Improvement Platform. Using score cards: Implementing hypertension control drivers in Primary Health Care settings

Jeff Brettler, MD

HEARTS and Surveillance Training Workshop
Saint Lucia
May 2023

HEARTS EN LAS AMÉRICAS

OPS Organización Panamericana de la Salud | Organización Mundial de la Salud Oficina Regional para las Américas

OPS 120 Aniversario

Agenda

- HEARTS in the Americas Innovation Group
- HEARTS Process Maturity Index
- HEARTS Performance Index
- Implementation and Audit – KP and HEARTS Examples

HEARTS in the Americas Innovation Group:

Multidisciplinary - nursing, primary care, specialty care (cardiology, nephrology, research); ministries of health, PAHO, health facility leads

Participants from 12 countries:

- Teresa Aumala, MD (Ecuador)
- Allana Best, MD (Trinidad and Tobago)
- Shana Cyr, MD (Saint Lucia)
- Modesta Haughton, RN, MPH (Panamá)
- Mirna Jiménez de la Rosa, MD (República Dominicana)
- Taraleen Malcolm, PhD (Trinidad and Tobago)
- Javier Maldonado, MD, MPH (Colombia)
- Carolina Neira Ojeda, RN, MBA (Chile)
- Vivian Perez, MD (Perú)
- Gonzalo Rodríguez, MD (Argentina)
- Yamilé Valdés González, MD, MSc (Cuba)
- Peter Wood, BAppSc MSc (Canada)
- Eric Zuñiga, MD (Chile)

HEARTS in the Americas Innovation Group

- Met every 2 weeks from May 2020 – May 2021
- Focused on Team-Based Care and Systems for Monitoring modules with emphasis on identification of key drivers for BP control
- Studied best practices from high-performing systems including Kaiser and others (CDC 2020 Hypertension Control Change Package)

HEARTS
IN THE AMERICAS

THE LANCET Regional Health
Americas

Drivers and scorecards to improve hypertension control in primary care practice: Recommendations from the HEARTS in the Americas Innovation Group

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ARTICLES | VOLUME 9, 100223, MAY 01, 2022

Pan American Health Organization
World Health Organization Americas
PAHO

HEARTS IN THE AMERICAS

Key Drivers Identified

Domain	Key Driver	Recommendations
Diagnosis	BP measurement accuracy	Training, standardized protocol, validated monitors
	CVD risk assessment	Assess in all patients; statins and ASA as appropriate
Treatment	Standardized treatment protocol	Specific medication with doses, use of FDC
	Treatment intensification	Initiate treatment after diagnosis; titrate when BP above goal
Continuity of care and follow-up	Continuity of care and follow-up	F/u within 4 weeks if uncontrolled; 3-6 months if controlled
Delivery system	Team-based care and task shifting	BP measurement, f/u BP visit, medication titration
	Medication refill frequency	3-month refills
System for performance evaluation	System for performance evaluation with feedback	Monthly performance feedback

Diagnosis

Hypertension control drivers		Recommendations for implementation	Goals	Score (points) Total = 21
Diagnosis	1. BP measurement accuracy			3
		1.a Establish BP measurement training every six months for all staff involved with BP measurement.	≥ 90%	1
		2.a Institute standardized BP measurement protocols, including patient preparation and repeated BP measurement if the first BP reading is elevated.	≥ 90%	1
		3.a Implement the exclusive use of validated automatic BPMD for clinical practice.	≥ 90%	1
	2. CVD risk assessment			2
		2.a Assess the CVD risk in all patients with hypertension to guide BP goal and frequency of follow-up.	≥ 80%	1
		2.b Use of combination BP medication, statin, aspirin (as needed) in high CVD risk patients, including those with Diabetes and CKD.	≥ 80%	1

Treatment

Hypertension control drivers		Recommendations for implementation	Goals	Score (points) Total = 21
Treatment	3. Standardized Treatment Protocol			2
		3.a Standardized Treatment Protocol with specific medications and doses.	Implemented	1
		3.b Established protocol using FDC medication.	Implemented	1
	4. Treatment intensification			2
		4.a Initiate pharmacological treatment immediately after the diagnosis of HTN is confirmed.	≥ 70%	1
		4.b Medication must be added or intensified as per standard protocol if BP > 140/90 or SBP ≥130 mmHg for high-risk patients .	≥ 80%	1

Continuity of Care and Follow-up

Hypertension control drivers		Recommendations for implementation	Goals	Score (points) Total = 21
Continuity of care and follow-up	5. Continuity of care and follow-up			3
		5.a Follow-up of elevated BP within 2-4 weeks if not controlled.	≥ 80%	1
		5.b BP visit within six months for all patients with hypertension stable and well-controlled.	≥ 80%	1
		5.c BP visit within 3 months for all patients with hypertension and high CVD risk, including diabetes and CKD.	≥ 80%	1

Delivery System

Hypertension control drivers		Recommendations for implementation	Goals	Score (points) Total = 21
Delivery System	6. Team-based care and task-shifting			3
		6.a BP measurement by NPHW appropriately trained and certified.	≥ 90%	1
		6.b Follow-up BP visits with NPHW under supervision and guided by protocol.	≥ 70%	1
		6.c Medication titration by a NPHW under supervision and guided by protocol.	≥ 70%	1
	7. Medication refill frequency			3
		7.a Implement standard 3-month refill intervals for all BP medication prescriptions for patients stable and controlled.	Three months refill	3 (2 month refill = 2; monthly refill = 1)

System for Performance Evaluation

Hypertension control drivers		Recommendations for implementation	Goals	Score (points) Total = 21
				3
System for performance evaluation	8. System for performance evaluation with feedback	8.a Implement monthly performance evaluation with feedback to facilitate tracking, prevent substantial deviations and promote timely program corrections. (Bi-monthly evaluation and feedback can be acceptable for small facilities, and evaluation every three months is the minimum acceptable).	Monthly feedback	3 (Bi-monthly = 2; every three months = 1)

Hypertension control drivers		Recommendations	Goals	Score (points) Total = 21
Diagnosis	1. BP measurement accuracy			3
		1.a Establish BP measurement training every six months for all staff involved with BP measurement.	≥ 90%	1
		2.a Institute standardized BP measurement protocols, including patient preparation and repeated BP measurement if the first BP reading is elevated.	≥ 90%	1
		3.a Implement the exclusive use of validated automatic BPMD for clinical practice.	≥ 90%	1
	2. CVD risk assessment			2
		2.a Assess the CVD risk in all patients with hypertension to guide BP goal and frequency of follow-up.	≥ 80%	1
		2.b Use of combination BP medication, statin, aspirin (as needed) in high CVD risk patients, including those with Diabetes and CKD.	≥ 80%	1
Treatment	3. Standardized Treatment Protocol			2
		3.a Standardized Treatment Protocol with specific medications and doses	Implemented	1
		3.b Established protocol using FDC medication	Implemented	1
	4. Treatment intensification			2
		4.a Initiate pharmacological treatment immediately after the diagnosis of HTN is confirmed.	≥ 70%	1
		4.b Medication must be added or intensified as per standard protocol if BP ≥ 140/90 or SBP ≥130 mmHg for high-risk patients	≥ 80%	1
Continuity of care and follow-up	5. Continuity of care and follow-up			3
		5.a 5.a Follow-up of elevated BP within 2-4 weeks if not controlled	≥ 80%	1
		5.b BP visit within six months for all patients with hypertension stable and well-controlled.	≥ 80%	1
		5.c BP visit within 3 months for all patients with hypertension and high CVD risk, including diabetes and CKD	≥ 80%	1
Delivery System	6. Team-based care and task-shifting			3
		6.a BP measurement by NPHW appropriately trained and certified	≥ 90%	1
		6.b Follow-up BP visits with NPHW under supervision and guided by protocol	≥ 70%	1
		6.c Medication titration by a NPWH under supervision and guided by protocol.	≥ 70%	1
	7. Medication refill frequency			3
		7.a Implement standard 3-month refill intervals for all BP medication prescriptions for patients stable and controlled	Three months refill	3 (2 month refill = 2; monthly refill = 1)
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		8.a Implement monthly performance evaluation with feedback to facilitate tracking, prevent substantial deviations and promote timely program corrections. (Bi-monthly evaluation and feedback can be acceptable for small facilities, and evaluation every three months is the minimum acceptable).	Monthly feedback	3 (Bi-monthly = 2; every three months = 1)

HEARTS Process Maturity Index (1-21)

Level 1	Level 2	Level 3	Level 4	Level 5
< 7	7-10	11-14	15-18	19-21

HEARTS Performance Index

Indicators	Level of performance, goal, and scores				
	Poor (<50%)	Incipient (≥ 50%)	On Track (≥ 60%)	High (≥ 70%)	Excellent (≥ 80%)
1. Coverage	0	1	2	3	4
2. Control (<140/90 mmHg) among all hypertensives treated	0	1	2	3	4
3. Control (<130 mmHg SBP) among all hypertensives-high CVD risk treated	0	1	2	3	4

HEARTS Performance Index

NOT IMPLEMENTED	INCIPIENT	ON TRACK	HIGH	EXCELLENT
<0.8	0.9 – 1.6	1.7 – 2.4	2.5 – 3.2	3.3 – 4.0

1. BP measurement accuracy

2. CVD risk assessment

3. Standardized Treatment Protocol

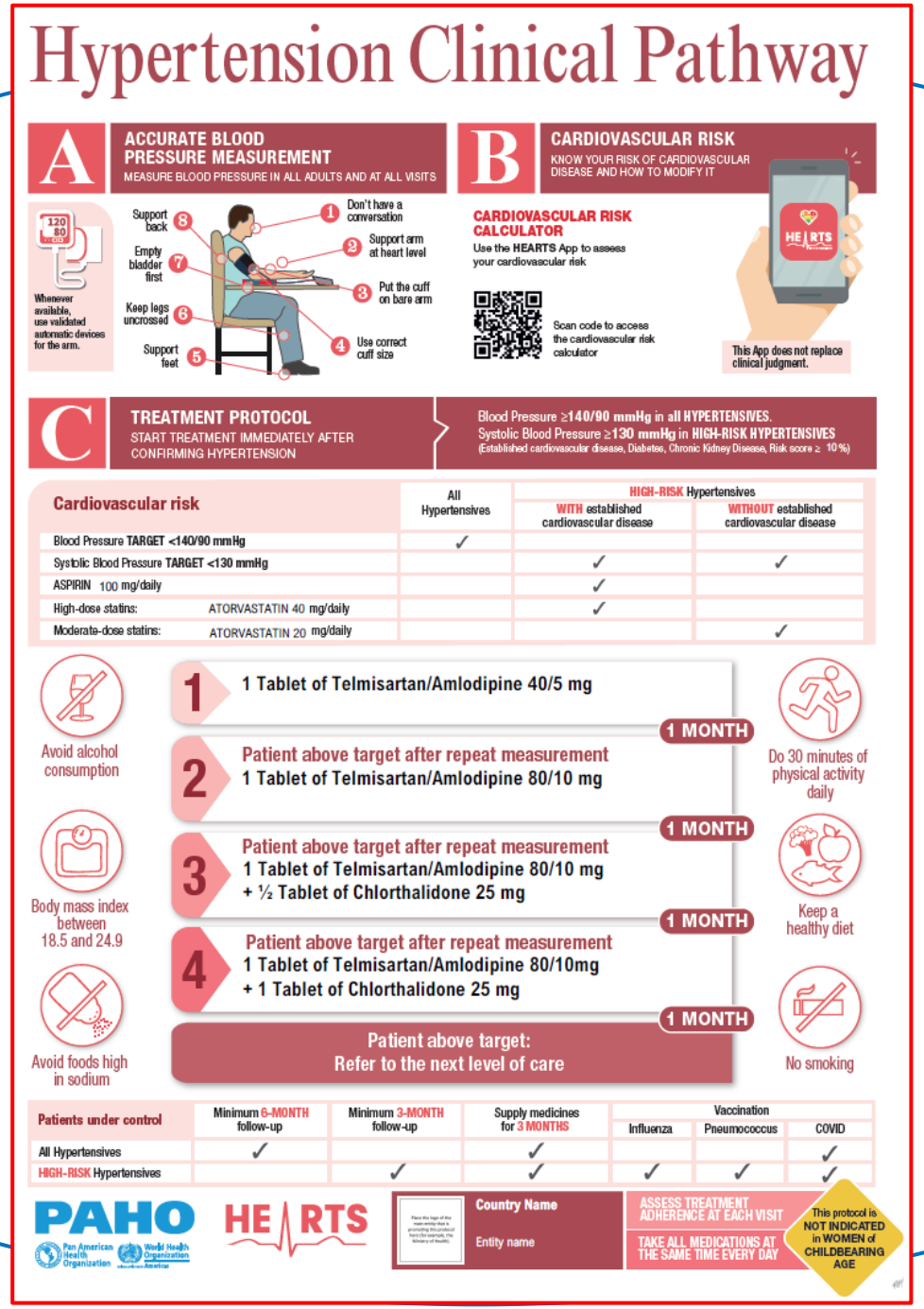
4. Treatment intensification

5. Continuity of care and follow-up

6. Team-based care and task-shifting

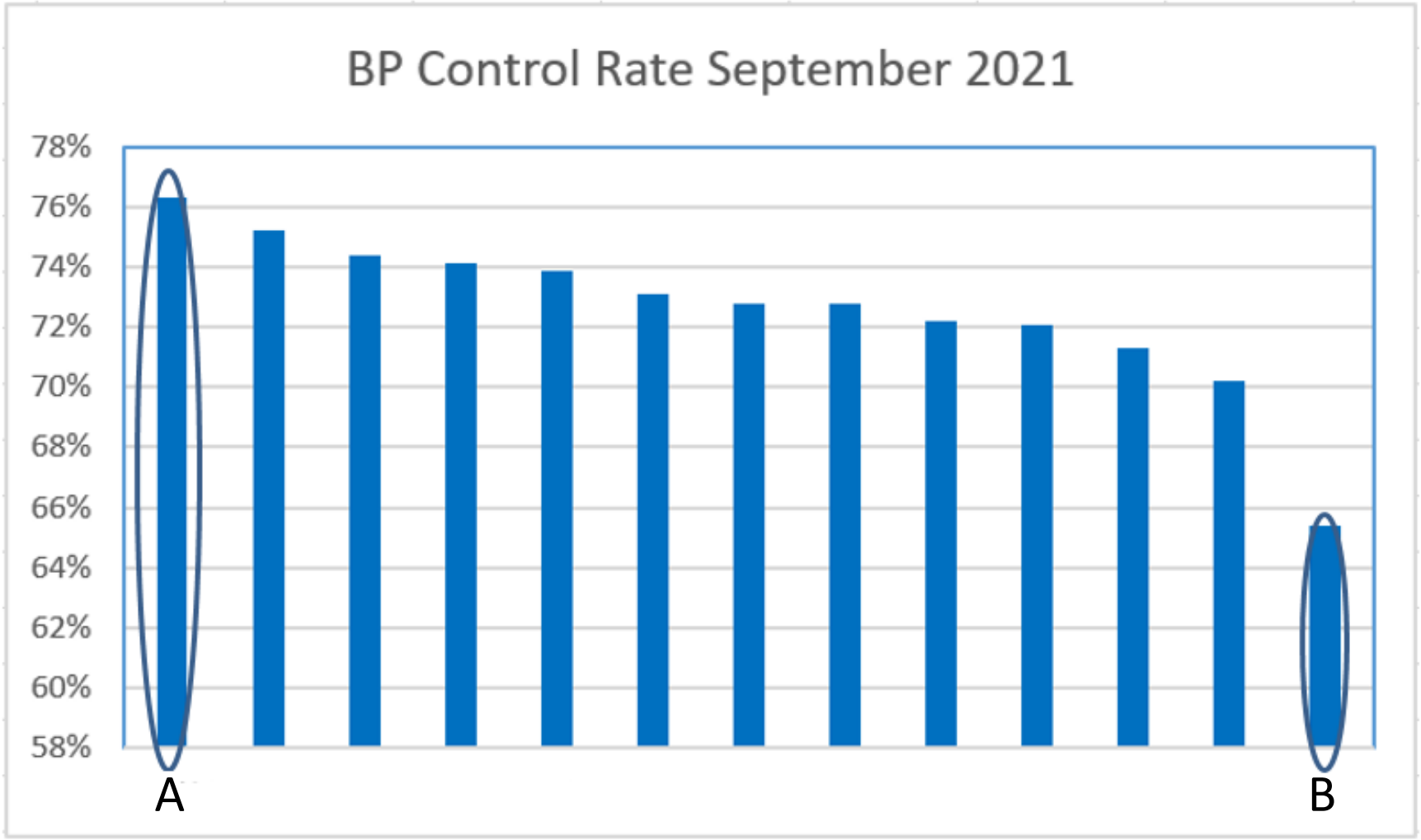
7. Medication refill frequency

8. System for performance evaluation with feedback



Rosende A, et al. HEARTS in the Americas appraisal checklist and clinical pathway for comprehensive hypertension management in primary care. Rev Panam Salud Publica. 2022;46:e125.

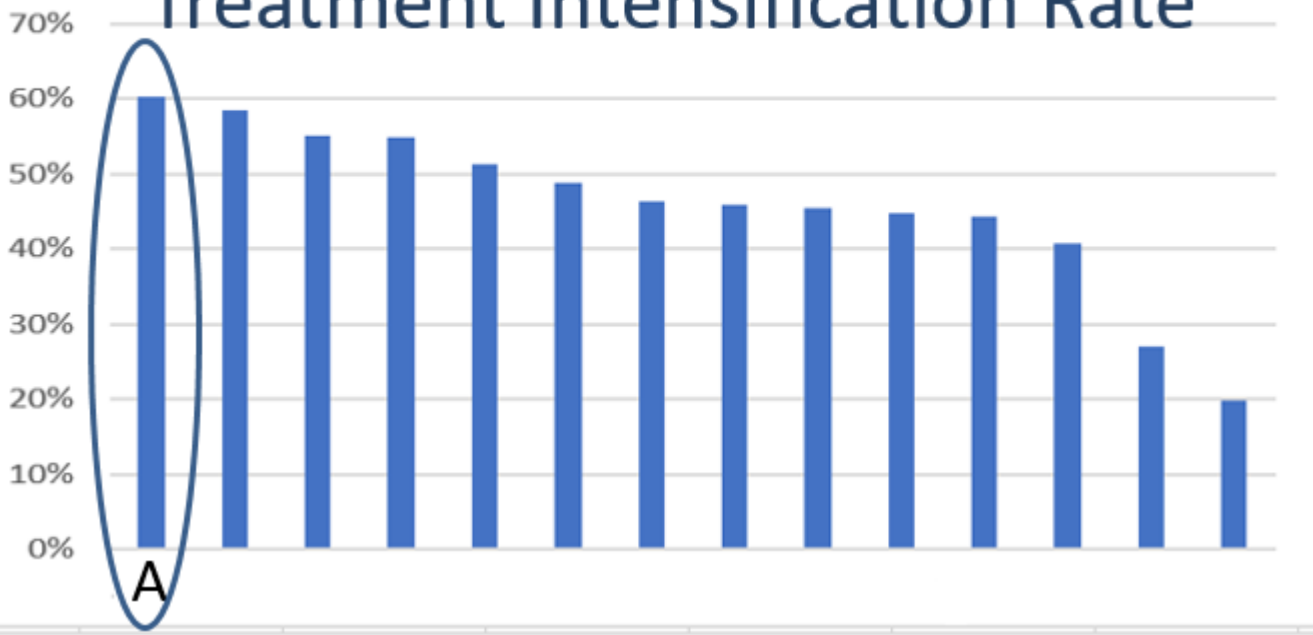
Kaiser SCAL Example



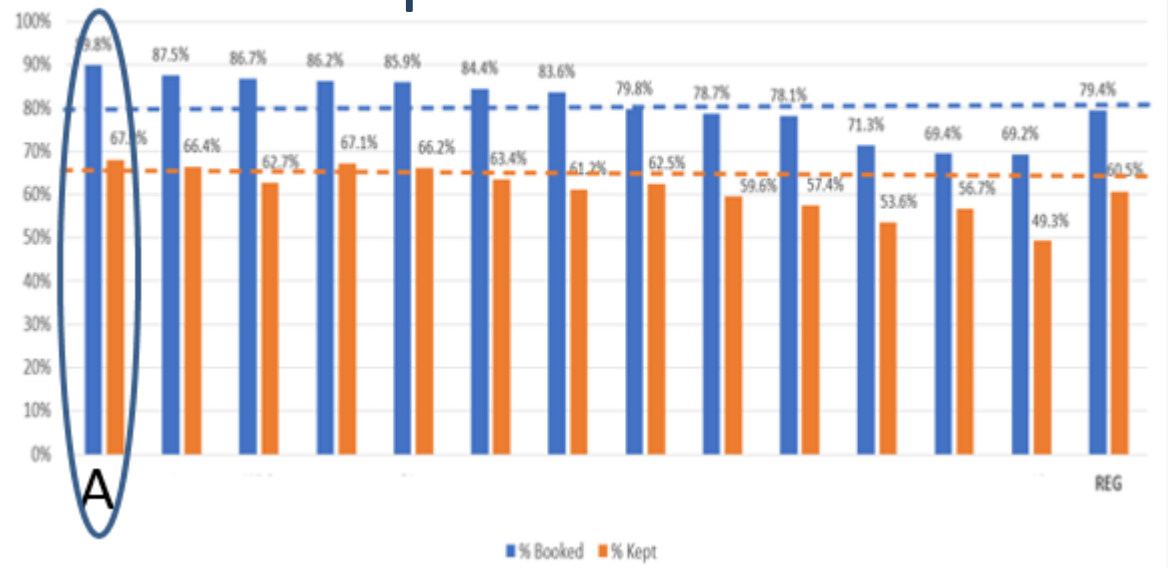
KP SCAL internal data

Repeat BP

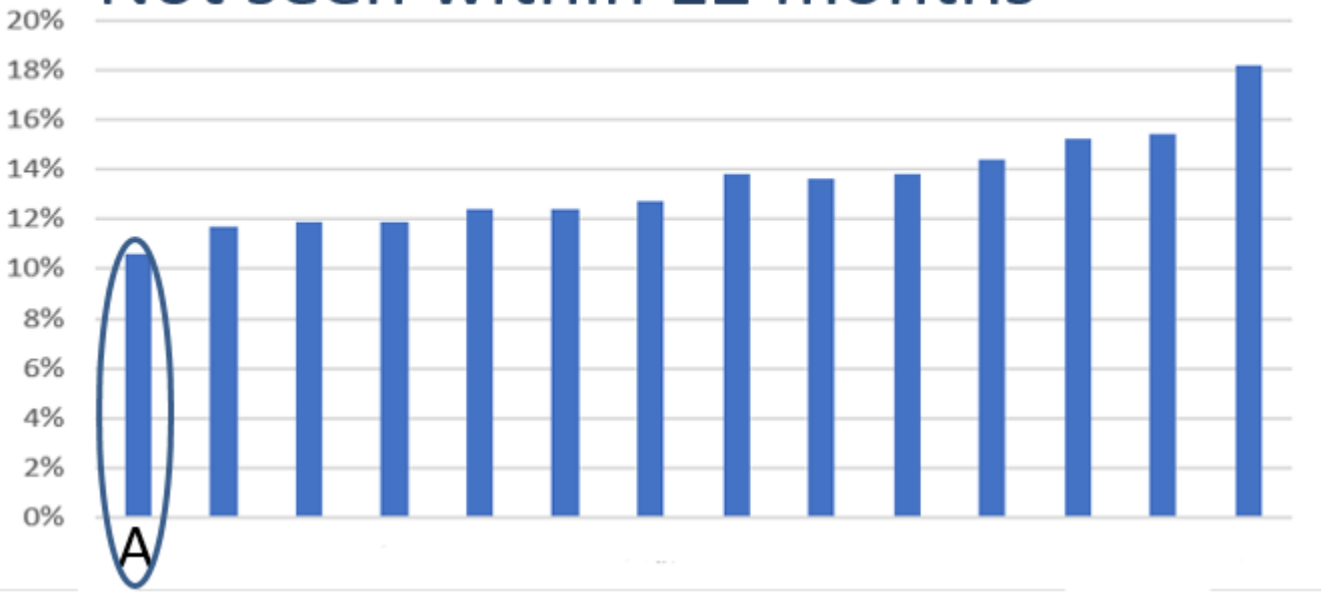
Treatment Intensification Rate



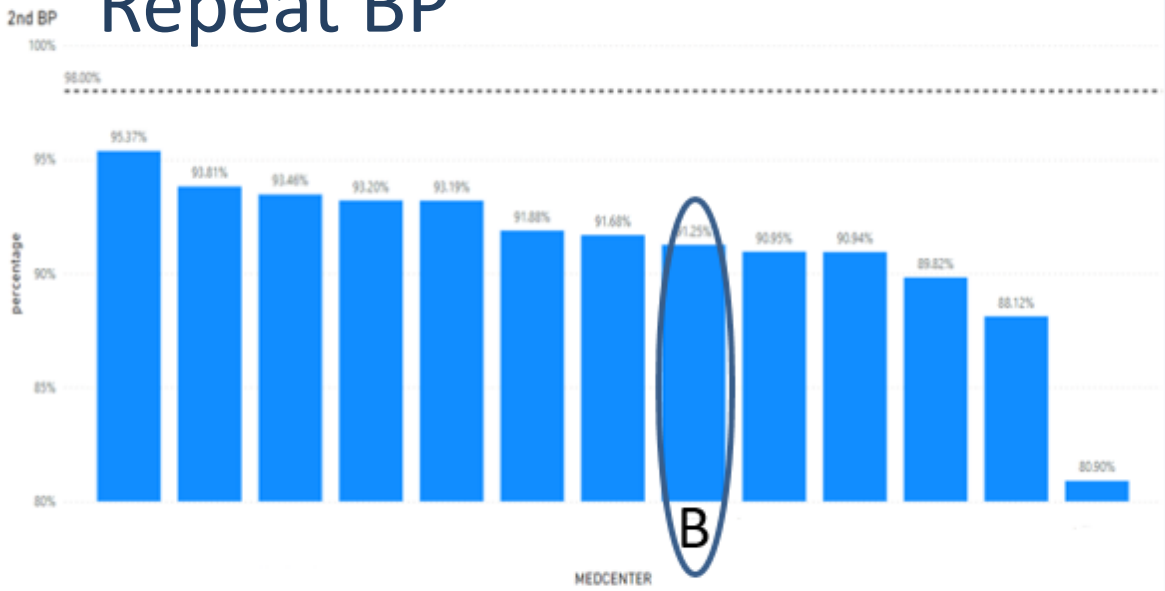
Follow-up after elevated BP



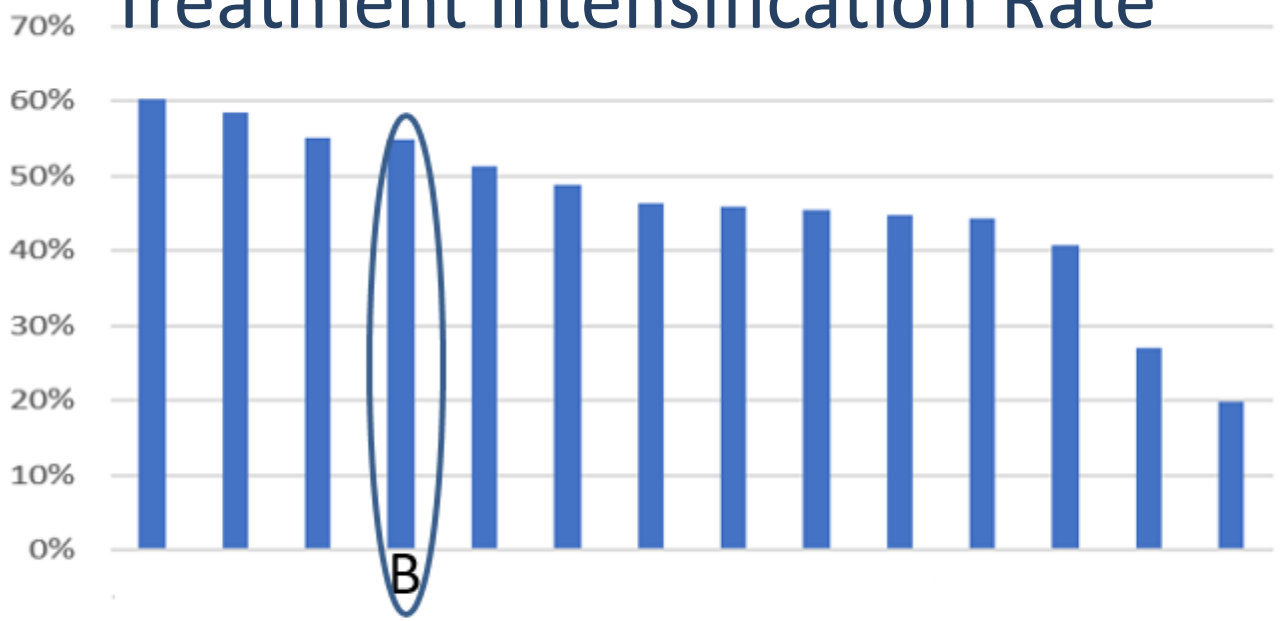
Not seen within 12 months



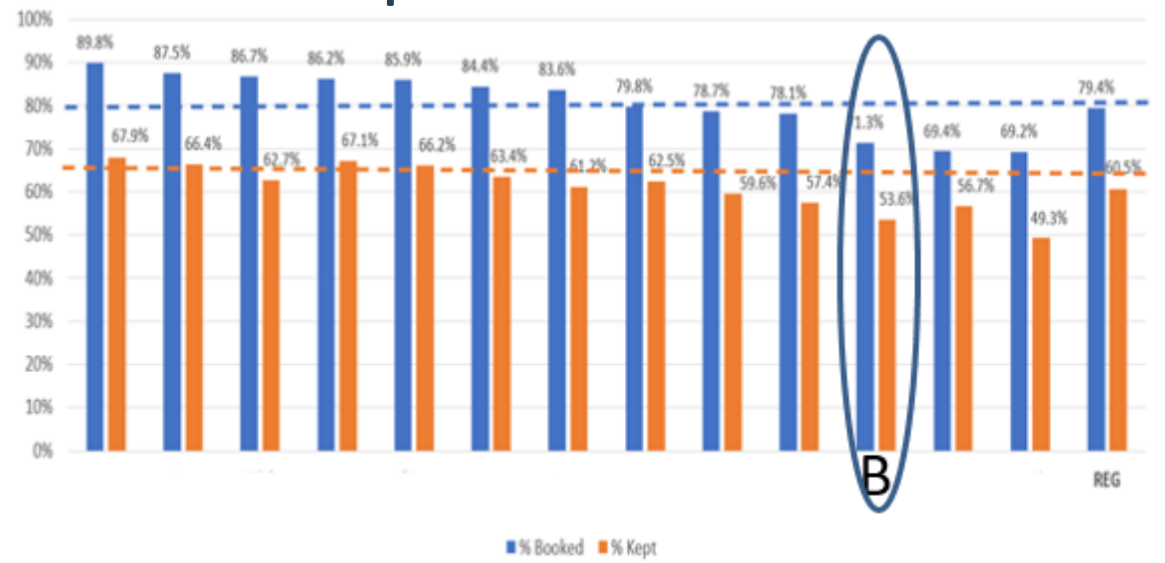
Repeat BP



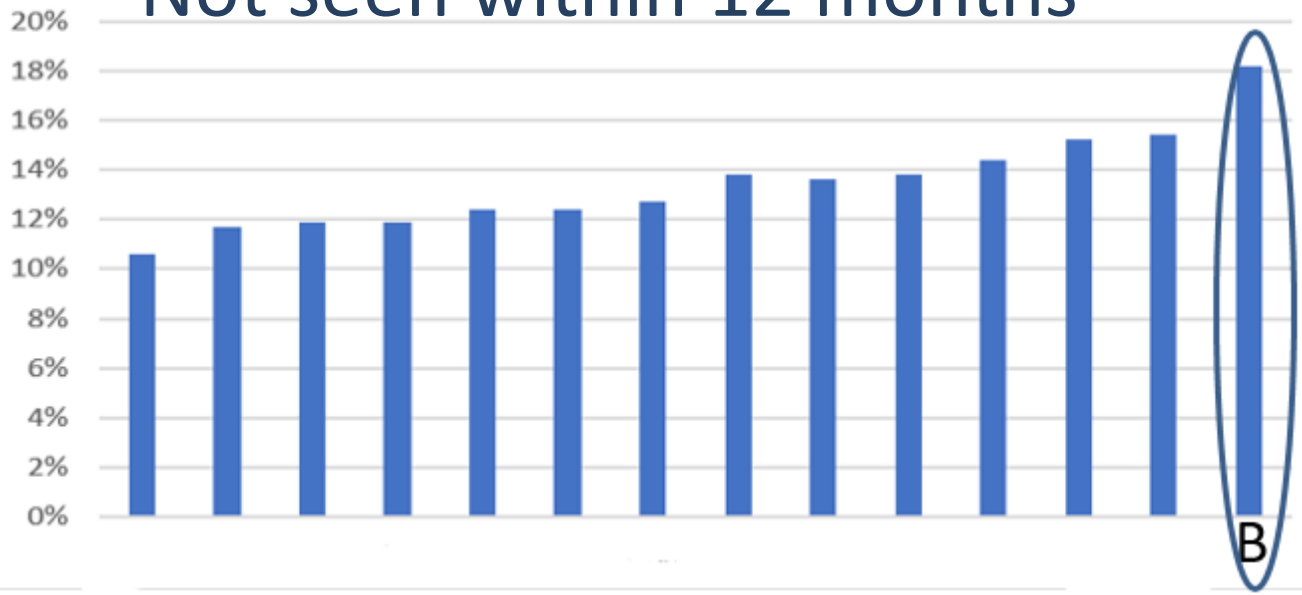
Treatment Intensification Rate



Follow-up after elevated BP



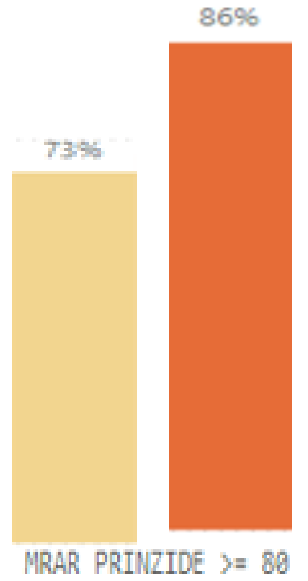
Not seen within 12 months



Process Measures and Health Equity - KP

Kaiser example: current Black-White disparity gap in control rate about 2%

- No difference in clinic visitation, treatment intensification or follow-up after elevated BP.
- However, adherence lower in all medication classes – led to focus and training on communication skills for providers.



Medication adherence in Black vs White hypertensives

QI Lessons Learned

- Identify which process measures should be produced: key drivers
- Define what level the reports should be produced – system, clinic, provider: all of the above
- Define frequency: ideally monthly, especially when implementing a new process.
- Establish leadership and communication structure

KP Quality Improvement/Performance Feedback

Performance feedback allows for cycles of continuous quality improvement. QI efforts are bidirectional:

- Regional leadership disseminates best practices to local areas, facilitates implementation with workflows and monitoring.
- Local clinics and centers innovate and create best practices which are then disseminated to rest of clinics through regional structure.

KP SCAL Hypertension Leadership Structure

- Monthly performance reporting to all medical centers – overall performance, disparity efforts, process measures.
- Performance dialogues every six months with every medical center – review performance, identify best practices, coach areas of opportunity.
- Annual meeting of champions from each center with formal presentations on key initiatives, potential best practices.

HEARTS Initiative at Antofagasta

- September – December 2018:
  - HEARTS Initiative presentation to regional authorities.
  - PAHO Commission and Chilean Health Ministry Authorities visit. (CESFAM Corvallis, Antofagasta).
  - Local Algorithm Proposal (Losartan + Amlodipine + HCTZ).

- January 2019 - 2022:
  - Local treatment algorithm (national algorithm since November 2019).
  - Regional-National training participation.

- March – June 2022:
  - HEARTS Initiative Implementation Maturity assessment - Antofagasta, Chile.

EVALUATION DATA

- Start date: March 25, 2022
- End date: June 29, 2022
- Participants:
  - EU. Alison Mundaca Cortes, USA. EU Carolina Sepulveda Contreras, Nta. Bárbara Vásquez Melipil, Dr. Eric Zúñiga Saravia. MD.
  - Antofagasta Health Service workers.
- Method:
  - Clinical records reviews by participants (electronic and paper data) corresponding to PSCV admissions due to arterial hypertension diagnosis between July 1st - December 31st, 2021.
  - Health Centers visit by – Attention Office Inspection.
  - Health personnel interview (medical doctors and those in charge of Cardiovascular Health Program, Nurses, Nutritionists, Pharmaceutical Chemists, nurse technicians (TENS), Health Centers Management Team).

DATA

Health Centers visited: 22

Records – Electronic Records received: 2173

Files – Electronic Records included: 919

Less than 50%

Between 50% and threshold

Accepted threshold score

HEARTS MATURITY INDEX SCORECARD		Antofagasta									
RECOMMENDATIONS	GOAL	Cesfam Corvallis	Cesfam East	Cesfam South Center	Cecosf Coviefi	Cesfam JP II	Cesfam North	Cesfam Valdivieso	Cesfam Rendic	Cesfam Maria Cristina Rojas	Cecosf La Chimba
1.a Establishes training every 6 months in BP measurement for all personnel involved in BP measurement	≥90%	71%	0%	0%	fifty%	0%	100%	0%	100%	17%	0%
1.b Establishes a standardized blood pressure measurement protocol, which includes preparing the patient and repeating the BP measurement if the first measurement is elevated.	≥90%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
1.c Implements the exclusive use of automatic devices validated for clinical use.	≥90%	0%	100%	66%	66%	78%	80%	66%	15 %	28%	100%
2.a Estimates the CV Risk in all patients with hypertension to guide the goals of treatment and frequency of follow-up.	≥80%	95%	19%	0%	51%	23%	16%	60%	7%	75%	28%
2.b Uses combined anti-HTN therapy, statins and aspirin (if necessary) in patients with high CV risk, including those with DM and CKD	≥80%	50 %	24%	3. 4%	18%	23%	67%	40%	38%	fifty%	14%
3.a Implements a standardized treatment protocol with medications and specific doses.	Implemented	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
3.b Establish a protocol using a fixed-dose combination.	Implemented	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
4.a Pharmacological treatment begins immediately after the diagnosis of hypertension is confirmed.	≥70%	97%	88%	92%	100%	92%	94%	90%	84%	88%	100%
4.b Medications are added or intensified according to protocol if BP > 140/90 or if SBP > 130 mmHg in patients with high CV risk.	≥80%	21 %	12%	8%	0%	18%	31%	22%	23%	6%	0%
5.a Follow-up of elevated BP every 2-4 weeks if it is not controlled.	≥80%	61%	44%	33%	36%	3. 4%	62%	63%	55%	56%	28%
5.b BP control every 6 months in stable and well-controlled hypertensive patients.	≥80%	68%	81%	76%	44%	53%	93%	100%	100%	67%	50 %
5.c BP control every 3 months in hypertensive patients with high CV risk, including DM and CKD patients.	≥80%	44%	47%	53%	52%	53%	71%	75%	75%	84%	100%
6.a BP measurement by adequately trained and certified non-medical personnel.	≥90%	66%	76%	52%	59%	46%	64%	90%	69%	56%	71%
6.b BP follow-up control by non-medical personnel under supervision and guided by protocol	≥70%	59%	38%	33%	33%	54%	58%	70%	69%	56%	0%
6.c Medication titration by non-medical personnel under supervision and guided by protocol.	≥70%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
7.a Implements a standardized refill at 3-month intervals of all antihypertensives in stable and controlled patients.	1 - 3 month refill	MONTHLY	MONTHLY	MONTHLY	MONTHLY	MONTHLY	MONTHLY	MONTHLY	MONTHLY	MONTHLY	MONTHLY
8.a Implements a monthly performance evaluation with feedback to facilitate monitoring, prevent major deviations, and promote timely program corrections. Evaluation every two months may be acceptable for smaller centers and evaluation every 3 months is the minimum acceptable.	monthly comments	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%
		3	4	3	two	two	4	5	4	3	4

HEARTS IN THE AMERICAS

HEARTS MATURITY INDEX SCORECARD		
RECOMMENDATIONS	**GOAL**	**Regional result**
1.a Establishes training every 6 months in BP measurement for all personnel involved in BP measurement	≥90%	21 %
1.b Establishes a standardized blood pressure measurement protocol, which includes preparing the patient and repeating the BP measurement if the first measurement is elevated.	≥90%	0%
1.c Implements the exclusive use of automatic devices validated for clinical use.	≥90%	41%
2.a Estimates the CV Risk in all patients with hypertension to guide the goals of treatment and frequency of follow-up.	≥80%	48%
2.b Uses combined anti-HTN therapy, statins and aspirin (if necessary) in patients with high CV risk, including those with DM and CKD	≥80%	26%
3.a Implements a standardized treatment protocol with medications and specific doses.	Implemented	0%
3.b Establish a protocol using a fixed-dose combination.	Implemented	0%
4.a Pharmacological treatment begins immediately after the diagnosis of hypertension is confirmed.	≥70%	84%
4.b Medications are added or intensified according to protocol if BP > 140/90 or if SBP > 130 mmHg in patients with high CV risk.	≥80%	9%

HEARTS IN THE AMERICAS

HEARTS MATURITY INDEX SCORECARD		
RECOMMENDATIONS	**GOAL**	**Regional result**
5.a Follow-up of elevated BP every 2-4 weeks if it is not controlled.	≥80%	37%
5.b BP control every 6 months in stable and well-controlled hypertensive patients.	≥80%	67%
5.c BP control every 3 months in hypertensive patients with high CV risk, including DM and CKD patients.	≥80%	53%
6.a BP measurement by adequately trained and certified non-medical personnel.	≥90%	47%
6.b BP follow-up control by non-medical personnel under supervision and guided by protocol	≥70%	39%
6.c Medication titration by non-medical personnel under supervision and guided by protocol.	≥70%	0%
7.a Implements a standardized refill at 3-month intervals of all antihypertensives in stable and controlled patients.	Refill 1-3 months	Monthly
8.a Implements a monthly performance evaluation with feedback to facilitate monitoring, prevent major deviations, and promote timely program corrections. Evaluation every two months may be acceptable for smaller centers and evaluation every 3 months is the minimum acceptable.	monthly comments	4%

Conclusions

- HEARTS Initiative implementation at Antofagasta Region is at **INCIPIENT Level.**
- **2 out of 10** hypertensive patients are actually compensated.
- **IMPROVEMENT PLAN** at each Primary Care Center, as an **URGENT measure** is required to be implemented.

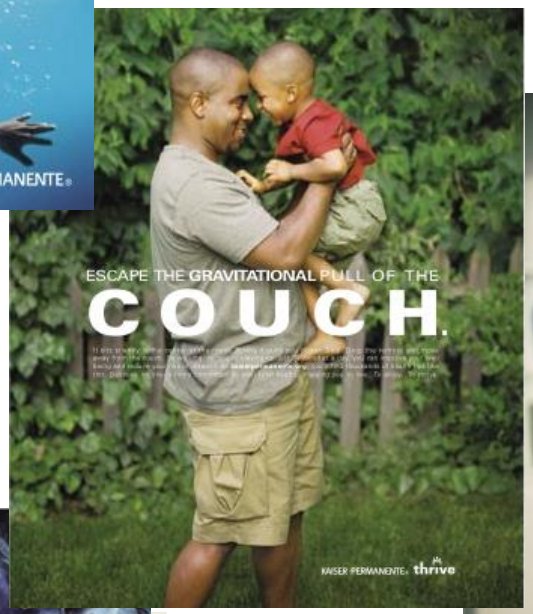
- Each center uses the scorecard as an evaluation and management tool.

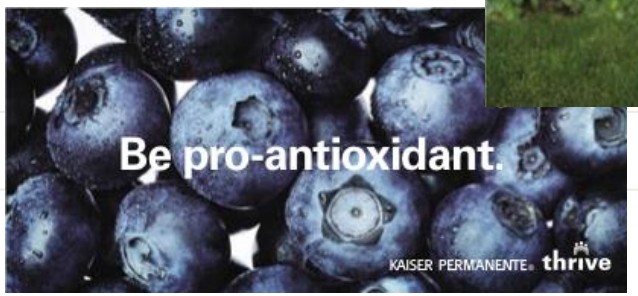
Conclusions

- Key drivers/process measures are critical to improve outcomes.
- Without data, there is no way to know if implementation and continued maintenance of drivers are successful.
- Develop QI structure and culture at level of primary health center.
- Provide monthly data, down to level of individual provider.

HEARTS
IN THE AMERICAS

Thank you!





Questions:
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