



Health Based Allocation Model

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Excellent Care for All

Information

Health Care Professionals

Message

Excellent Care for All Act

Amendments to 965 Under PHA

Regulation Under

Medicare and Care

Medicare Payment

Health Quality Council

Government

Excellent Care for All

Patient-Based Payment

The Patient-Based Payment strategy will shift Ontario hospital funding to a system that creates the right financial environment for providers to deliver high quality, evidence-based care.

Currently, Ontario’s hospitals receive most of their funding through fixed global budgets that are largely determined by historical factors. In many cases, this funding does not reflect the populations that hospitals now serve or the types of patients that they actually provide care for. Global budget incentives can often work against hospitals improving the quality and efficiency of services they deliver.

Patient-based payment builds on Ontario’s successful ‘money follows the patient’ Wait Times Strategy funding approach by clearly linking hospitals’ funding with the level of services and quality of care that they deliver. It will ensure that fast growing areas of the province receive an appropriate share of funding to meet their needs, and that funding reflects the best clinical evidence.

Funding Policy

Patient-based payment uses Ontario’s Health-based Allocation Model (HBAM) to determine the expected costs of delivering high quality, evidence-based care. HBAM is a sophisticated tool that draws on years of clinical and demographic information collected across the province in order to model the expected demand and expenditures for health services. HBAM accounts for differences across communities in age, socioeconomic status and existing health conditions. The model develops a cost profile for every patient based on their clinical diagnosis, type of treatment received and the characteristics of the hospital they received their care from.

The new funding policy will support equitable access to high quality care in all communities. It will recognize hospitals with unique roles, such as academic health science centres and those serving small and rural communities. Patient-based payment is a strategy to strengthen publicly-funded, not-for-profit hospital care in Ontario, and will not be used in any way to introduce for-profit delivery of hospital services.

HBAM has been used to date to inform

- Funding initiatives such as growth and wait times
- Aging at Home funding
- Capacity Planning
- Long Term Forecasts
- Market share reconfigurations
- Efficiency Assessment
- LHIN Blueprint and Strategic Planning
- Business Case Development

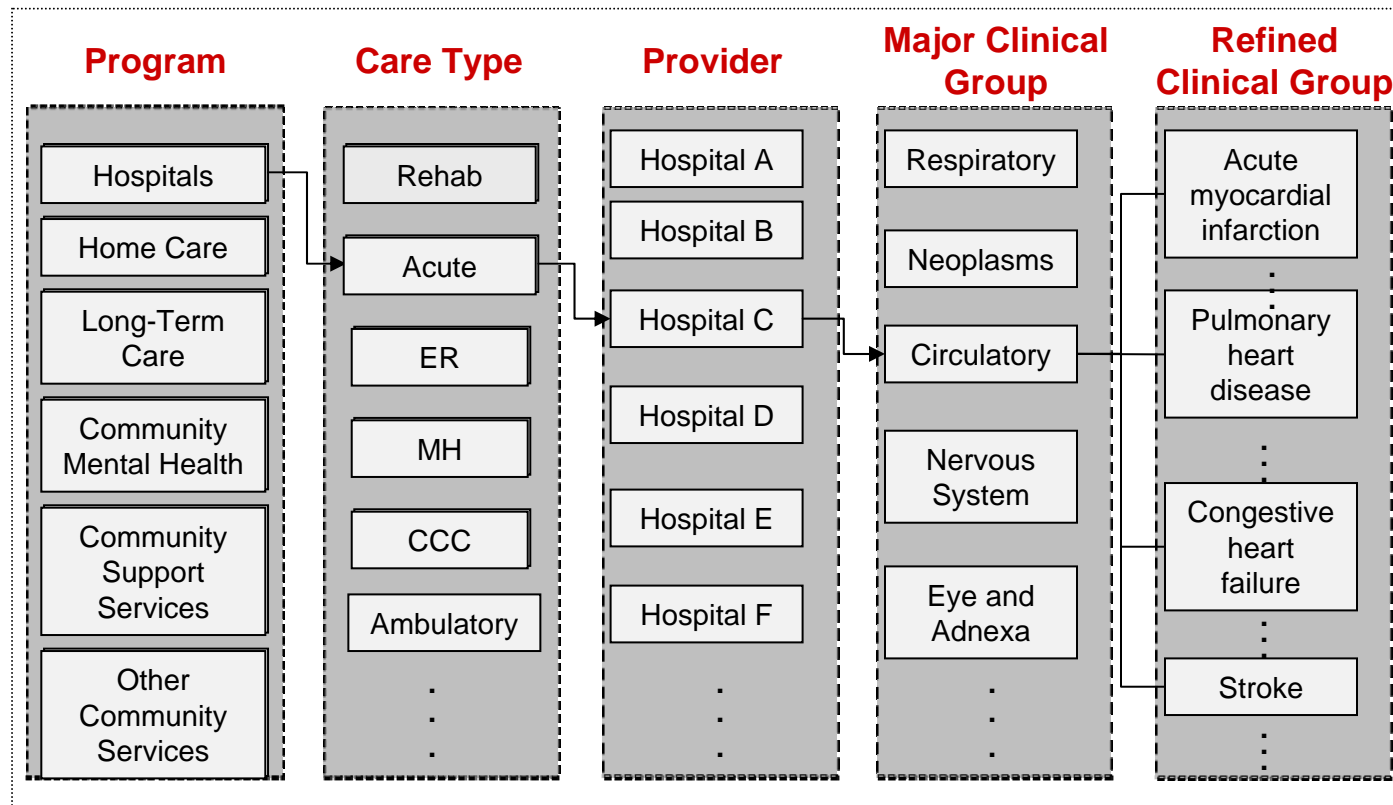
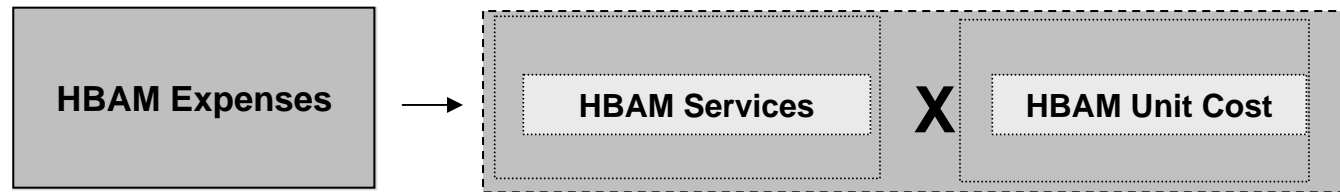
LHINs and Ontario Hospital Association (OHA) are requesting HBAM results be used to inform the next round of Hospital Service Accountability Agreements (HSAAs) in 2011/12

HBAM will be used to support the development of and model implementation strategies under the forthcoming patient-based payment (PbP) stream of the Excellent Care for All Strategy

Ministry has government approval to use HBAM as a funding tool

*More information at **www.mohltcfim.com***

- The HBAM method
- How is HBAM being used ?
- Strategic Questions



LHIN differences between current and HBAM expenses can be analyzed by program-care type-HSP from a unit cost perspective, and additionally, by major and refined clinical group from a service perspective



Step 1. Construct Electronic Health Profile for Each Ontario Resident

Step 2. Assign Each Person to a Refined Clinical Group

Step 3. Assign Resource Weight to each Person based on Refined Clinical Group Age Group, Socioeconomic Status and Rural Group

Step 4. Calculate Expected CD/CSD specific Resource Weights per person within each Clinical – Age-Gender Group and Multiply by Projected CD/CSD population

Step 5. For each CD/CSD, allocate Share of Forecasted Resource Weights to Providers by Clinical-Age-Gender Group

Step 6. Apply Provider Expected Cost Per Weighted Case to Estimate Total Costs

Step 7. Sum Estimated Total Costs for Providers Within Each LHIN

Step 8. Compile HBAM Components to Calculate Total LHIN Expected Costs

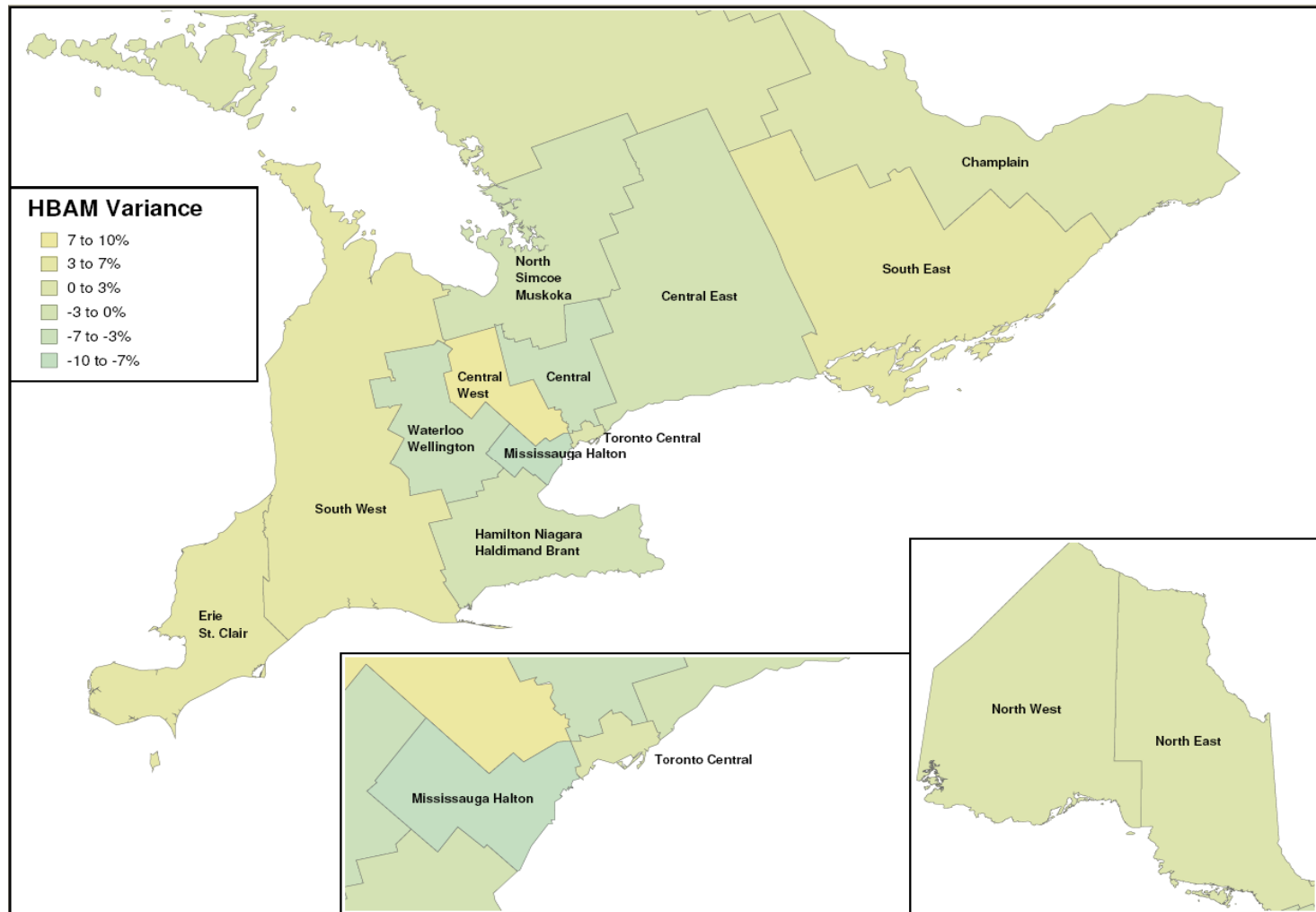
Step 9. Expected Costs Determine LHIN's Fair Share of Funding

Acute Refined Clinical Group	Rank	Estimated Annual Resource Use					
		<45	45-54	55-64	65-74	75-84	85+
001 Craniotomy Procedures	25	0.11	0.16	0.18	0.17	0.19	0.22
003 Spinal Procedures	16	0.15	0.29	0.46	0.53	0.56	0.84
004 Extracranial Vascular Procedures	83	0.09	0.02	0.01	0.02	0.04	0.02
005 Ventricular Shunt Revision	36	0.03	0.11	0.10	0.09	0.11	0.08
006 Carpal Tunnel Release And Specified Nervous System Procedures	36	0.03	0.11	0.10	0.09	0.11	0.08
007 Peripheral, Cranial Nerve And Other Neurological Procedures	36	0.03	0.11	0.10	0.09	0.11	0.08
125 Acute bronchitis	171	0.0001	0.002	0.004	0.004	0.01	0.01
127.1 Tracheobronchitis	171	0.0001	0.002	0.004	0.004	0.01	0.01
128 Asthma	171	0.0001	0.002	0.004	0.004	0.01	0.01
130.1 Penumothorax	171	0.0001	0.002	0.004	0.004	0.01	0.01
134.1 Other upper respiratory disease	171	0.0001	0.002	0.004	0.004	0.01	0.01
010 Immunizations and screening for infectious disease	131	0.0005	0.01	0.002	0.01	0.01	0.01
133.3 Other Lung Disorders	131	0.0005	0.01	0.002	0.01	0.01	0.01
134.4 Abnormalities of breathing	131	0.0005	0.01	0.00	0.01	0.01	0.01
650 Tracheostomy And Gastrostomy Procedures For Trauma	2	0.42	0.42	0.51	0.17	0.15	0.09
651 Intracranial Procedures With Spinal Procedures For Trauma	5	0.43	0.61	0.62	0.44	0.21	0.31
652 Intracranial Procedures With Femur Procedures For Trauma	5	0.43	0.61	0.62	0.44	0.21	0.31
653 Intracranial Or Femur Procedures With Thoraco-Abdominal Procedures For Trauma	5	0.43	0.61	0.62	0.44	0.21	0.31
654 Intracranial Procedures W Wound Debridement Or Lower Extremity Proc For Trauma	5	0.43	0.61	0.62	0.44	0.21	0.31
655 Spinal Procedures With Femur Procedures For Trauma	1	0.65	0.52	0.57	0.62	0.37	1.00
656 Spinal Procedures With Thoraco-Abdominal Procedures For Trauma	1	0.65	0.52	0.57	0.62	0.37	1.00
657 Spinal Procedures With Wound Debridement Or Lower Extremity Proc For Trauma	1	0.65	0.52	0.57	0.62	0.37	1.00
658 Femur Procedures With Wound Debridement Or Lower Extremity Proc For Trauma	6	0.45	0.50	0.38	0.38	0.34	0.35
659 Thoraco-Abdominal Proc W Wound Debridement Or Lower Extremity Proc For Trauma	6	0.45	0.50	0.38	0.38	0.34	0.35
		0.00013	0.00026	0.00048	0.00087	0.00187	0.00315

Ministry, LHINs and HSPs aspire to use HBAM

1. Funding LHINs and Health Service Providers
2. Health system planning
3. Finding opportunities for improvement

Example: HBAM for Funding Allocations

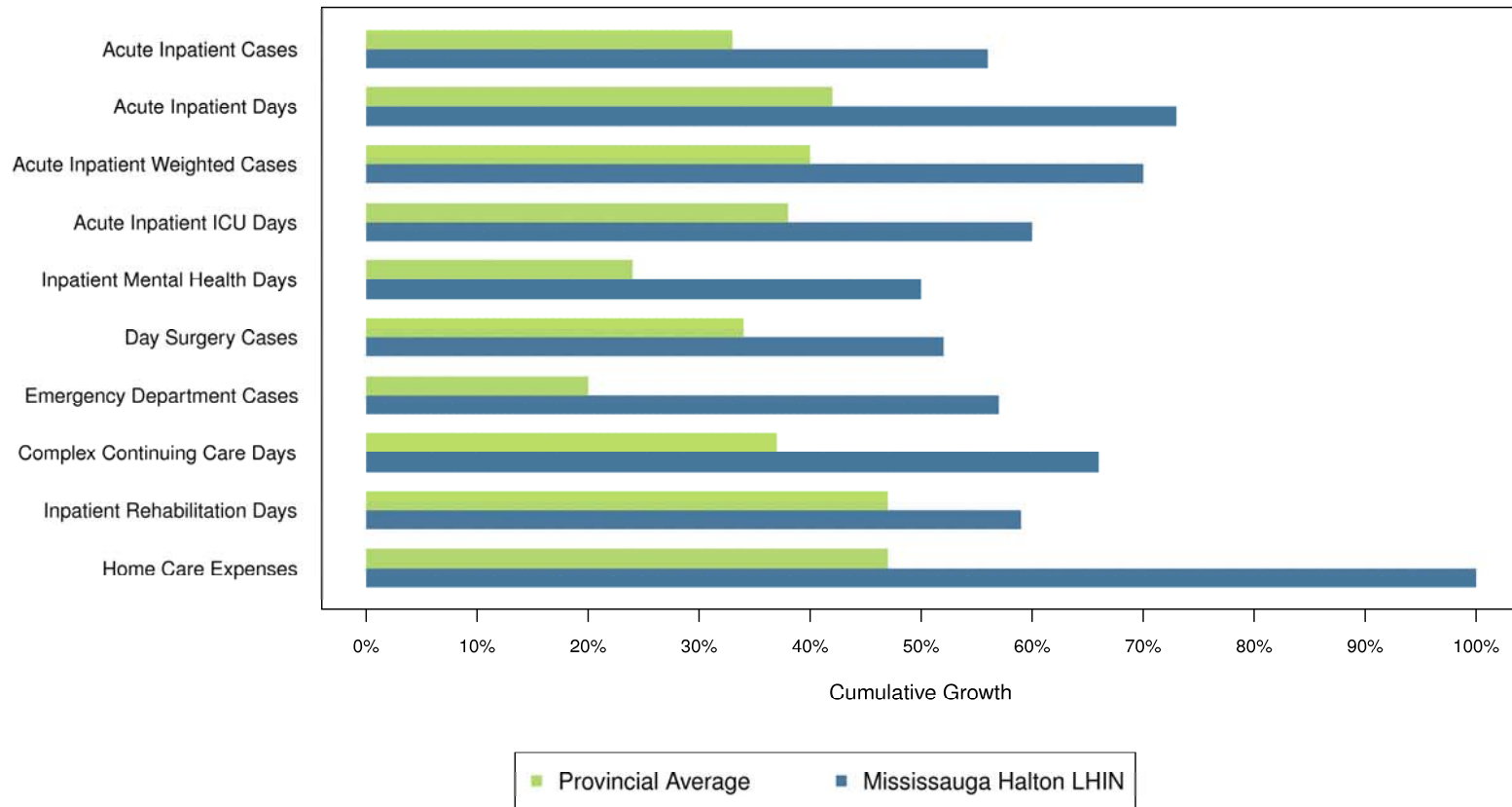


Factors to consider in planning exercises:

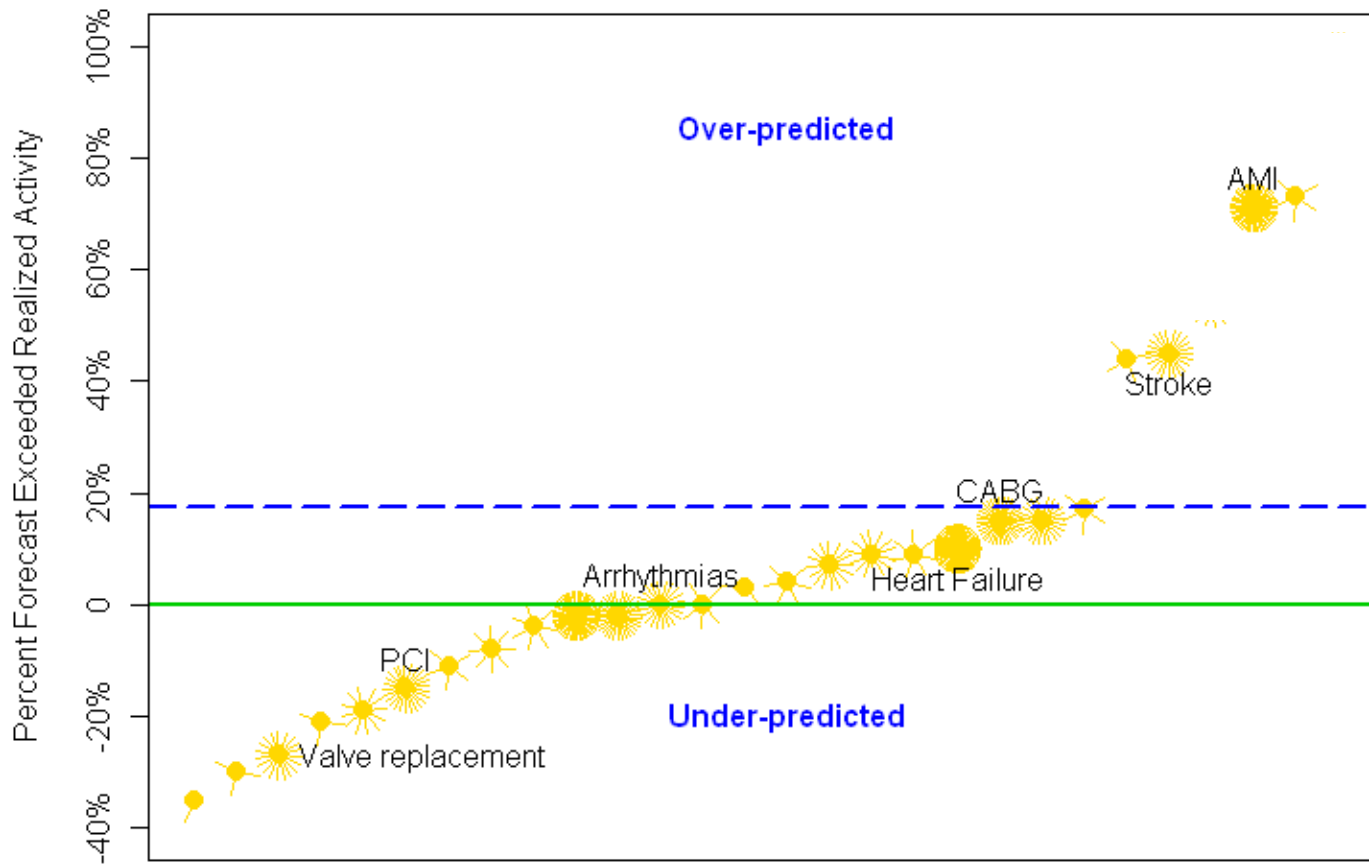
- Population growth rates
- Demographic profiles
- Market share
- Disease prevalence rates
- Treatment intensities
- Patient severity and complexity

How do these factors combine to change requirements for specific health services?

HBAM Projected 15 Year Cumulative Growth



Learning from HBAM: Ratio of Naïve 5-year 2003/04 Forecast to Realized Inpatient Days in 2008/09: Circulatory Care



How can we improve stroke care in Ontario ?

“Enhanced access for all Canadians to integrated, high-quality and efficient stroke services will establish the Canadian Stroke Strategy as a model for innovative health system reform in Canada and internationally.”

Canadian best practice recommendations for stroke care.

Lindsay et al. *CMAJ* 2008 197(12)

Quality indicators for stroke also included in the hospital service accountability agreements

Provision of inpatient rehabilitation was among 10 priority areas identified by consensus panel that:

“...if implemented immediately, would have the greatest impact on stroke care in Canada”

Consensus panel included health care professionals from across the health care continuum, key opinion leaders, and stroke survivors

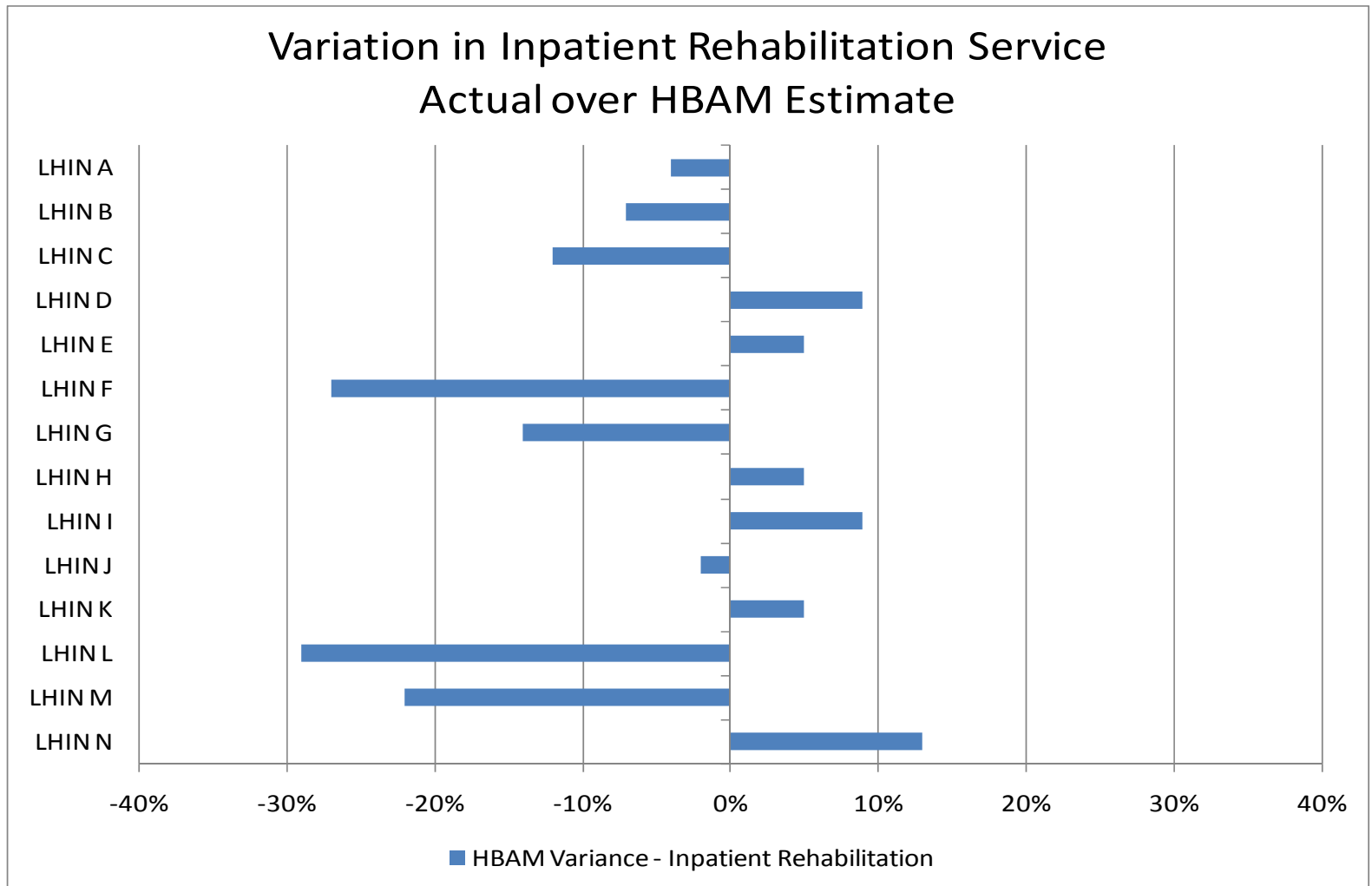
Ontario Stroke Evaluation Report 2010—Technical Report

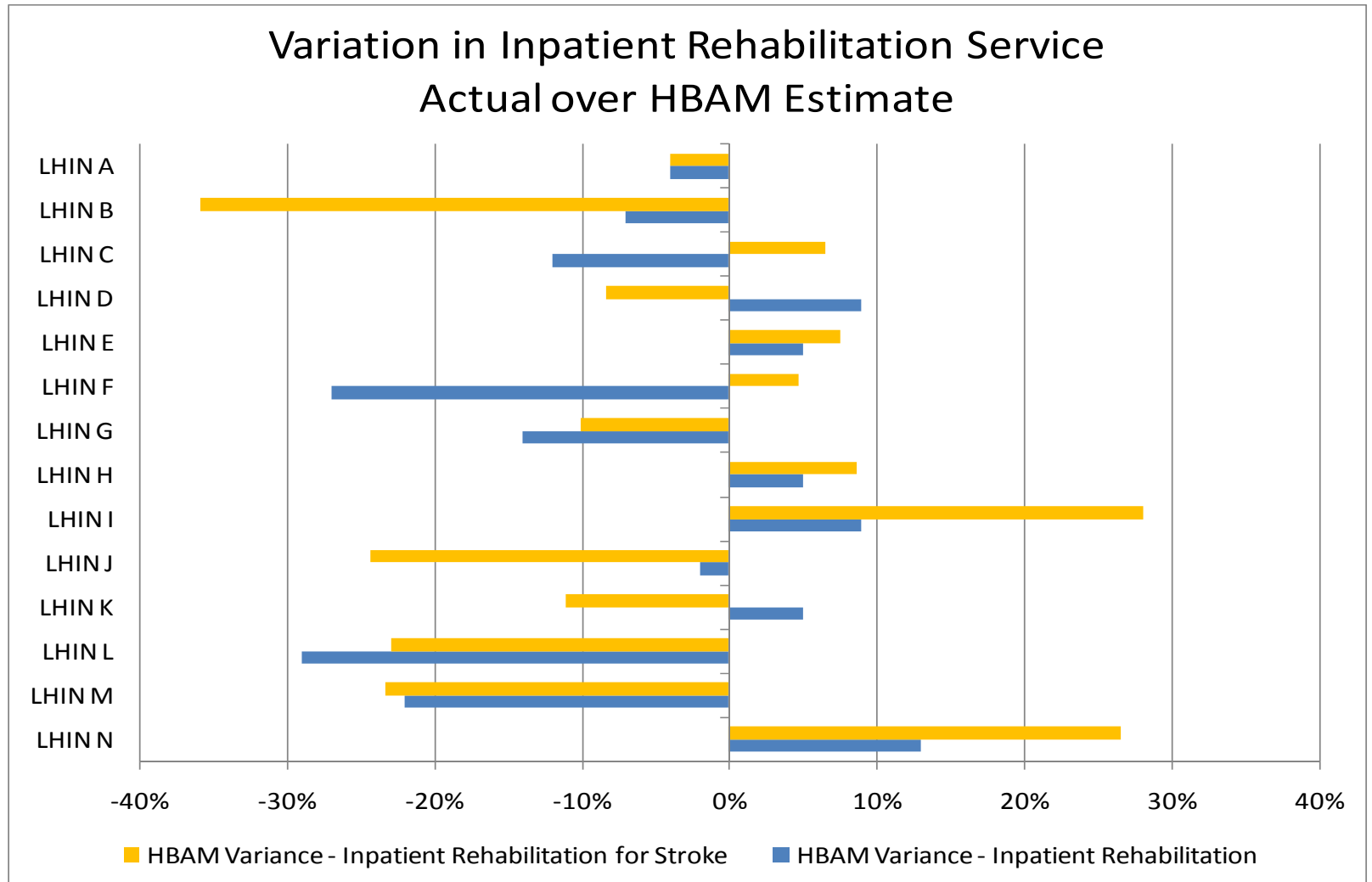
Trends in stroke health service utilization and mortality in Ontario from 2003/04 to 2007/08

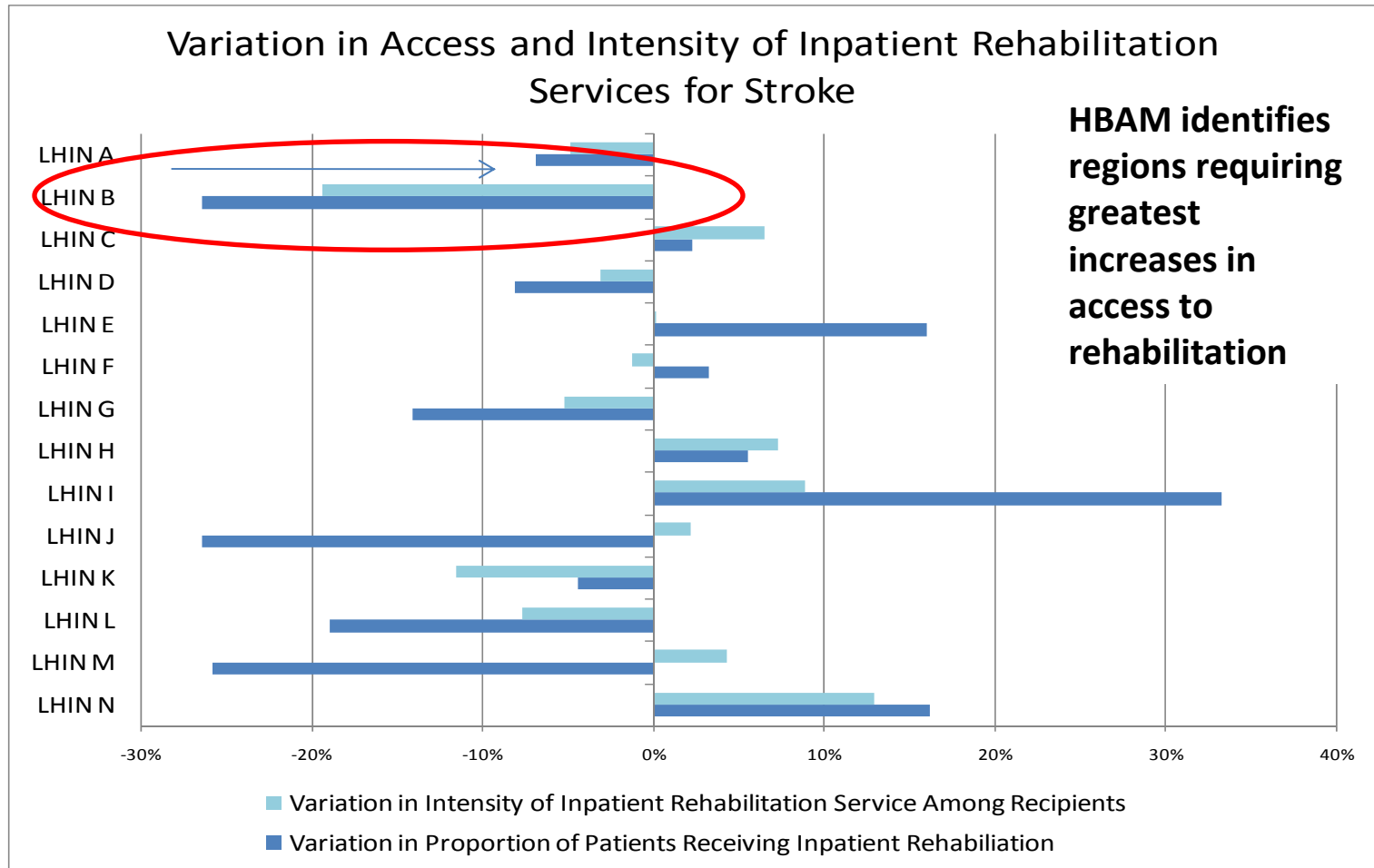
Stroke Best Practices: How Does Ontario Measure Up?

Summary of Key Findings

- ▶ Annual age- and sex-adjusted first-hospital-visit rate for stroke/TIA (transient ischemic attack) per 1,000 population decreased by 23% between 2003/04 and 2007/08 in Ontario, despite an expected increase due to the aging population.
- ▶ Annual age- and sex-adjusted inhospital mortality rates due to stroke decreased by 6% between 2003/04 and 2007/08.
- ▶ More patients received care in stroke centres. More than half were cared for in non-designated centres. Patients admitted for inpatient acute stroke care at non-designated centres were less likely to be discharged to inpatient rehabilitation and have higher mortality.
- ▶ For stroke admissions, the wait time for carotid interventions was reduced significantly; in 2003/04 the median wait time was 41 days, and in 2007/08, it had dropped to 15 days.
- ▶ There was an overall increase in the proportion of stroke patients discharged to inpatient rehabilitation following an acute stroke hospitalization between 2003/04 and 2007/08 (from 20% to 23%), and a decrease going to long-term care (from 8.5% to 7%). However, it is estimated that the proportion discharged to inpatient rehabilitation should be closer to 40%.
- ▶ There was substantial variation in stroke outcomes and practice across Ontario's 14 Local Health Integration Networks (LHINs).



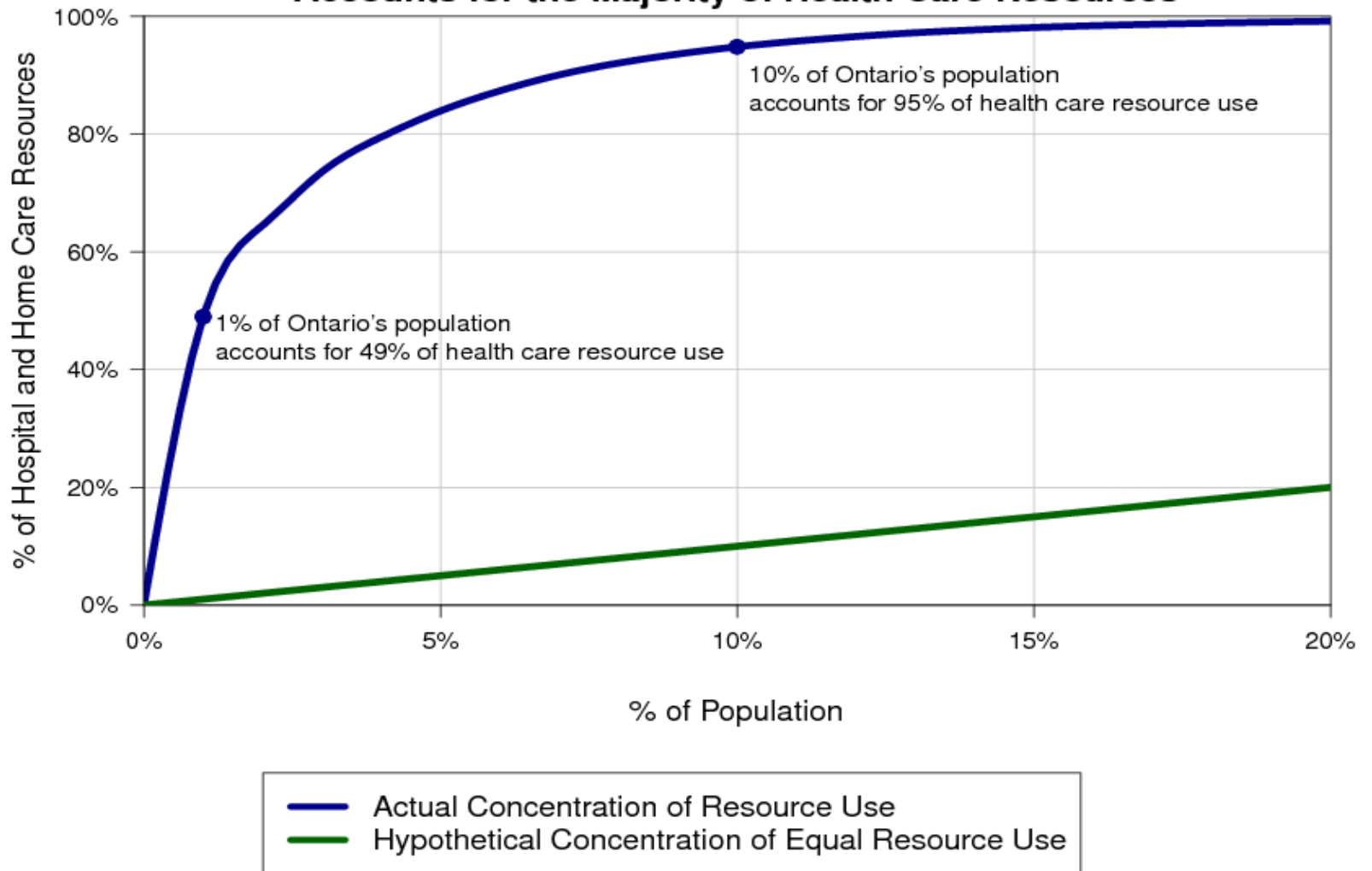




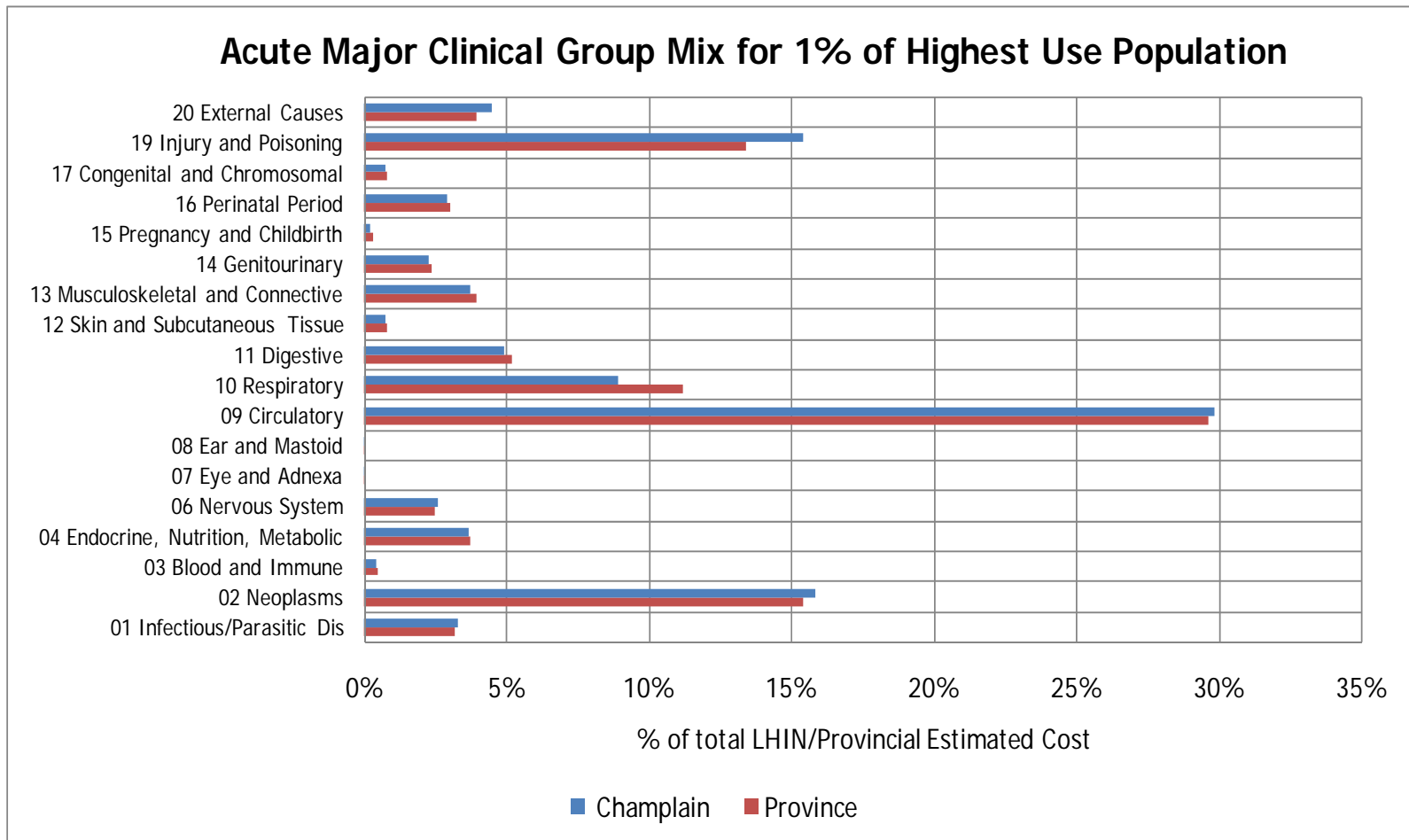
HBAM for Improvement: Where to Start?

- It is intuitive that health service use is concentrated among small segments of the population
 - Highest users of health services are a natural target population for analysis to identify opportunities for improvement
- HBAM organizes data systematically from multiple sectors and programs which enables identification and characterization of each LHIN's highest health service users

A Small Proportion of the Population Accounts for the Majority of Health Care Resources



What Acute Services are Received by Highest Users?



Who comprises the Injury and Poisoning Group ?

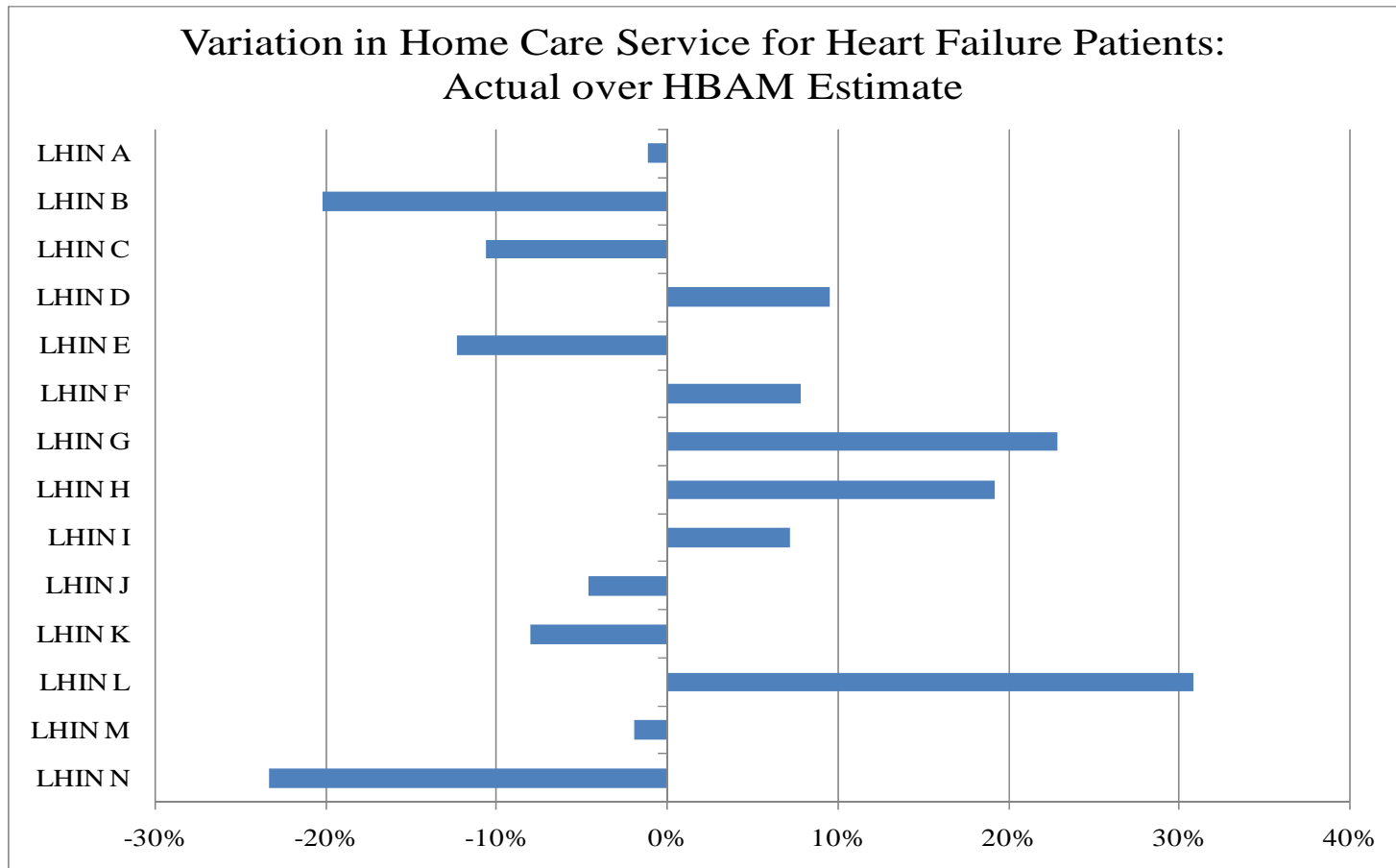
Refined Clinical Group	Share of Injury and Poisoning Resource Use
238 Complications of surgical procedures or medical care	24%
230.2 Fracture of lower limb - femur, or multiple fractures	18%
226 Fracture of neck of femur (hip)	13%
237.2 Complication of device; implant or graft – cardiac or vascular	6%
237.3 Complication of device; implant or graft – orthopaedic	6%
231.2 Other fractures - neck, lumbar spine, pelvis	5%
233.2 Intracranial injury - brain injury, haemorrhage	4%
230.1 Fracture of lower limb	4%
237.1 Complication of device; implant or graft - other	3%

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- Heart failure is the most common admission amongst the highest users
- Some hospital admissions for heart failure can be avoided through access to community-based care
- Heart failure patients in the 1% highest use population have a readmission rate of 33%

Improving Care for Heart Failure Patients



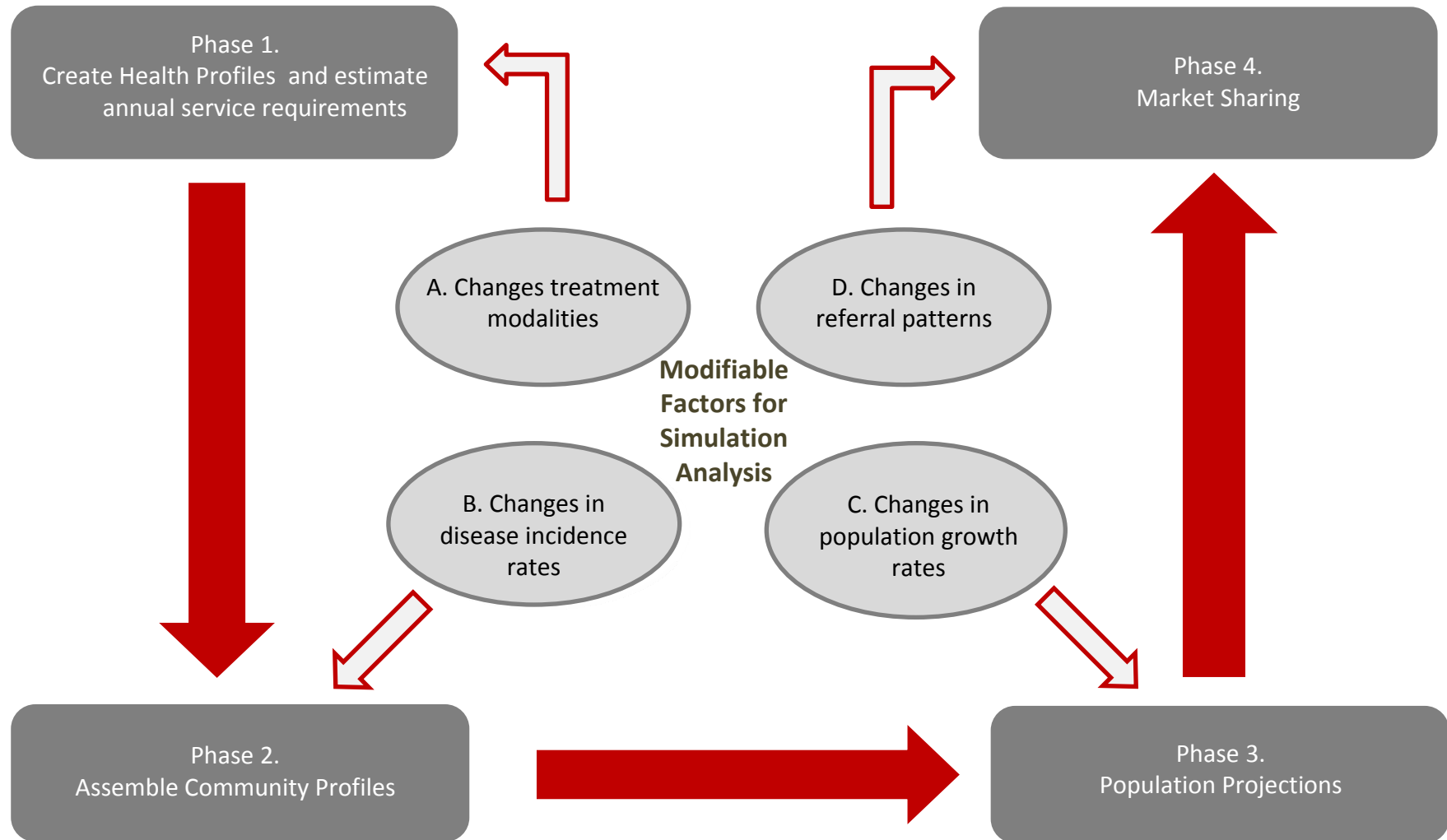
- Establish home-based intervention program for heart failure
- Use HBAM to:
 - Quantify cost of HBI program
 - Quantify reductions in hospital costs
 - Quantify funding implications
- Use HBAM to direct HBI funding at regions with least access to home care for heart failure

HBAM Home Care Reference Costs for Select Conditions

Refined Clinical Group	Sub Group	00-01	01-09	10-44	45-64	65-74	75-84	85+
106.1 Ventricular Tachycardia	1	22	22	35	120	190	483	1,185
106.1 Ventricular Tachycardia	2	213	213	213	148	421	771	1,503
106.2 Atrial fibrillation and flutter	1		49	49	116	279	526	1,179
106.3 Other cardiac arrhythmias	1	136	136	136	68	277	651	1,020
107 Cardiac arrest and ventricular fibrillation	1	108	108	108	251	540	895	1,084
108 Congestive heart failure; nonhypertensive	1	637	637	637	975	1,299	1,553	1,870
109.1 Cerebrovascular disease	1	150	150	150	406	586	629	978
109.1 Cerebrovascular disease	2	273	273	273	541	813	1,112	1,343
109.2 Stroke	1	439	439	439	605	925	1,178	1,511
109.3 Subarachnoid haemorrhage	1			10	120	120	331	717
110 Occlusion or stenosis of precerebral arteries	1		109	109	109	953	1,050	1,050
111 Other and ill-defined cerebrovascular disease	1	570	570	570	533	702	1,359	2,095
112 Transient cerebral ischemia	1		33	33	261	384	846	1,505
114.1 Atherosclerosis	1			794	794	1,481	1,481	1,481

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1. What are the expected future demands for our services?
2. What is our anticipated future share of Provincial funding?
3. To what extent is our share of Provincial and Inter-LHIN services appropriately captured and funded?
4. Can HBAM hospital output and efficiency measures capture the cost of more complex patients ?
5. How can quality and outcomes be integrated with resource allocation?
6. Where are there opportunities for standardizing and coordinating care ?
7. How can HBAM be used to develop business cases for our initiatives



Health Based Allocation Model

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