



2006 CAPHC Conference

# Meeting the Needs of Our Children & Youth:

“Using our Canadian Data To Determine Capacity”

## An Ontario Perspective

**Dr. Peter Steer**

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and

Chief of Paediatrics,

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# An Ontario Perspective: Framework



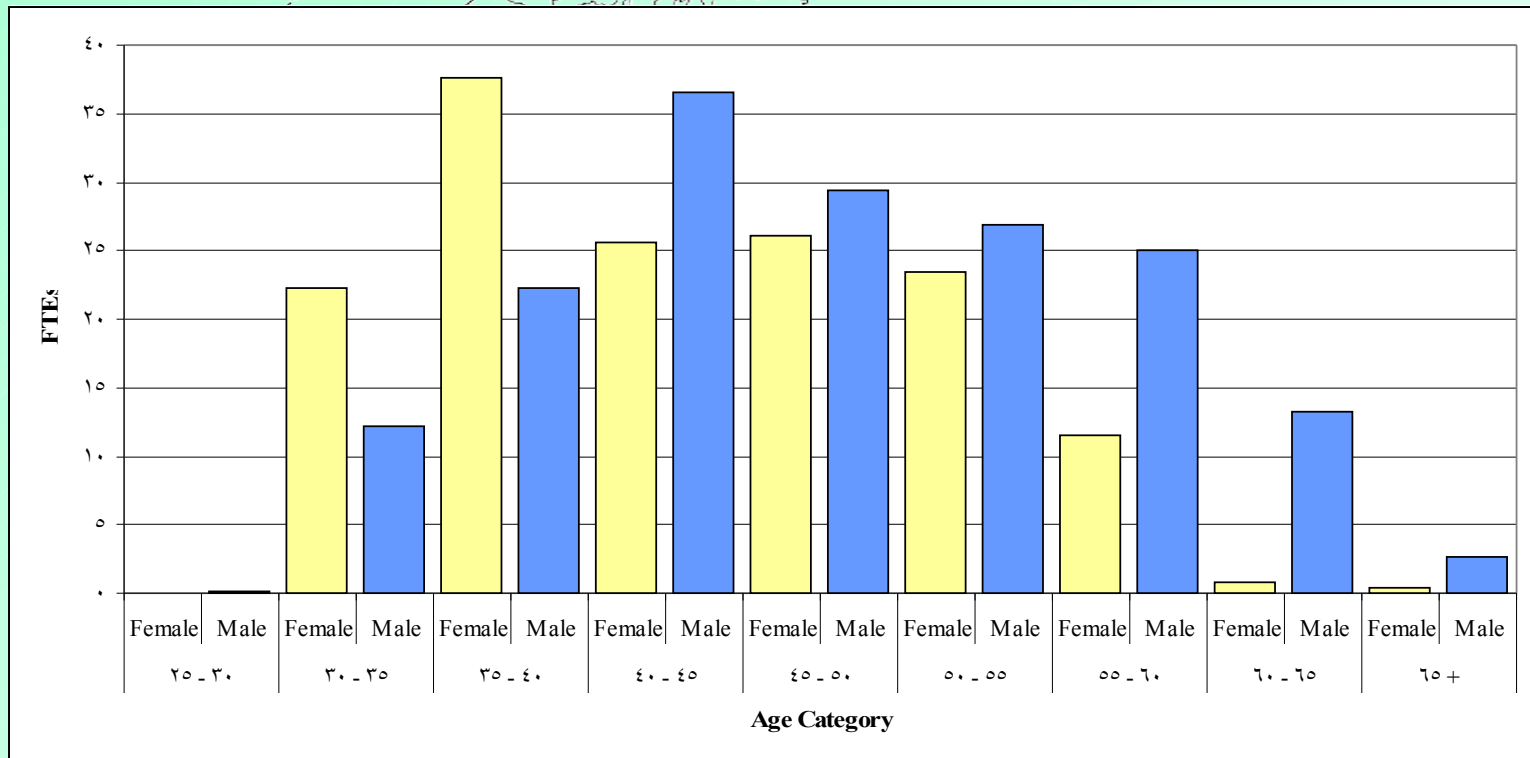
- ✓ Further reflections on Physician workforce
- ✓ Reflections on CPDSN-CAPHC Data
- ✓ Provincial Variation
- ✓ Ontario experience in benchmarking and service planning
- ✓ Further opportunity

# Canadian and Australia Workforce Survey Population/Pediatrician

Category	Canada	Australia	Australian Range
General	3,142	9,220	(4,630-11,730)
Subspecialty	6,166	7,300	(6,250-24,450)

# CLINICAL FTEs BY AGE AND GENDER\*

## FY 2004/05



Source: PAHSC Survey, March, 2006

\* 25 FTEs reported in the survey were undefined for Age and Gender



# Evidence of Complexity of Paediatric Hospital Care



- ✓ Average RIW
- ✓ CIHI complexity “index”
- ✓ Patient transfers
- ✓ Measures of Breadth of clinical service

# F2004 Provincial Variation in % Inpatient Activity: Academic vs. Non-Academic Centers

Province	% CAPHC-CPDSN	ARIW CAPHC/CPDSN	% Non CAPHC-CPDSN	ARIW Non CAPHC-CPDSN
BC	25.6%	1.65	74.4%	0.85
Alberta	55.8%	1.52	45.1%	0.66
Manitoba	52.3%	1.32	47.7%	0.83
Ontario	27.0%	1.63	73.0	0.86
Nova Scotia	60.0%	1.46	40.0%	0.74

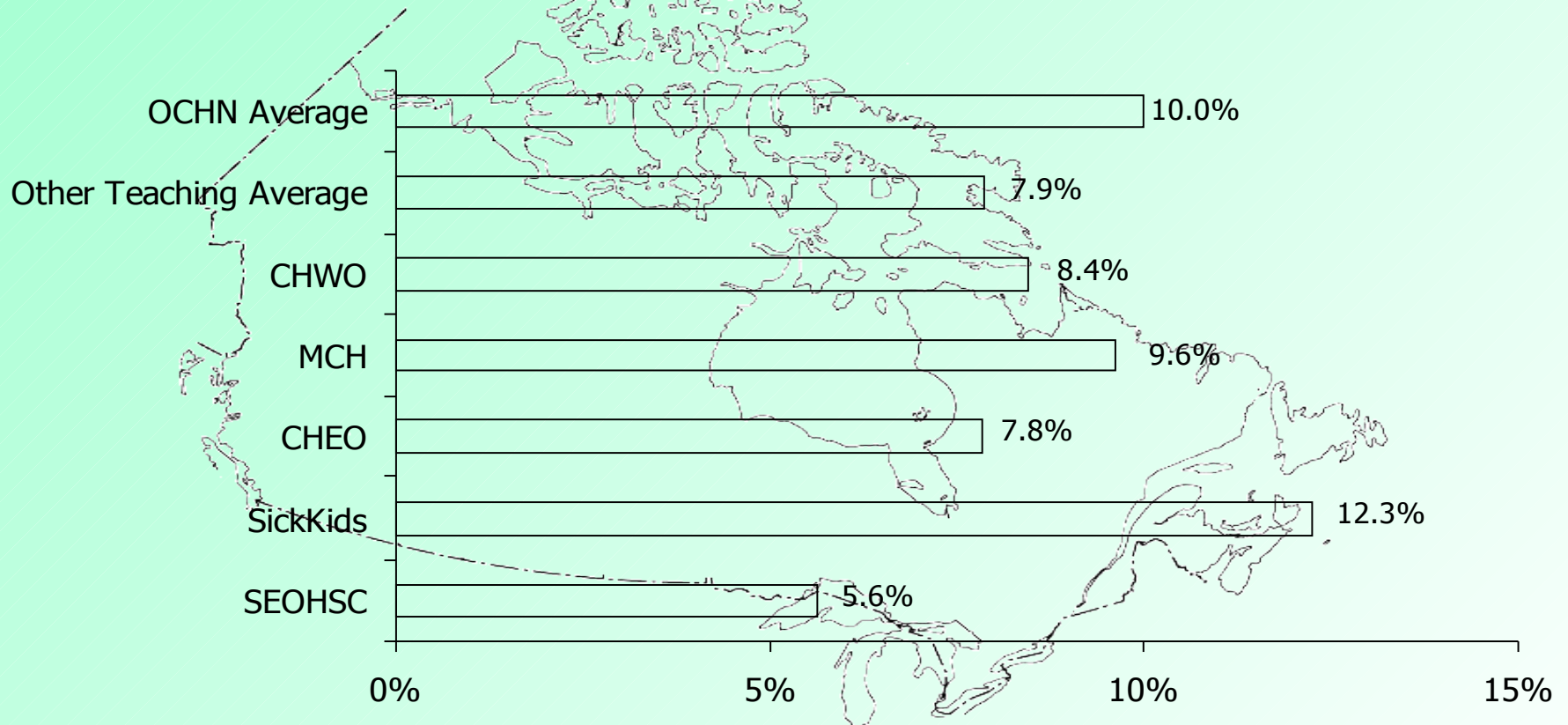
# MEDICAL MCC CASES - REVISITED - COMPLEX CASES TEND TO GO TO PAHSCs

Summary Table 2003/2004

MCC Description	Cases	Cases PAHSC	% Complex in PAHSC	Cases in Non-PAHSC	% Complex in Non-PAHSC	Cases Complex in PAHSC	Cases Complex in Non-PAHSC	Total
04 Diseases & Disorders of the Respiratory System	14890	2798	16.4	12092	3.5	459	423	882
01 Diseases & Disorders of the Nervous System	3562	1337	22.2	2225	9.5	297	211	508
06 Diseases & Disorders of the Digestive System	8128	1775	14.7	6353	3.9	261	248	509
10 Endocrine, Nutritional & Metabolic Diseases & Diso	2838	843	23.7	1995	7.8	200	156	355
16 Diseases & Dis of Blood & Blood Forming Organs &	2010	1148	18.7	862	8.4	215	72	287
25 Significant Trauma	3299	1050	9.6	2249	3.3	101	74	175
11 Diseases & Disorders of the Kidney & Urinary Tract	1952	640	11.3	1312	5	72	66	138
05 Diseases & Disorders of the Circulatory System	653	299	21.8	354	10.4	65	37	102
08 Diseases & Dis of the Musculoskeletal Sys & Conne	811	428	14.7	383	6.5	63	25	88

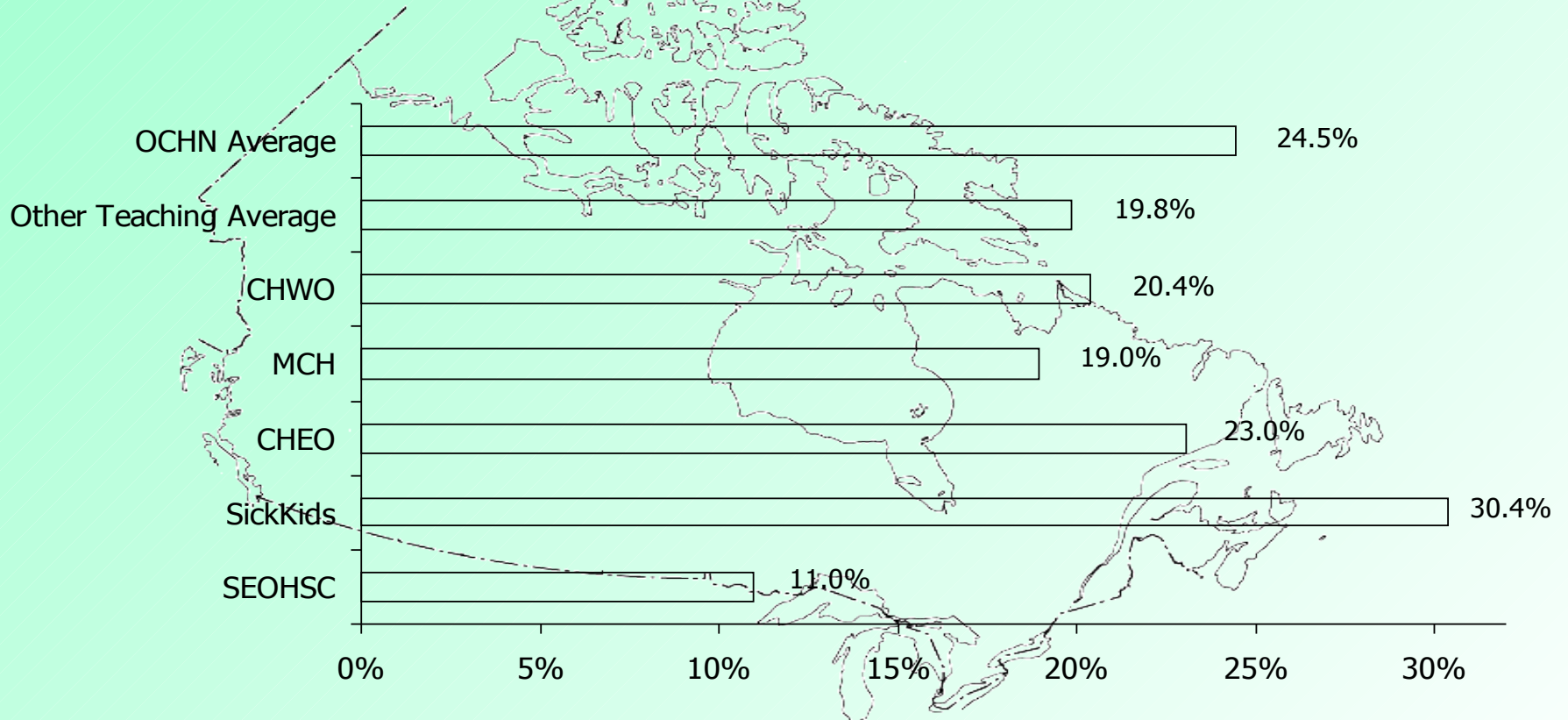
# F2003 OCHN Paediatric Benchmarking Initiative: Hospital Descriptors

## Percent “Transfer From” Inpatient Cases



# F2003 OCHN Paediatric Benchmarking Initiative: Hospital Descriptors

## Percent “Transfer From” Inpatient Days



# Comparison of Adult and Paediatric Top MRDX



## All Paediatric Centres

- ✓ 50% of activity explained by top 23 MRDX

## All Adult Centres

- ✓ 50% of activity explained in top 50 MRDX

## CAPHC – CPDSN centres

- ✓ 50% of activity explained in top 42 MRDX

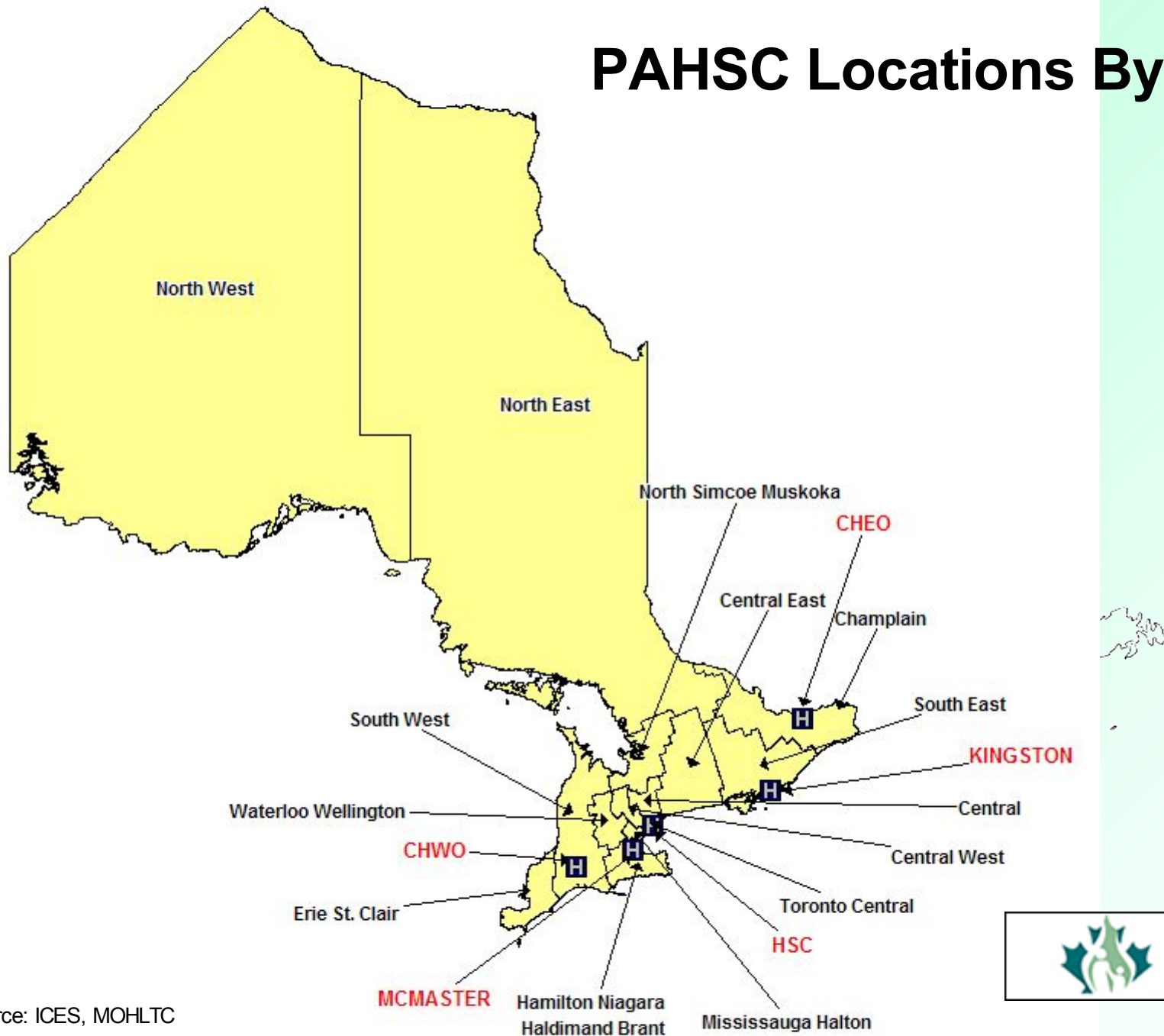
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# Implications of Provincial Differences

- ✓ **Access to care**
- ✓ **Resource implications of decentralized model (both academic and non-academic centres)**
- ✓ **Critical mass of physician resource**
- ✓ **Relationship of volume of service to quality outcomes**
- ✓ **Outreach service delivery**
- ✓ **Capacity building – professional development**
- ✓ **Provincial Leadership: coordination and integration of service delivery**

# PAHSC Locations By LHIN



Source: ICES, MOHLTC



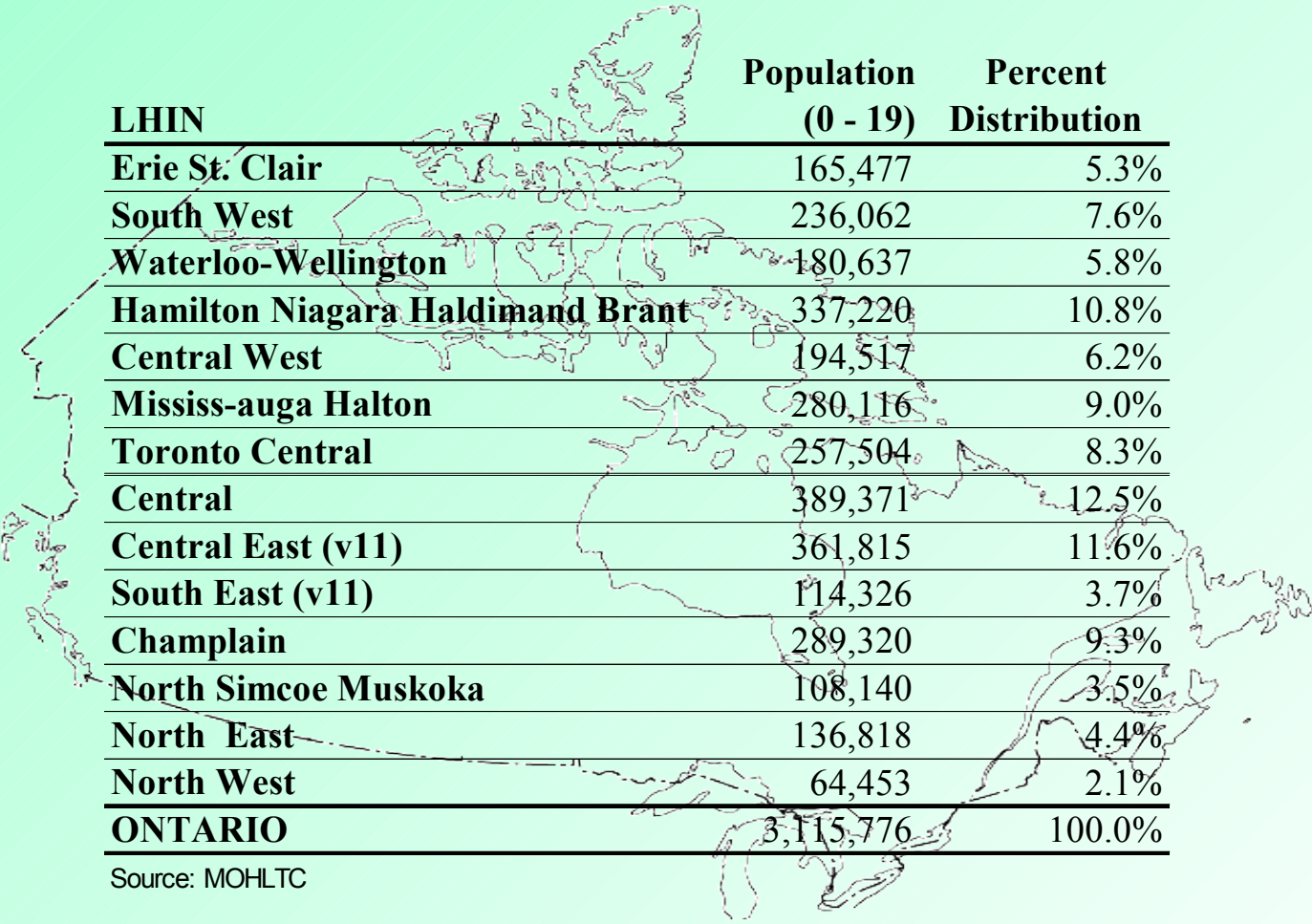
# Challenges to Academic Centres in “Decentralized” Province

- ✓ **Sustainability and critical mass**
- ✓ **Patient safety**
- ✓ **Education**
- ✓ **Critical linkages of services and support services (i.e. radiology and critical care)**
- ✓ **Research**
- ✓ **“Relatively” Costly compared to both non-academic paediatric providers AND adult providers**

# Challenges to Non-Academic Centres in “Decentralized” Province

- ✓ **Collectively required to do a large volume of care – individually small volumes**
- ✓ **Patient safety**
- ✓ **Education**
- ✓ **Staff recruitment and retention**
- ✓ **“Relatively” Costly to internal “competitors”**
- ✓ **(Often) Low priority**

# 2004 PAEDIATRIC POPULATION: AGE – 0 TO 19\*



<b>LHIN</b>	<b>Population (0 - 19)</b>	<b>Percent Distribution</b>
<b>Erie St. Clair</b>	165,477	5.3%
<b>South West</b>	236,062	7.6%
<b>Waterloo-Wellington</b>	180,637	5.8%
<b>Hamilton Niagara Haldimand Brant</b>	337,220	10.8%
<b>Central West</b>	194,517	6.2%
<b>Mississ-auga Halton</b>	280,116	9.0%
<b>Toronto Central</b>	257,504	8.3%
<b>Central</b>	389,371	12.5%
<b>Central East (v11)</b>	361,815	11.6%
<b>South East (v11)</b>	114,326	3.7%
<b>Champlain</b>	289,320	9.3%
<b>North Simcoe Muskoka</b>	108,140	3.5%
<b>North East</b>	136,818	4.4%
<b>North West</b>	64,453	2.1%
<b>ONTARIO</b>	<b>3,115,776</b>	<b>100.0%</b>

Source: MOHLTC

\* While the definition for paediatric cases was defined between the ages of 0 and 17, the available population data was only reported for ages 0 – 19.



# POPULATION GROWTH PROJECTIONS BY LHIN FOR AGES 0 – 19: 2004 TO 2015

LHIN	LHIN Description	Est. and Proj. Population (Ages 0 - 19)			Growth*	
		2004	2010	2015	2010	2015
01	Erie St. Clair	165,477	160,133	157,724	(3.2%)	(1.5%)
02	South West	236,062	222,955	216,226	(5.6%)	(2.9%)
03	Waterloo Wellington	180,637	179,769	179,581	(0.5%)	(0.1%)
04	Hamilton Niagara Haldimand Brant	337,220	323,412	317,251	(4.1%)	(1.8%)
05	Central West	194,517	223,020	233,907	14.7%	5.6%
06	Mississauga Halton	280,116	290,674	298,925	3.8%	2.9%
07	Toronto Central	257,504	263,737	269,143	2.4%	2.1%
08	Central	389,371	420,431	441,288	8.0%	5.4%
09	Central East	361,815	361,006	362,285	(0.2%)	0.4%
10	South East	114,326	105,204	100,185	(8.0%)	(4.4%)
11	Champlain	289,320	282,181	276,708	(2.5%)	(1.9%)
12	North Simcoe Muskoka	108,140	111,048	113,122	2.7%	1.9%
13	North East	136,818	116,209	103,458	(15.1%)	(9.3%)
14	North West	64,453	56,357	51,599	(12.6%)	(7.4%)
	<b>Ontario</b>	<b>3,115,776</b>	<b>3,116,136</b>	<b>3,121,402</b>	<b>0.0%</b>	<b>0.2%</b>

\*Relative to 2004

Source: MOHLTC



# Planning Models with Inherent Problems

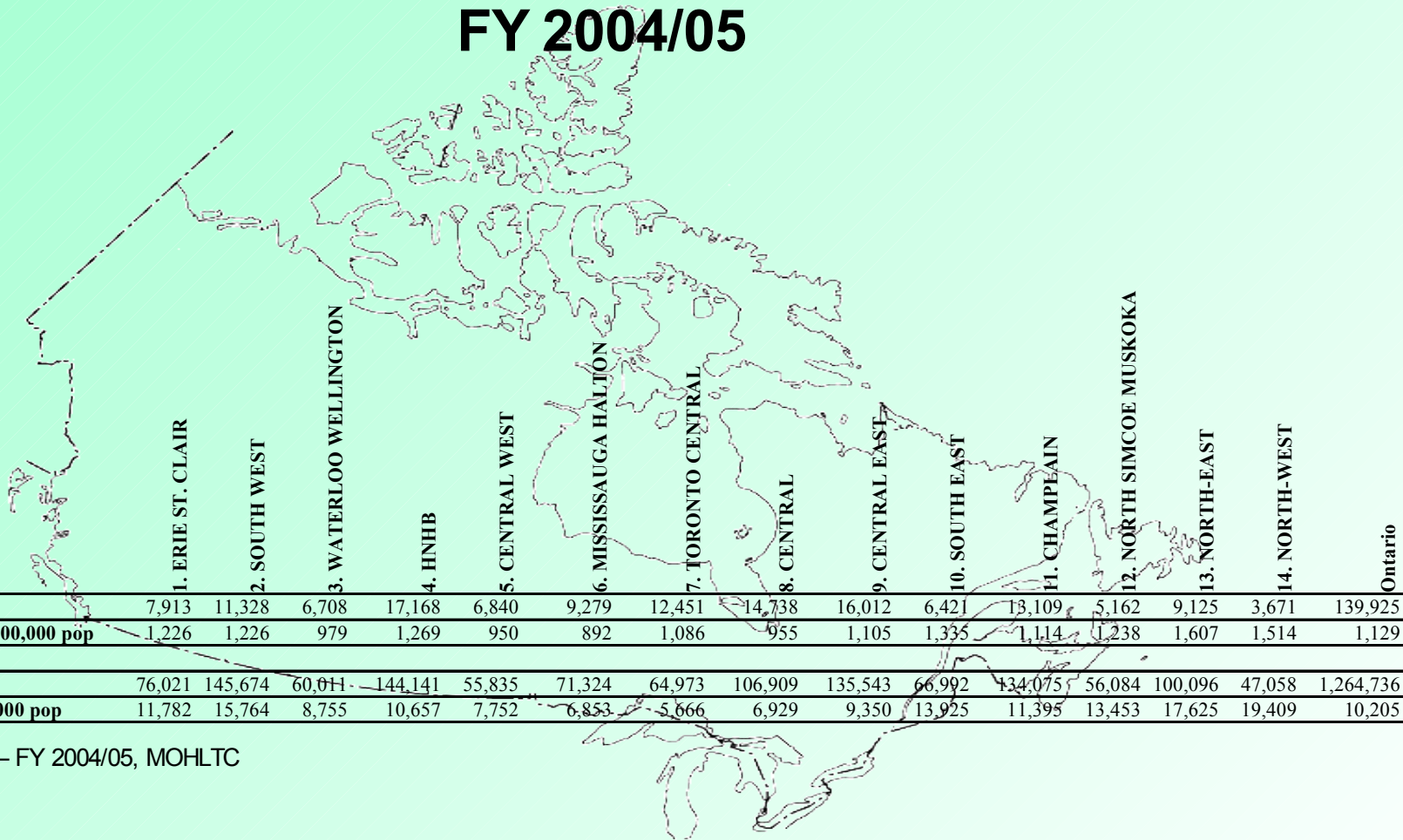
## Service Demand:

- ✓ Current Population Base
- ✓ Current Utilization Rate
- ✓ Current “demand” estimated by LHIN based on existing utilization and population

## Service Provision:

- ✓ Current workload capacity by site
- ✓ Current age gender distribution of physicians by site
- ✓ Current workforce assumptions
- ✓ Current non physician resource availability

# TOTAL INPATIENT WEIGHTED CASES AND EMERGENCY VISITS PER 100,000 POPULATION FY 2004/05



Inpatients	wt. cases	7,913	11,328	6,708	17,168	6,840	9,279	12,451	14,738	16,012	6,421	13,109	5,162	9,125	3,671	139,925
	wt. cases/100,000 pop	1,226	1,226	979	1,269	950	892	1,086	955	1,105	1,335	1,114	1,238	1,607	1,514	1,129
Emergency	visits	76,021	145,674	60,011	144,141	55,835	71,324	64,973	106,909	135,543	66,992	134,075	56,084	100,096	47,058	1,264,736
	visits/100,000 pop	11,782	15,764	8,755	10,657	7,752	6,853	5,666	6,929	9,350	13,925	11,395	13,453	17,625	19,409	10,205

Source: CIHI DAD – FY 2004/05, MOHLTC

# SUB-SPECIALTY PAEDIATRIC INPATIENT WEIGHTED CASES PER 100,000 POP – FY 2004/05

Inpatient Weighted Cases per 100,000 Population (ages 0 -19) - FY 2004/05

Program	1_ ERIE ST. CLAIR	2_ SOUTHWEST	3_ WATERLOO WELLINGTON	4_ HNHBB	5_ CENTRAL WEST	6_ MISSISSAUGA HALTON	7_ TORONTO CENTRAL	8_ CENTRAL	9_ CENTRAL EAST	10_ SOUTH EAST	11_ CHAMPLAIN	12_ NORTH SIMCOE MUSKOKA	13_ NORTH-EAST	14_ NORTH-WEST	Ontario
Adolescent Medicine	0	0	2	31	11	24	20	4	17	7	28	0	2	15	14
Cardiology	91	120	163	133	211	198	148	150	123	109	104	108	160	125	158
Critical Care	40	79	63	156	9	24	4	1	5	80	51	5	2	64	53
Developmental/Rehab	0	0	0	0	0	0	0	0	0	8	11	0	0	0	2
Emergency	0	0	0	0	0	0	0	0	0	0	20	0	0	0	2
Endocrinology	57	87	7	21	5	3	7	5	5	19	14	5	8	10	18
Gastroenterology	24	63	26	27	36	42	34	87	25	31	80	94	15	11	49
General Paediatrics	118	398	144	535	276	129	431	239	235	492	551	105	60	34	324
Genetics	0	4	0	0	7	2	8	6	11	29	0	14	0	1	5
Haematology/Oncology	93	58	145	171	205	121	142	136	117	204	184	151	132	45	145
Immunology/Allergy	6	6	16	13	0	15	25	28	10	0	3	11	1	0	14
Infectious Diseases	38	115	13	3	0	0	0	0	1	46	1	16	0	5	14
Nephrology	18	44	37	12	40	20	16	18	24	18	26	48	18	26	26
Neurology	9	24	11	7	23	16	27	16	20	44	14	9	7	4	17
Respirology	4	9	6	5	38	26	50	22	49	8	18	18	8	6	22
Rheumatology	1	2	3	0	16	7	4	11	9	6	10	0	1	0	6
<b>Total</b>	<b>551</b>	<b>1,057</b>	<b>1,152</b>	<b>1,839</b>	<b>1,206</b>	<b>803</b>	<b>1,018</b>	<b>865</b>	<b>883</b>	<b>2,245</b>	<b>1,319</b>	<b>658</b>	<b>543</b>	<b>354</b>	<b>1,164</b>
Neonatology	52	48	516	724	328	176	103	141	229	1,142	204	95	129	9	295

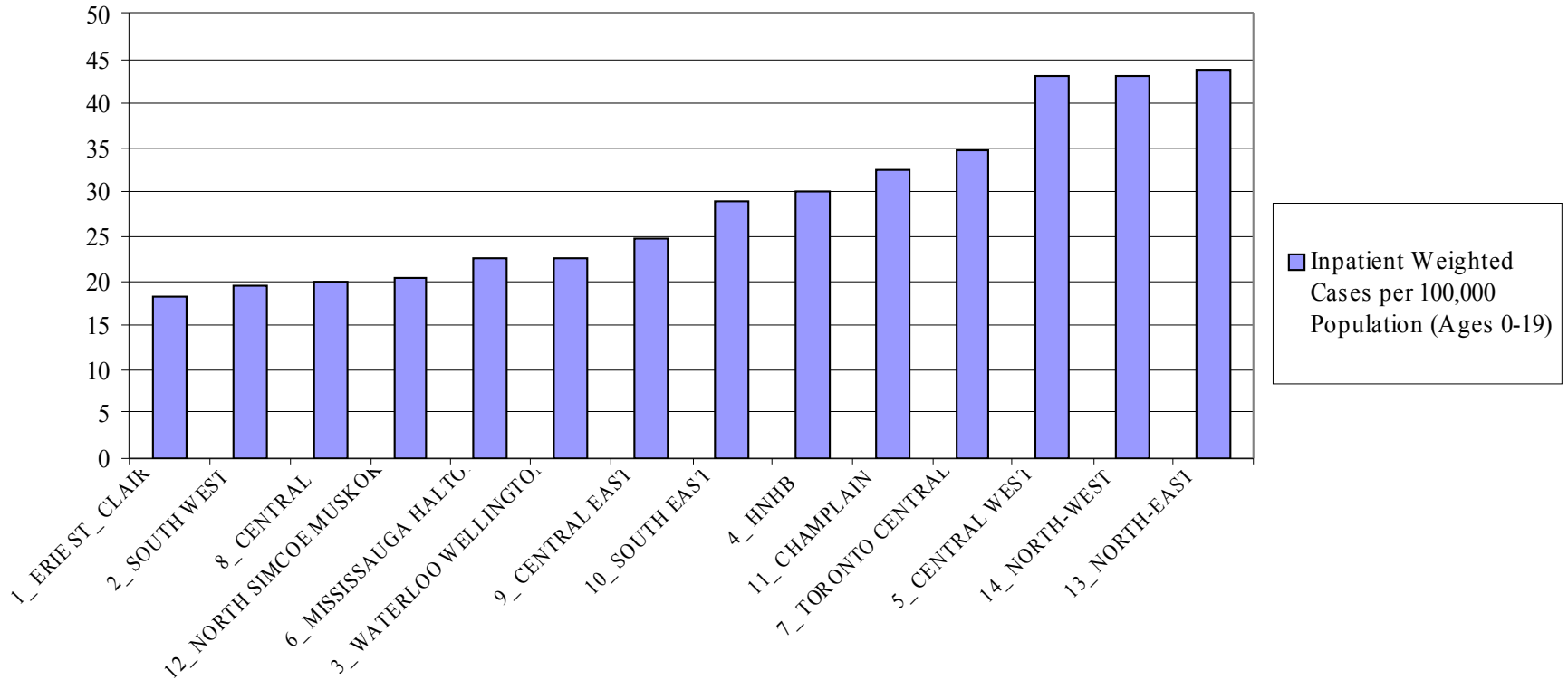
Source: CIHI DAD – FY 2004/05, MOHLTC

**NOTES:** The paediatric definition included selected cases for ages 17 years of age and under. However, the population figures for calculating the rates, were only available for ages 0 – 19.



# CURRENT UTILIZATION

Inpatient Weighted Cases per 100,000 Population (Ages 0-19)



Source: CIHI DAD, MOHLTC



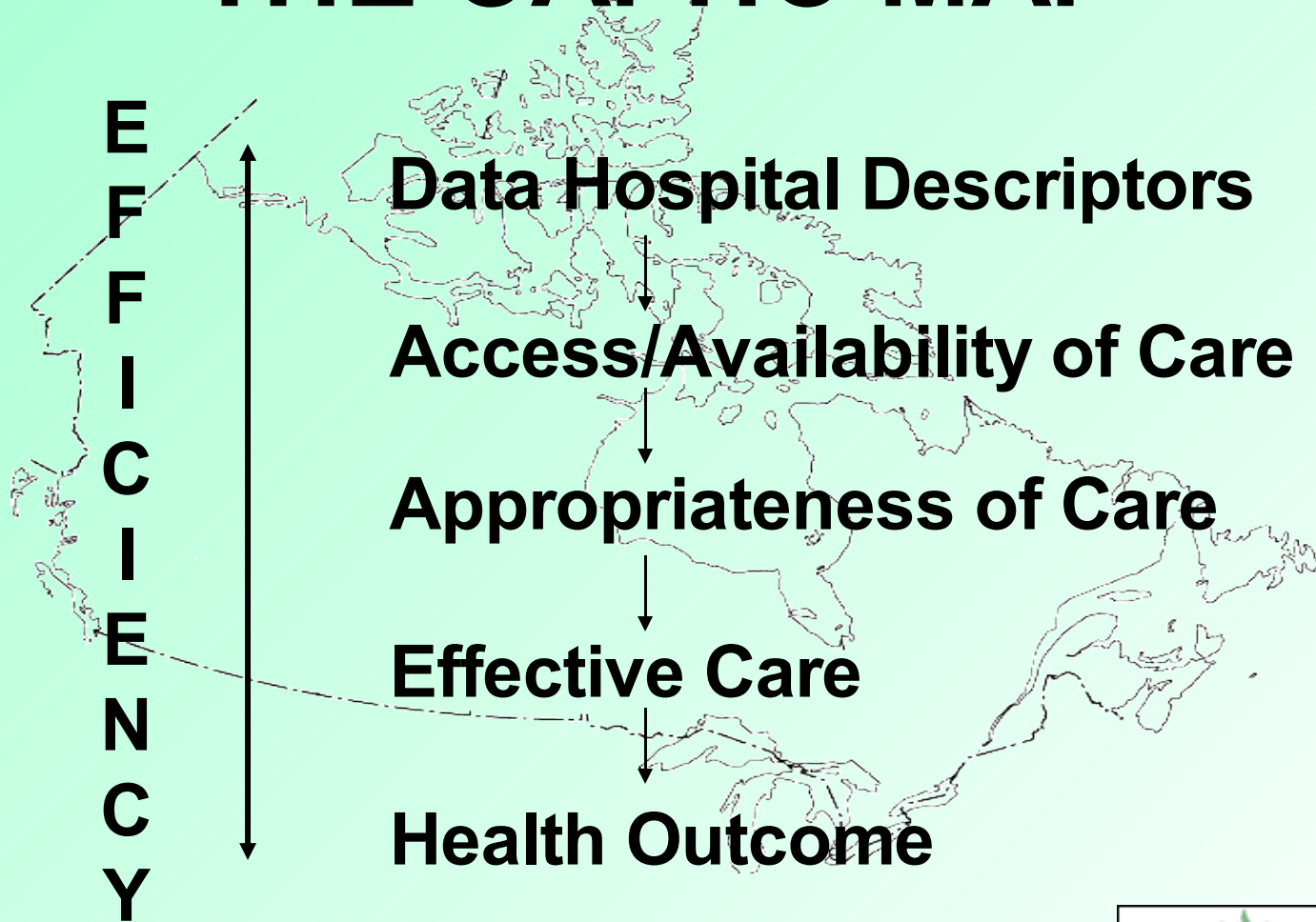
# OCHN Benchmarking: A Next Step?

- ✓ Hospital Descriptors
- ✓ Clinical Efficiencies
- ✓ Appropriateness of care
- ✓ Availability of care
- ✓ Effectiveness of Care
- ✓ Operational Efficiencies

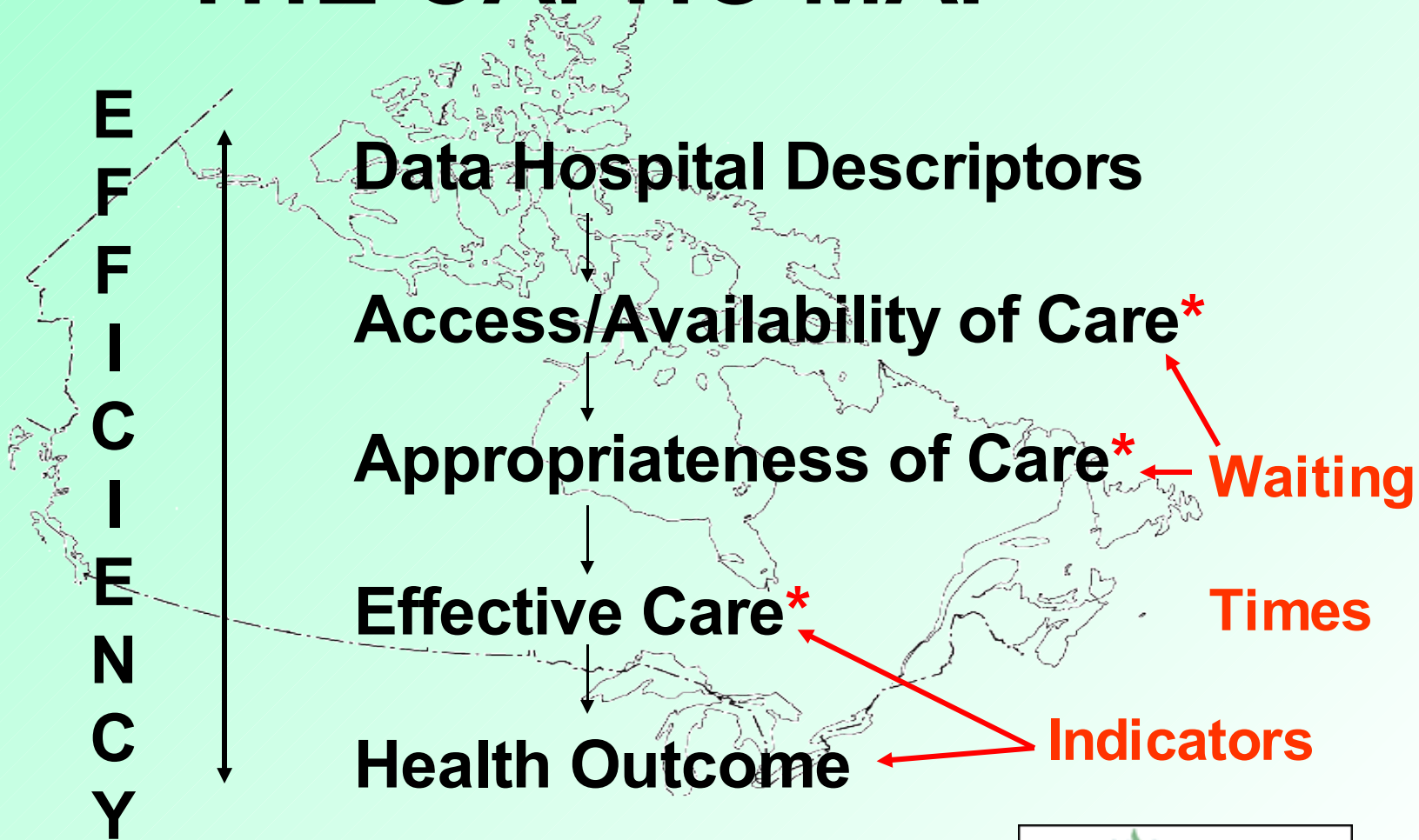
# Future Opportunities with CAPHC-CPDSN

- ✓ **Better planning on population need**
- ✓ **Population utilization figures to confirm access**
- ✓ **Resource planning to meet above needs**
- ✓ **Benchmark inputs and outputs of system**
- ✓ **Measures of effectiveness and efficiency**
- ✓ **Outcome measures (i.e. waiting times agenda OR the emerging Indicator work of CAPHC and CIHR)**

# THE CAPHC MAP



# THE CAPHC MAP



\*CPDSN

