

# Healthy Start

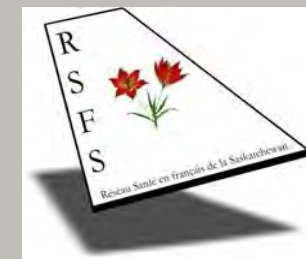
*Be active - Eat well.*



A population health intervention

# Core interdisciplinary Research TEAM

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A 6- to 8-month long bilingual cluster randomised controlled intervention in childcare centres which aimed to improve opportunities for PA and healthy eating, in turn improving children's health outcomes

[www.healthystartkids.ca](http://www.healthystartkids.ca)



# Measurement

	Main Outcome Variables	Measures
Centre-level outcomes	Opportunities for Physical Activity	Environmental scan (NAPSAC)
	Opportunities for Healthy Eating	Environmental scan (NAPSAC) Educator questionnaires Menu Review Cook questionnaires (if applicable)
	Educators' self-efficacy and knowledge	Educator questionnaire
Child-level outcomes	Fondamental Mouvement Skills	TGMD-2
	Physical Activity Levels among children	Accelerometers
	Healthy Eating Behaviours among children	Plate Waste



# Healthy Start – Départ Santé ...by the numbers

- 61 childcare centres were evaluated throughout SK and NB :
  - Usual practice centres n = 30
  - HSDS centres n = 31
- 897 children were recruited
  - 502 in SK and 395 in NB
  - 433 attended usual practice centres
  - 464 attended HSDS centres





# Demographics

	HSDS centres	Usual practice centres
	N (%) Mean (SD)	N (%) Mean (SD)
Age at the beginning of the study	4.08 (0.78)	4.06 (0.75)
Boys	237 (51%)	235 (54%)
Girls	227 (49%)	198 (46%)
Urban	267 (58%)	281 (65%)
Rural	197 (42%)	152 (35%)
Anglophone	310 (67%)	265 (61%)
Francophone	154 (33%)	168 (39%)



## Demographics (continued)

	HSDS centres	Usual practice centres
	N (%) Mean (SD)	N (%) Mean (SD)
Age-adjusted BMI		
Underweight (>18.5)	45 (12%)	37 (11%)
Healthy weight (18.5-24.9)	285 (73%)	249 (72%)
Excess weight (25.0-29.9)	42 (11%)	47 (14%)
Obesity (>30.0)	16 (4%)	13 (3%)
Family reported income		
More than \$80,000/year	156 (65%)	136 (58%)
\$50,000 to \$80,000/year	35 (15%)	40 (17%)
\$20,000 to \$50,000/year	29 (12%)	41 (18%)
Less than \$20,000/year	19 (8%)	17 (7%)

# Changes within the childcare centre







## Food served

### Healthy Start – Départ Santé intervention

Dependant variables	$\beta$	95% CI	P value	Direction of change
Fibre (g) <sup>a</sup>	-0.13	-0.09, 0.07	0.75	—
Vegetables and fruit (servings) <sup>a</sup>	<b>0.06</b>	<b>0.002, 0.115</b>	<b>0.04</b>	<b>↑</b>
Sodium (mg) <sup>a</sup>	-0.24	-1.56, 1.12	0.73	—

<sup>a</sup> Variable is square root transformed

\*Multilevel models were adjusted for age, sex, childcare environment, childcare size, SES, language, rurality, province and year of delivery

# Healthy eating opportunities

	Healthy Start – Départ Santé intervention			
Dependant variables	$\beta$	95% CI	P value	Direction of change
Feeding environment	-0.79	-2.77, 1.19	0.43	—
Feeding practices	-0.21	-2.79, 2.37	0.87	—
Menu and variety	-0.48	-1.22, 0.26	0.20	—
Education and professional development	0.84	-1.84, 3.51	0.54	—
Policy	0.06	-0.43, 0.56	0.80	—

\*Models were adjusted for childcare size, SES, language, rurality, province and year of delivery

# Physical activity opportunities

	Healthy Start – Départ Santé intervention			
Dependant variables	$\beta$	95% CI	P value	Direction of change
PA time provided	-0.60	-2.01, 0.81	0.40	—
Indoor play	-0.11	-1.27, 1.05	0.85	—
Teacher practices	-0.58	-1.70, 0.54	0.30	—
Education and professional development	-0.01	-2.44, 2.42	0.99	—
Policy	0.03	-0.41, 0.47	0.89	—
Outdoor play time	-0.4	-1.31, 0.57	0.44	—
Outdoor play environment	1.75	-2.05, 5.55	0.36	—

\*Models were adjusted for childcare size, SES, language, rurality, province and year of delivery

# Educators perceptions

*“We don’t offer juice anymore at the centre...and to be honest, the kids haven’t even noticed!”*

*“We built a big hill in the yard so the kids could run up and down it and use it for sledding in the winter.”*

*“The pickiest children are now trying new foods and serving themselves and sometimes eating more than the other children.”*

*“Staff are playing games in the gym and using the Active Play Equipment kit. We noticed more active games in the classrooms.”*



# Changes in child behaviours





## Food intake

	<b>Pre-intervention n = 787</b>	<b>Post-intervention n = 670</b>
	<b>Mean (SD)</b>	<b>Mean (SD)</b>
Fibre (g)	Control: 2.4 (1.4) HSDS: 2.4 (1.4)	Control: 2.7 (1.7) HSDS: 2.5 (1.4)
Sodium (mg)	Control: 474.9 (307.7) HSDS: 532.1 (421.3)	Control: 485.8 (328.6) HSDS: 518.5 (327.3)
Fruit and vegetables (servings)	Control: 0.6 (0.5) HSDS: 0.7 (0.5)	Control: 0.8 (0.7) HSDS: 0.8 (0.6)



## Food consumed

### Healthy Start – Départ Santé intervention

Dependant variables	$\beta$	95% CI	P value	Direction of change
Fibre (g) <sup>a</sup>	-0.031	-0.12, 0.06	0.50	—
Vegetables and fruit (servings) <sup>a</sup>	0.019	-0.05, 0.08	0.57	—
Sodium (mg) <sup>a</sup>	-0.443	-1.85, 1.00	0.54	—

<sup>a</sup> Variable is square root transformed

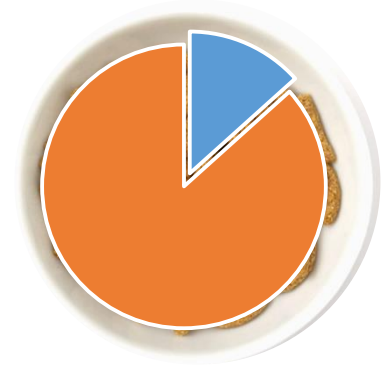
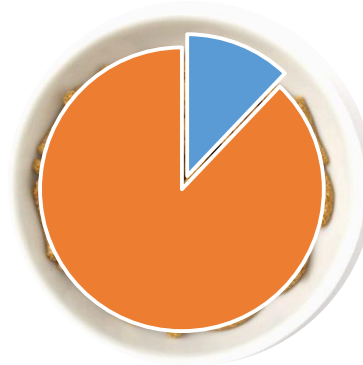
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# Food intake - Fibre

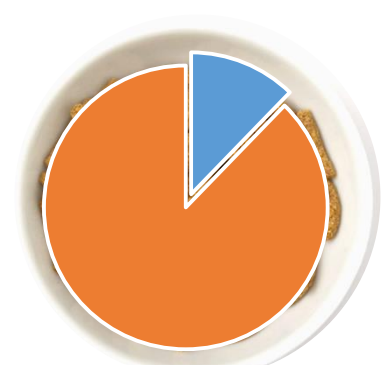
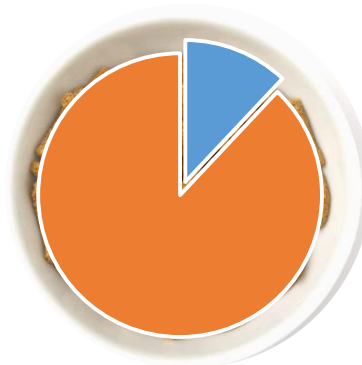
Before

After

Usual practice centres



HSDS centres



**Daily fibre needs = 20 grams**

 % of daily needs consumed



# Food intake - Sodium

Usual practice centres

Before

After

HSDS centres



**1100 mg sodium = 1/2 tsp salt**

 % of daily needs consumed

# Food intake – Fruit and vegetables

Before

After

Usual practice centres



HSDS centres



**1 serving of FV = 1 baseball**

 % of 1 serving of FV consumed



## Physical activity

	<b>Pre-intervention n = 442</b>	<b>Post-intervention n = 259</b>
	<b>Mean (SD)</b>	<b>Mean (SD)</b>
Total PA time (min)	Control: 181.93 (47.77) HSDS: 171.60 (47.77)	Control: 191.41 (44.35) HSDS: 181.59 (46.59)
Moderate to vigorous PA (min)	Control: 31.00 (18.86) HSDS: 26.48 (16.81)	Control: 36.58 (18.66) HSDS: 34.98 (18.13)
Light intensity PA (min)	Control: 150.93 (39.15) HSDS: 145.12 (37.49)	Control: 154.83 (33.95) HSDS: 146.60 (34.81)
Sedentary time(min)	Control: 298.07 (47.77) HSDS: 308.40 (47.77)	Control: 288.59 (44.35) HSDS: 298.41 (46.59)

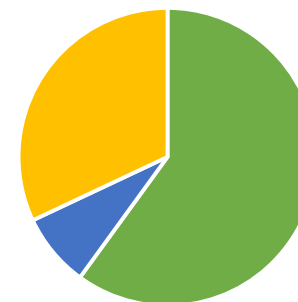
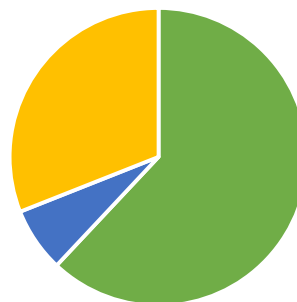


# Physical activity during childcare hours (over 8 hours)

Before

After

Usual practice centres

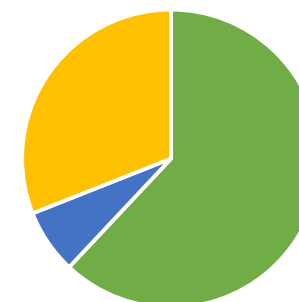
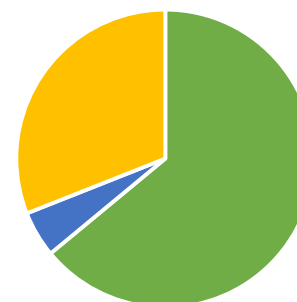


MVPA

LPA

Sedentary time

HSDS centres





# Physical activity and fundamental movement skills

Healthy Start – Départ Santé intervention				
Dependant variables	$\beta$	95% CI	P value	Direction of change
Total PA	1.53	-11.8 , 14.6	0.82	—
MVPA (min) <sup>a</sup>	0.23	-0.19, 0.65	0.28	—
LPA (min)	-1.28	-11.2, 9.03	0.81	—
Sedentary time (min)	-1.54	-14.64, 11.18	0.82	—
Gross motor quotient	<b>4.06</b>	<b>2.08, 6.02</b>	<b>&lt;0.001</b>	<b>↑</b>

<sup>a</sup> Variable is square root transformed

\*Multilevel models were adjusted for age, sex, childcare environment, childcare size, SES, language, rurality, province and year of delivery

# What can we say so far?



- This is a real-life intervention involving small children
- Lots of positive feedback received from childcare centres
- Probable improvement in knowledge of PA and healthy eating
- Significant increase in the amount of vegetables and fruit served at lunch
- Significant improvement in fundamental movement skills
- Need for further analyses...
- Phase III – time to dig further!

# Your turn!



## Thank You!

[www.healthystartkids.ca](http://www.healthystartkids.ca)