

Worlds apart: Wealth Vs. Health

Hamilton Spectator – Code Red Series

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Two neighbourhoods, separated by just five kilometres as the crow flies. They might as well be worlds apart.

Between these Hamilton neighbourhoods, representing two ends of the spectrum, there's a difference of 21 years in average age at death.

Basically, it's a crude measure of life expectancy across this city, which is important because there's no clearer measure of health than whether you're dead or alive.

Of all the glaring disparities between Hamilton's neighbourhoods uncovered in this groundbreaking health mapping project, the gap in life expectancy is the most disturbing. That 21-year difference represents an entire generation lost between those neighbourhoods at the top and bottom.

At one extreme is the west Mountain neighbourhood bounded by Upper Paradise Road, the Mountain brow, Rice Avenue and Mohawk Road West, where the average age at death was 86.3 years, based on death statistics collected from 2006 to 2008. That's five years better than Canada's average life expectancy.

At the other extreme is the neighbourhood tucked between Wellington Street North, the harbourfront, Sherman Avenue North and the railway tracks near Barton Street, where the average age at death for the same period was 65.5 years.

Put another way, that same North End neighbourhood would rank 165th in the world for life expectancy, tied with Nepal, just ahead of Pakistan and worse than India, Mongolia and Turkmenistan.

"There's your story right there," said Neil Johnston, a Hamilton health researcher who has collaborated on this project for three years and acted as the chief data analyst.

The huge gap in life expectancies across the city is one important piece of a much larger story concerning the health of Hamilton's neighbourhoods.

The Spectator's comprehensive analysis of more than 400,000 pieces of hospital and death data for Hamilton residents shows staggering

disparities between the best and poorest-performing neighbourhoods.

In parts of the lower-central portion of Hamilton, where poverty is deeply entrenched, some neighbourhoods live with Third World health outcomes and Third World lifespans -- all the more shocking in a city with a major medical school and top teaching hospitals, in a country with universal, publicly funded health care.

"It's absolutely appalling, " said Johnston, an expert in analyzing and mapping health data.

"In the current circumstances, it may not be avoidable and that's the tragedy."

Great divide between our poor and our prosperous

From emergency room visits to hospital admission rates to cardiovascular incidents to psychiatric-related emergencies to respiratory-related problems, the worst-performing neighbourhoods in the city suffer with rates that are 10, 20, even 30 times higher than the best-performing neighbourhoods.

"The bottom line is the picture is so consistent across all these measures -- in things that affect the elderly, things that affect children, in the cost of delivering care -- it's an undeniable gradient, " Johnston added.

But there's an even bigger part to this story.

This undeniable gradient, as Johnston describes it, is not the result of chance or random events.

There are clear reasons for the great divide between Hamilton's healthiest and unhealthiest neighbourhoods.

Health is influenced by a complex mix of many factors that have been broadly labelled the social determinants of health. (See box on WR5)

They include factors such as education and social-support networks and early-childhood development, but chief among the determinants of health is income.

Simply put, the wealthier you are, the healthier you are.

In a city like Hamilton, with worrisome levels of poverty, that's a problem.

After mapping health outcomes at the neighbourhood level, The Spectator then analyzed and mapped a dozen different social and economic

variables at the neighbourhood level.

Similar patterns that exist between the social and economic maps and the health maps are stunning. (See WR3 and WR6)

The common denominators scream out.

Those neighbourhoods with high rates of emergency room visits, no family physician, respiratory-related problems and psychiatric emergencies are the same neighbourhoods, in general, that have the lowest median incomes, lowest dwelling values, highest rates of people living below the poverty line and highest dropout rates from school. om WR1

"We have health care but really, if you look at it from overall health, it's really illness care, " said Mark Chamberlain, president and CEO of Trivaris, but also chair of the Hamilton Roundtable for Poverty Reduction.

"We're really dealing with things once they've happened to us.

"The real health care system is what we're currently calling our social system, " Chamberlain said. "They're the things that are actually dealing with the social determinants of health, the preventative stuff.

"If I can help this person get a job, they'll be healthier and it will cost us less money. If I can help a person through a mental illness, they'll be healthier and they will cost us less money. If we can help a person go from homelessness to a home, they will be healthier and it will cost us less money.

"It goes on and on and on."

Terry Cooke, president and CEO of the Hamilton Community Foundation (a philanthropic organization with assets of \$126 million that provides grants to charitable organizations, programs and scholarships), said people should be "shocked and disturbed" by the numbers.

"I think the extent of the poverty and the disparities are more gaping than any of us would have known going into this, " said Cooke, a former chairman of Hamilton-Wentworth region. "It would have been reminiscent of what you might anticipate in Detroit or the south side of Chicago or some Third World countries, certainly not what you expect in southern Ontario.

"When you have these disparities in emergency room visits or life expectancies, you're looking at dramatic and destructive impacts of concentrated poverty."

The findings of this project attack the notion that universal health care in Canada is the same as equal health care, and by extension, equal health. The vast disparities in health outcomes between neighbourhoods show there's nothing equal about the health of Hamiltonians.

"I think people should be outraged about these discrepancies and that we should take them on as a community, " said Dr. Chris Mackie, a Hamilton associate medical officer of health.

"Let's have that serious discussion as a community about how we can bring those people that are suffering up to the level that we would accept."

Meet Jessica Bartley, a paramedic who covers the lower-central city, from Kenilworth to Dundurn, water's edge to the foot of the Mountain.

At age 28, with six years under her belt, she still has a fresh-faced enthusiasm for her job, although she admits that she's turned a little harder, a little more cynical.

"Everyone told me when I started to work here 'You don't want to work here, Jessica, you're too nice, you'll get hard, " she recalled. "And it's true.

"The biggest thing I've learned in this job is that you can only help those who want help, " Bartley said. "That has been the most frustrating thing for me because I get so frustrated, angry, sad."

Bartley grew up on a farm in Niagara-on-the-Lake and admits she led a sheltered life.

"Coming to Hamilton, one of the first things that shocked me was driving down the street, maybe 2 o'clock in the morning, and seeing parents and kids running across the street, " she said. "What are kids doing up so late at night?

"Or moms pushing their babies in strollers down the street that late at night. Totally shocked."

Bartley is a first responder, which means she drives her emergency-equipped SUV around the lower city -- alone -- ready to be first on the scene of a medical call.

It's a little scary, she admits, and she's had her share of people take a swing at her. On an average night, there are plenty of drunks to deal with, bar fight warriors, drug overdoses, street people and a lot of mental health issues to sort out, often with the help of police.

Not long ago, she showed up at a 5 a.m. call for a report of a woman

crying on someone's front porch.

"Her mascara is running, she's got one shoe on, it's cold out but she has no real clothes on for winter or the weather, her purse is half strewn all over the sidewalk, " Bartley recalled. "She says that she's running from somebody and she doesn't need any help.

"She was a street person, so she works on the street for money. Eventually, she said that she's addicted to cocaine and she doesn't know how she got there, so we just took her to the hospital."

Or there was the time she responded to a call for a girl bleeding in the toilet.

"There was a girl slumped over on the toilet, " Bartley said. "Her boyfriend was there and they had pulled a baby out from the toilet.

"She didn't even know she was pregnant, she says, and her boyfriend is screaming in the background, wanting to have a paternity test to see if the baby was his because he didn't think it was.

"I remember the baby's on this blanket between the bathroom and the kitchen, "

Evaporation of manufacturing jobs takes its toll

Bartley continued. "They taught us that if you can, clamp the umbilical cord and see if the father wants to cut it. And I'm thinking, as they're yelling in the background, this is like a Jerry Springer Show."

Miraculously, the baby survived.

"I found out later that the baby was withdrawing from drugs because the mother was on drugs."

But the case that has stayed with her, gnawed at her, was a suicide call to the former Hamilton Psychiatric Hospital on the west Mountain for a man who had a past history of attempts.

He had taken the lace from one his boots, tied one end around his neck and the other around the hinge of a closet door.

"It wasn't even high enough, " she said quietly. "All he did was buckle his knees.

"That bothered me -- that someone hates himself or his life that much that he would just let his knees buckle and his feet dangle and kill himself."

But even though she often sees the city at its worst, she has no intention of leaving.

"I have this connection with Hamilton because I can see all the need in this city, and I love to be the one to be there to help," Bartley said. "These people, they're so vulnerable.

"I really do feel needed here."

Hamilton is a unique study in contrasts, a city of upper and lower, urban and suburban, high-density inner-city neighbourhoods crammed with people and large tracts of open, sparsely inhabited farmland.

It's also a city of the very rich and the very poor, the healthy and the unhealthy, joined together.

Consider these differences uncovered by The Spectator's investigation:

- * At one extreme, the rate of emergency room visits in the neighbourhood directly in front of the U.S. Steel plant was 1,291 per 1,000 people.

At the other extreme, one Flamborough neighbourhood had an emergency room visit rate of 97 per 1,000 people. That's a difference of 13 times from best to worst.

You'll read more about emergency room use, health care costs and physician resources in the second part of this series Monday.

- * There are seven neighbourhoods in Hamilton where the rate of low birth-weight babies as a proportion of total births was higher than 20 per cent, including one neighbourhood where the rate of low birth-weight babies was 47 per cent.

The average rate of low birth-weight babies in sub-Saharan Africa is 15 per cent, according to the World Health Organization.

Based on the The Spectator's findings, Hamilton's overall rate of low birth-weight babies is more than 30 per cent higher than the Canadian average.

This is important because low birth-weight babies can suffer from poorer health in general throughout life and require substantially more health care resources.

You'll read more about the role of prenatal and postnatal care on health, along with the importance of proper childhood development during the early years in Tuesday's third part.

* In the neighbourhood bounded by Parkdale Avenue, Red Hill Creek, Windermere Basin and the rail line, the average age of a person suffering a cardiovascular emergency, such as a heart attack or stroke, was 57 years of age.

In the Stoney Creek neighbourhood bounded by Barton Street, Millen Road, Highway 8 and Green Road, the average age for a cardiovascular emergency was just over 79 years.

That's a difference of 22 years from best neighbourhood to worst in Hamilton.

You'll read more about the earning years and the importance of economic factors on health in part four of the series Wednesday.

* In one rural Ancaster neighbourhood, there were 5,071 days of hospital bed use per 1,000 people age 70 and older.

By contrast, in one rural Flamborough neighbourhood, there were 309 days of hospital bed use per 1,000 people age 70 and older, a difference of more than 16 times from best to worst.

The challenges of providing adequate care to the elderly will be explored in Thursday's fifth part.

* The neighbourhoods with the 10 highest rates of psychiatric-related emergencies are all located in a square surrounding the downtown core.

Seven of those top 10 neighbourhoods with the highest rates of psychiatric-related emergencies are also among the top 10 neighbourhoods where patients report having no family physician.

You'll read more about the particular challenges posed by mental health issues in part six of the series Friday.

The final part of the series will focus on possible solutions, including unique first-person accounts from a cross-section of Hamilton's leaders.

Meet Fred Eisenberger.

You know Fred, he's the mayor.

Poverty touches the lives of many people in Hamilton. What you may not know is that poverty was part of the mayor's life as he was growing up in the city.

"I'm a product of the east end and poverty, quite frankly, " said

Eisenberger.

"I never had an empty belly, to be honest. I didn't live at that level of poverty, I don't think.

"I'm sure we were at or below the poverty line, but not to the point where we didn't have food."

Eisenberger's parents were immigrants to Canada, a stay-at-home mom and a working dad, and the family lived in a geared-to-income housing complex on Lang Street.

"It's still there, " Eisenberger said. "I don't live too far away from there, actually. I still go to the neighbourhood, I still see the same issues. I see the same kinds of families there that are struggling to make ends meet.

"And I see the same kind of kids, who deserve the opportunity to end that cycle and go through an education process.

"I think there is a need for a philosophical shift in the country, " Eisenberger said, "so that we don't necessarily just say 'You're on your own, folks.'"

Just how did we get to this point?

Hamilton's story is one of immigrants and the role that immigration has long played in the city's past.

Hamilton has the country's third-highest percentage of foreign-born residents, behind Toronto and Vancouver; and in Ontario, Hamilton is second only to Toronto as the most popular destination for new immigrants.

That also leads to a concentration of new Canadians in neighbourhoods with low rents.

The last census shows one downtown neighbourhood of 2,600 people where almost one in four residents had arrived in Canada in the preceding five years.

Not surprisingly, perhaps, neighbourhoods with large concentrations of new immigrants also have high rates of people living below the poverty line (StatsCan defines the poverty line as \$21,200 for a single person or \$39,400 for a family of four, in an urban area such as Hamilton), high proportions of people reporting no family physician and high rates of emergency room visits and hospital admissions.

It's a story about a city that has a major university, a large college and a

small private university, yet also has a neighbourhood where more than 40 per cent of the adults between the ages of 25 and 64 don't have a high school or postsecondary diploma.

According to the last census, there's one neighbourhood by Centre Mall that has 1,375 people between the ages of 25 and 64.

Ten of them have a university degree.

Contrast that with one Westdale neighbourhood where two out of three adults between the same ages have a university degree.

But mostly it's a story about the role of steelmaking and manufacturing in the city -- for decades, a stable provider of decent-paying, blue-collar jobs in Hamilton.

There were environmental costs associated with these jobs, however, and they were jobs that didn't necessarily require a great deal of education.

Two or three generations ago, steelworker families would have lived in the shadows of Dofasco and Stelco and the other large manufacturers along Burlington Street.

But like cities all across North America, better wages, affordable housing and greater mobility allowed people to flee to the suburbs.

Then the jobs disappeared.

"It's no great secret, " said the Community Foundation's Cooke, "that starting in the late '70s and early '80s, we witnessed the evisceration of much of the industry along Burlington Street that had sustained many working-class families who lived in neighbourhoods and sent their kids to local schools and took care of the properties and looked out for other kids and sustained a sense of community."

Neighbourhoods around the steel mills were no longer considered desirable places to live, in part because of the environmental legacy of steelmaking, in part because the houses were smaller and older.

Drift to the suburbs leaves inner-city impoverished

now those same neighbourhoods are blighted.

The 10 neighbourhoods with the lowest average house value in Hamilton all ring the former Stelco and Dofasco.

In fact, of the 25 neighbourhoods with the lowest average house values, all

are located in the lower part of the former City of Hamilton.

In one neighbourhood that fronts the city's two steelmakers, more than one in five homes requires major repairs, according to the 2006 census.

It's the same neighbourhood where the average value of a home is the same as the sticker price of a high-end Mercedes-Benz SUV.

"The decline in the industrial strength of the city certainly has a role to play," said Eisenberger.

"There was kind of a drift into the suburban communities for anybody who was affluent, and a reverse drift into the inner city for those who were not. It was really a recipe for a Detroit or Buffalo scenario where you have great suburban communities and an inner city downtown that's just fallen apart and been left to go to ruin.

"And that spills into the social determinants of health."

Meet Dr. Dale Guenter, a physician and an associate professor in the department of family medicine at McMaster University.

Guenter is also president of the Shelter Health Network, which operates a rotating series of medical clinics in Hamilton's homeless shelters to help those who are "precariously housed," as he puts it.

"That is to say sometimes they're housed, sometimes they're not," Guenter noted.

The clinics employ a team approach that includes nurses, nurse practitioners, family doctors and specialists. Interestingly, the clinics are using an electronic health record system, something the province hasn't figured out how to do yet.

"In a sense we're running a virtual clinic," said Guenter. "We know exactly what kind of issues they had at the last shelter. We know what kind of tests were ordered."

The concept is simple: The network improves the health of the homeless and it ultimately reduces the use of health care resources, which makes it cheaper for everyone.

"It was our feeling that a lot of people were landing in emergency departments and hospitals who really did not need to be there," said Guenter. "But either the people watching over them in the shelters or the people themselves could see no option when something came up."

"The reflex was to call an ambulance and send them to emergency."

Guenter is soft-spoken and thoughtful. He has worked in the North End, worked with HIV/AIDS patients, and now in Hamilton's homeless shelters, and he knows he has to guard himself from burning out.

"Every single person breaks my heart, " said Guenter. "The vast majority have had bad breaks from the time they were in their mother's womb, from a time when they had absolutely no say in what was going to happen to them.

"From the day that they were conceived through to the time I meet them, they have been up against some circumstances that are completely foreign to me, circumstances that I cannot imagine growing up in.

"But I have to say there are many joys around this work, and the joy is to see when people can actually surmount that set of circumstances, " Guenter added. "Sometimes just a little bit and sometimes a lot."

On a brisk winter morning, kids in pyjama bottoms are pushing babies in strollers along Wentworth Street North. Three blocks over, a scruffy young man walks a menacing-looking pit bull, the dog's muzzle absent.

Bits of garbage kicked up by a stiff wind dance and spin in front of the grimy stores on King Street East, where some of the street-level fronts have been converted to residential units, one of Hamilton's peculiarities.

This is census tract 5370050, as it's known by Statistics Canada. We'll call it CT0050, for short.

The neighbourhood, bounded by Wellington Street North, Cannon Street East, Wentworth Avenue North and Main Street East, is a tiny square measuring just 0.6 square kilometres, and 4,440 people are jammed inside its borders.

Take the 12 health-related variables measured by The Spectator and the 12 social and economic variables, add them all together, create a new overall ranking from top to bottom and CT0050 finishes 130th out of Hamilton's 130 neighbourhoods.

CT0050 finished among the bottom 10 neighbourhoods in 14 of the 24 categories measured, including eight of the 12 health categories.

It had the highest rate of urgent hospital admissions, the second-highest dropout rate from high school, and the third-highest rates of emergency room visits and overall hospital admissions.

More than 40 per cent of the children in CT0050 live below the poverty line.

A staggering one-third of all income for the neighbourhood comes not from wages but from government money, such as Ontario Works or old age pensions.

None of this comes as any great surprise to David Christopherson.

Christopherson, the MP for Hamilton Centre, grew up in this neighbourhood.

His constituency office on Tisdale Street South sits smack dab in the heart of CT0050, across the street from the parking lot of the No Frills store on Main Street East.

"I look out my office window and I can see where I rode my bike as a kid, " Christopherson said. "My mom was a cashier at the No Frills when it was a Loblaws back in the '60s. But I'm also here because this is where there is a need.

"There are a lot of tears in this office, " said Christopherson. "People don't know where to turn.

"People come in here and tell us they can't afford to buy food for their families. It hits you like a two-by-four right in the face."

Next door to CT0050 is CT0049, which finished 129th out of Hamilton's 130 neighbourhoods.

It's even smaller than CT0050, just 0.5 square kilometres and a population of almost 2,600 people living in the area bounded by James Street North, Cannon Street East, Wellington Street North and King Street East.

CT0049 ranks among the worst three neighbourhoods in 10 of the 24 categories, including median income, psychiatric-related emergencies, hospital admission rates and respiratory-related incidents.

Nearly 70 per cent of the children in CT0049 live below the poverty line. That is nothing short of heartbreaking.

Combine the two neighbourhoods and the level of poverty and the depth of health problems are shocking.

There are just over 7,000 people living in CTs 0050 and 0049, and more than 40 per cent of them live below the poverty line. The two neighbourhoods also rank first and second for the highest rates of hospital

bed use per person, based on The Spectator's investigation.

CT0049 and CT0050 used 1,442 and 1,430 hospital-bed days per 1,000 people respectively over the time period covered by the data.

At the other extreme, one Flamborough neighbourhood required just 85 hospital-bed days per 1,000 people, a difference of 17 times from highest and lowest.

"It's horrific, " Christopherson said simply. "The solution to poverty is going to have to come from people who aren't in poverty.

"Charity can only take you so far."

Meet Dr. Walter Owsianik, a "dinosaur, " as he calls himself -- a one-doctor practice located in the heart of the North End at James and Burlington streets.

The apple hasn't fallen far from the tree -- as a child Owsianik went to Bennetto elementary school.

"I work two blocks away from where I grew up as a kid, " he said.

"I have patients I've known literally since kindergarten. You can't put a price on that."

He also has a lot of patients who are poor and mentally ill.

"The problem is that they're almost lepers in the health system because a lot of my colleagues don't want to take them on, " Owsianik said. "They're a little bit scary, they take up a lot of time, they're not really cost effective.

"Certainly the poor and the mentally ill suck up a lot of time and resources, but they're the sick and challenging individuals who need our care."

Owsianik points to what he says is the diminished role of family as a major problem, particularly with mentally ill patients.

"They become isolated, " he said. "These folks don't even have friends. Inadvertently, the medical office -- me, my nurse -- we become their friends because they come to me for everything, almost.

"It's a bit overwhelming because you can't be their mother."

Meanwhile, he shakes his head at the inefficiencies of the current health care model that employs him.

"It's a crazy system, " Owsianik said. "The government's got this money, in

essence I'm working for them, yet they let me do anything I want.

"There's no real oversight about how effective I am or how I spend the money or what I do with my patients.

"There's no real incentive for me to think that way, " he added. "I could spend thousands of bucks on you ordering CAT scans and MRIs, but for what purpose and is it really worthwhile?"

In what other company, he asks, do the employees tell the owner how the business is to be run?

"Can you imagine a train engineer just driving the train wherever they wanted to go that day?"

Once upon a time, Karen De Silva was a broken person.

Now 36, she tells her life story over a cup of coffee, and you can't help but wonder what chance she ever really had to lead a normal life.

Raised in the Jane-Finch area of Toronto by her alcoholic grandmother, because that was the better choice than being raised by her drug-addicted mother. Sexually abused at a young age by a family member. In and out of foster homes, a constant runaway.

Then other problems kicked in.

Exotic dancer at age 16, heavy crack cocaine user by age 18, a baby removed from her care at age 21, prostitute by 22.

At first, it was ads in the paper, phone calls, private meetings for sex. She needed the cash because she'd already spent the rent money on drugs.

"How did I feel? I didn't feel at all, " said De Silva. "After, though, I felt very yucky. Very dirty. Very bad.

"But then I numbed that again with the drugs."

She ended up in Hamilton about nine years ago, ironically, to get treatment at a facility.

"I had gotten arrested and the judge said if I took treatment, they would drop the charges and it wouldn't be on my record, " De Silva said.

But life in Hamilton didn't quite work out as planned. Her drug use worsened and she had a second baby, which was also taken from her care. Then she ended up on the street, homeless.

By this point, De Silva had slid into street prostitution, standing on downtown corners, sometimes as many as 10 tricks a day.

Where would she sleep?

"Sometimes in a crack house, " she said. "Sometimes in a staircase, sometimes in a hotel. It would depend on how much money you made that day."

And how would she stay clean?

"Sometimes I would even take a bath in a Tim Hortons washroom, " De Silva said. "Wash up in the sink. Or I'd go to Urban Core (Community Health Centre).

"Or I'd go to a crack house where the washroom was in good condition or the shower was working and I'd use that. You give them a piece of drug and then they'll let you have a shower.

"I look back on it now and go 'Wow, I can't believe I did all that, '" she added. "Numb. I was numb to the world, numb to everything around me.

"I just wanted to use and use and use. Or die."

Salvation for De Silva came unexpectedly, in the form of another pregnancy, of all things.

At first, she thought of having an abortion but she never lived in one place long enough to get it arranged. Then she was going to give the child up for adoption.

She decided to get clean in preparation for the birth, then went further and sought help from a number of programs.

By the time her daughter was born, De Silva had made the decision to keep her baby.

It's been nearly three years since De Silva turned her life around.

She has her daughter living with her, she's enrolled in the addiction-care worker program at McMaster University -- and she even does some counselling with other sex trade workers, including some of the women she once stood shoulder-to-shoulder with on the streets.

De Silva rhymes off her problems one by one: drug addiction, bipolar disorder, obsessive-compulsive disorder, post-traumatic stress, high blood pressure.

Then she lists the resources she accessed to help heal herself: a psychiatrist, public health nurse, nurse practitioner, family home visits, one-on-one mental health counselling, one-on-one addiction counselling, sexual abuse counselling, an aftercare program, three parenting courses and a program offered by children's aid.

"I had to use a lot of resources because there was a lot wrong with me, " said De Silva.

"With my addiction, it started from somewhere. You don't grow up saying 'I want to be an addict.'

"Now I know that it was stuff happening to me when I was smaller, as a child, that just built and built and built, " she said.

And that's the larger point to this story.

It costs a lot of money and takes a lot of resources to fix a broken person.

Based on figures obtained from Ontario's health ministry, the cost of an acute-care hospital bed in Hamilton is \$1,299 per day, each emergency room visit costs \$259, and an ambulance trip is calculated at \$785.

Those amounts were then matched with the hospital bed and emergency room data obtained for this project to calculate costs at a neighbourhood level.

Compare the differences between both ends of the spectrum in Hamilton.

The total combined costs for hospital bed use, emergency room visits and ambulance trips for the five Hamilton neighbourhoods at the top end of the scale was \$38.3 million, according to The Spectator's analysis.

The total combined costs for the five neighbourhoods at the low end of the scale was \$4.3 million.

That's a difference of \$34 million in hospital, emergency room and ambulance costs -- money that ultimately comes from taxpayers.

"Ultimately, what is our return on the money?" asks Johnston, the project collaborator. "And the answer, in many cases, is not very much, because it's a sort of revolving door.

"Which doesn't mean that the safety net shouldn't be there, it absolutely should, at all times, " he hastens to add.

"But the costs are so huge that we again have to ask the question: Is there

a better way?"

SOCIAL DETERMINANTS OF HEALTH

1. Income and social status

These two factors seem to be the most important determinants of health. Health status improves at each step up the income and social hierarchy. High income determines living conditions such as safe housing and ability to buy sufficient good food. The healthiest populations are those in societies that are prosperous and have an equitable distribution of wealth.

2. Social support networks

Support from families, friends and communities is associated with better health. These networks can be important in helping people solve problems and deal with adversity, as well as in maintaining a sense of control over life circumstances. The caring and respect that occurs in social relationships and the resulting sense of well-being, seem to act as a buffer against health problems.

3. Education and literacy

Education contributes to health and prosperity by equipping people with knowledge and skills for problem solving, and helps provide a sense of control and mastery over life circumstances. It increases opportunities for job and income security, and job satisfaction, and it improves people's ability to access and understand information to help keep them healthy.

4. Employment and working conditions

Unemployment, underemployment, stressful or unsafe work are associated with poorer health. People who have more control over their work circumstances and fewer stress-related demands of the job are healthier and often live longer than those in more stressful or riskier work and activities.

5. Social environments

The importance of social support also extends to the broader community. Civic vitality refers to the strength of social networks within a community, region, province or country. The array of values and norms of a society influence in varying ways the health and well-being of individuals and populations.

6. Physical environments

The physical environment is an important determinant of health. At certain levels of exposure, contaminants in our air, water, food and soil can cause a variety of adverse health effects, including cancer, birth defects, respiratory illness and gastrointestinal ailments.

7. Personal health practices and coping skills

This refers to those actions by which individuals can prevent diseases and promote self-care, cope with challenges, and develop self-reliance, solve problems and make choices that enhance health.

8. Healthy child development

The effects of early experiences on brain development, school readiness and health in later life shows early-child development is a powerful determinant of health. A young person's development is greatly affected by housing and neighbourhood, family income, level of parents' education, access to nutritious foods and physical recreation, genetic makeup and access to health care.

9. Biology and genetic endowment

The basic biology and organic makeup of the human body are a fundamental determinant of health. Genetic endowment provides an inherited predisposition to a wide range of individual responses that affect health status.

10. Health services

Health services -- particularly those designed to maintain and promote health, to prevent disease and to restore health -- contribute to population health.

11. Gender

Gender refers to the array of society-determined roles, personality traits, attitudes, behaviours, values, relative power and influence that society ascribes to the two sexes on a differential basis. Many health issues are a function of gender-based social status or roles.

12. Culture

Some people may face additional health risks due to an environment that is largely determined by dominant cultural values that contribute to the perpetuation of conditions such as marginalization, stigmatization, loss of

language and culture and lack of access to culturally appropriate health care and services.

-- What Makes Canadians Healthy or Unhealthy? by the Public Health Agency of Canada

HAMILTON'S TOP FIVE HEALTH DETERMINANTS

These are Hamilton's five most important determinants of health, according to Dr. Chris Mackie, an associate medical officer of health for the city:

1. Smoking

"We still have a rate of smoking in Hamilton that's above the provincial and national averages, " said Mackie. "Smoking is something we've really tried to take on."

His message: "Smoking is not a normal part of life."

2. Poverty

3. Early-childhood development

"If you can help a child begin on the right trajectory then that's going to impact them for their whole life, " said Mackie. "It's a really cost-effective way of making a difference."

4. Injuries and trauma, especially in the two-to-40 age range, and particularly due to motor vehicle collisions

5. Obesity and lack of physical activity