

Issue Brief: Impact of Physical Activity on Health

Overview:

Physical activity plays a critical role in the prevention of chronic diseases, reducing the risk of cardiovascular disease, type 2 diabetes, some cancers, and improving mental health. The World Health Organization (WHO) reports a 20-30% increased risk of death among people who are insufficiently active compared to sufficiently active people.¹ The WHO and CDC recommend at least 150 minutes of physical activity a week for adults and 60 minutes per day for children.²

Background Information:

Physical activity has been shown to impact several health conditions:

- Diabetes
 - Physical activity improves blood sugar control. A meta-analysis found that exercise increased insulin response and decreased blood lipids in people with type 2 diabetes.³
 - Physical activity reduced the risk of developing type 2 diabetes by 46-58%.⁴
- Heart Disease
 - Inactive people are twice as likely to develop heart disease.⁵
 - High levels of physical activity reduced the risk of cardiovascular disease and coronary heart disease by 20-30%.⁶
 - Moderate physical activity reduced the risk of cardiovascular disease and coronary heart disease by 10-20%.⁷
- Stroke
 - Physical activity was associated with 20-25% reduction of stroke risk.⁸
- Cancer
 - Physical activity reduces the risk of colon cancer, breast cancer, kidney cancer, endometrial cancer, bladder cancer, esophageal cancer, stomach cancer, and lung cancer.⁹
- Mental health
 - Getting 150 minutes of physical activity per week was associated with 25% lower risk of depression. Getting at least half of that amount (~75 minutes) was associated with 18% lower risk of depression compared to no physical activity.¹⁰
 - Physical activity reduces depression by a medium amount and anxiety by a small amount.¹¹

¹ <https://www.who.int/news-room/fact-sheets/detail/physical-activity>

² <https://www.cdc.gov/physicalactivity/basics/adults/index.htm>

³ <https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD002968.pub2/abstract>

⁴ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2992225/>

⁵ https://www.nhlbi.nih.gov/files/docs/public/heart/phy_active_brief.pdf

⁶ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3315253/>

⁷ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3315253/>

⁸ <https://academic.oup.com/ije/article/33/4/787/665548>

⁹ https://health.gov/sites/default/files/2019-09/10_F-4_Cancer_Prevention.pdf

¹⁰ <https://jamanetwork.com/journals/jamapsychiatry/fullarticle/2790780>

¹¹ https://www.academia.edu/download/38084990/2015_-_Rebar_-_Meta-meta_analysis_effect_of_PA_on_depression_and_anxiety_-_IN_PRESS.pdf

- 1 in 9 cases of depression could be prevented if adults did 150 minutes of physical activity per week¹²
- Children's Development
 - Physical activity improves academic performance.¹³
 - Children with higher levels of physical activity reported higher levels of self-worth and lower levels of anxiety.¹⁴
- Death
 - If adults aged 40 to 85 added 10 minutes of physical activity a day, an estimated 110,000 deaths could be prevented in the United States.¹⁵
 - Researchers found that adults aged 38 to 50 who took at least 7,000 steps a day experienced lower mortality rates than adults who took fewer than 7,000 steps a day.¹⁶

Impact of Physical Health on Sedgwick County Residents

Table 1 shows the 30 census tracts in Sedgwick County with the highest percentage of adults who reported getting no leisure-time physical activity, as well as the census tract's prevalence rate of diabetes, heart disease, stroke, poor mental health, depression, and cancer. Table 1 shows that census tracts with low physical activity experience higher rates of chronic health conditions with the exception of cancer.

Table 2 shows the 20 census tracts in Sedgwick County with the lowest percentage of adults who reported getting no leisure-time physical activity and their corresponding health conditions. Table 2 shows that census tracts that get more physical activity experience lower rates of chronic health conditions with the exception of cancer. Cancer prevalence rates did not correspond with physical activity as strongly as prevalence of diabetes, stroke, poor mental health, and depression.

¹² <https://www.apa.org/monitor/2022/11/defeating-depression-naturally>

¹³ <https://www.ncbi.nlm.nih.gov/books/NBK201501/>

¹⁴ https://www.researchgate.net/profile/Toby-Pavey/publication/233815239_Parfitt_Pavey_Rowlands_2009/data/09e4150bd5f9fd7f2c000000/Parfitt-Pavey-Rowlands-2009.pdf

¹⁵ [https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2788473?guestAccessKey=2f34eea5-cb75-4c83-ad98-405dfa2f9c07&utm_source=For The Media&utm_medium=referral&utm_campaign=ftm_links&utm_content=tf1&utm_term=012422#:~:text=In%20this%20cohort%20study%2C%20we,%2C%2010%20minutes%20per%20day\).](https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2788473?guestAccessKey=2f34eea5-cb75-4c83-ad98-405dfa2f9c07&utm_source=For%20The%20Media&utm_medium=referral&utm_campaign=ftm_links&utm_content=tf1&utm_term=012422#:~:text=In%20this%20cohort%20study%2C%20we,%2C%2010%20minutes%20per%20day).)

¹⁶ <https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2783711>

Table 1: Sedgwick County Census Tracts with the Highest Rate of Adults who get No Leisure-Time Physical Activity

Census Tract	No Leisure-Time Physical Activity Among Adults	Diabetes Prevalence Among Adults	Coronary Heart Disease Prevalence Among Adults	Stroke Prevalence Among Adults	Mental Health Not Good for ≥ 14 Days Among Adults	Depression Among Adults	Cancer Prevalence (excluding skin cancer) among adults aged ≥18 years
7	42.1%	25.7%	10.3%	7.9%	18.8%	19.0%	5.9%
8	40.0%	23.0%	9.3%	7.0%	18.6%	18.8%	5.8%
18	38.9%	17.2%	7.0%	4.3%	18.9%	20.2%	3.9%
1	38.2%	15.5%	6.1%	3.2%	17.9%	19.9%	3.9%
78	36.2%	18.6%	7.3%	5.6%	20.9%	21.5%	4.4%
65	35.8%	13.6%	5.4%	3.0%	18.5%	20.0%	3.3%
3	35.7%	14.5%	6.1%	3.2%	18.5%	20.9%	3.8%
4	35.2%	15.9%	6.6%	3.9%	18.5%	20.4%	4.1%
34	35.1%	15.1%	7.9%	4.2%	19.5%	23.0%	5.1%
68	35.0%	15.4%	8.0%	4.4%	18.8%	21.4%	5.5%
6	34.6%	18.5%	7.0%	5.1%	18.2%	18.5%	4.9%
40	34.0%	14.5%	7.5%	4.0%	19.8%	23.6%	5.1%
27	33.9%	16.0%	10.6%	5.3%	17.0%	20.8%	7.6%
61	33.4%	14.5%	7.8%	4.0%	17.9%	21.3%	5.5%
69	32.8%	14.7%	7.6%	4.2%	18.8%	22.1%	5.3%
37	32.5%	14.2%	7.0%	3.7%	17.6%	20.7%	5.1%
62	32.5%	15.6%	8.6%	4.5%	17.4%	21.0%	6.4%
75	32.5%	16.5%	6.2%	4.4%	19.1%	20.2%	4.5%
58	32.1%	13.3%	6.8%	3.5%	18.4%	21.9%	4.9%
24	31.8%	13.9%	6.5%	3.7%	19.5%	22.5%	4.3%
32	31.3%	13.0%	6.7%	3.4%	18.8%	22.6%	4.8%
39	30.9%	12.8%	6.7%	3.4%	18.1%	21.7%	5.0%
82	30.8%	13.3%	7.0%	3.3%	16.2%	19.6%	5.7%
60	30.7%	13.5%	7.2%	3.7%	17.3%	20.7%	5.7%
11	30.5%	15.9%	6.8%	4.3%	17.5%	19.9%	5.3%
52	30.3%	14.4%	8.9%	4.3%	16.8%	21.0%	7.0%
30	30.1%	12.5%	6.7%	3.4%	18.6%	22.4%	5.1%
26	29.7%	12.1%	5.7%	3.0%	17.7%	20.3%	3.8%
31	29.4%	12.4%	6.7%	3.4%	18.5%	22.6%	5.2%
59	29.0%	12.2%	6.7%	3.3%	18.2%	22.3%	5.4%

Source: CDC BRFSS 2020

Table 2: Sedgwick County Census Tracts with the Lowest Rate of Adults who get No Leisure-Time Physical Activity

Census Tract	No Leisure-Time Physical Activity Among Adults	Diabetes Prevalence Among Adults	Coronary Heart Disease Prevalence Among Adults	Stroke Prevalence Among Adults	Mental Health Not Good for ≥ 14 Days Among Adults	Depression Among Adults	Cancer Prevalence (excluding skin cancer) among adults aged ≥18 years
66	16.9%	4.4%	2.0%	1.1%	17.9%	20.7%	2.1%
95.05	16.8%	9.4%	5.8%	2.4%	11.9%	17.6%	7.8%
100.04	16.7%	8.2%	4.6%	2.0%	14.0%	19.4%	5.7%
95.11	16.6%	7.2%	3.8%	1.7%	14.4%	19.6%	4.9%
105	16.6%	7.9%	4.8%	2.0%	13.9%	19.5%	6.0%
99	16.5%	8.2%	4.8%	2.0%	13.8%	19.5%	6.2%
101.16	16.3%	8.6%	4.8%	2.0%	12.8%	18.1%	6.2%
103	16.2%	7.7%	4.4%	1.9%	13.5%	18.9%	5.7%
21	16.1%	8.6%	5.3%	2.2%	13.0%	18.6%	7.0%
73.01	16.0%	9.8%	6.3%	2.5%	11.1%	16.5%	8.5%
95.03	16.0%	8.2%	4.7%	2.0%	12.9%	18.5%	6.3%
95.1	16.0%	8.8%	5.1%	2.1%	12.7%	18.4%	6.9%
101.11	15.9%	8.7%	4.8%	2.1%	12.7%	18.0%	6.3%
22	15.5%	8.0%	4.7%	2.0%	13.2%	19.0%	6.3%
101.08	15.2%	9.4%	5.7%	2.3%	11.4%	16.7%	7.6%
95.07	14.7%	7.2%	4.0%	1.7%	13.3%	18.9%	5.4%
100.01	14.7%	8.7%	4.9%	2.0%	11.7%	17.4%	6.9%
74	14.2%	9.2%	5.6%	2.2%	11.2%	17.4%	7.9%
20	14.1%	8.0%	4.7%	1.9%	12.7%	18.7%	6.4%
101.15	13.7%	7.2%	3.8%	1.6%	11.6%	16.8%	5.6%

Source: CDC BRFSS 2020