**Joel Barnes**

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Ottawa, Ontario, K1T 4C1

**WORK EXPERIENCE**

**Microsimulation Analyst** Feb 2020 - current

Statistics Canada • Ottawa, Ontario

* Position is within the [Healthy Analysis Division](https://www150.statcan.gc.ca/n1/pub/82-003-x/2019008/had-das-eng.htm).
* Developed a [Shiny app](https://microsim.shinyapps.io/covid19/) that enables users to slice and visualize preliminary COVID-19 data in Canada by a number of different variables.
* Contributor to the [EpiSim R package](https://github.com/StatCan/EpiSim), which enables users to build multi-compartment models (ODE or CTMC) via an Excel workbook that specifies the model structure and age stratification. EpiSim has tools for sensitivity analyses and visualization of model results.

**Knowledge and Data Analyst** Sep 2010 - Dec 2019

CHEO Research Institute • Ottawa, Ontario

* Position was within the [Healthy Active Living and Obesity Research Group](https://www.haloresearch.ca).
* Cleaned, wrangled and modeled small- and large-scale datasets for refereed publications and reports.
* Provided data analysis consultations for research investigators, staff and students.
* Research manager and lead author for the annual [ParticipACTION Report Card on Physical Activity for Children and Youth](https://www.participaction.com/en-ca/resources/report-card) (after 2016, a biennial knowledge product).
* Carried out all aspects of the web design/development/maintenance and virtual private server deployment/maintenance for multiple websites:
* [Active Healthy Kids Global Alliance](https://www.activehealthykids.org)
* [Canadian Assessment of Physical Literacy](https://www.capl-eclp.ca) (5+ million data records collected)
* [Healthy Active Living and Obesity Research Group](https://www.haloresearch.ca)
* [Outdoor Play Canada](https://www.outdoorplaycanada.ca)
* [Sedentary Behaviour Research Network](https://www.sedentarybehaviour.org)

**VOLUNTEER EXPERIENCE**

**Treasurer** May 2018 - current

Active Healthy Kids Global Alliance • Ottawa, Ontario

* Attend monthly board meetings.
* Manage accounts, serve as bookkeeper, and generate reports for annual general meeting and yearly audit.

**SKILLS**

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| --- | --- |
| 10+ years’ experience   * CSS * HTML * JavaScript * MySQL * PHP * SPSS * SQL * WordPress | 5+ years’ experience   * DigitalOcean * GitHub * R * RStudio   <5 years’ experience   * C++ * Microsoft Azure * Python * R Markdown * Shiny |

**EDUCATION**

**Master of Science** Sep 2001 - Nov 2003

University of Saskatchewan • Saskatoon, Saskatchewan

* Thesis: “[Comparing health-related physical fitness and activity between old order Mennonite children in Ontario and rural children in Saskatchewan](https://harvest.usask.ca/handle/10388/etd-01082004-074053)”.
* Thesis nominated for the Governor General’s Gold Medal.
* Supervisor: [Dr. Mark Tremblay](https://www.haloresearch.ca/dr-mark-tremblay)

**Bachelor of Science in Kinesiology** Sep 1997 - Apr 2001

University of New Brunswick • Fredericton, New Brunswick

* Dean’s List recipient in all four years of the program.
* Graduated with the second highest grade point average in the program.

**REFEREED PUBLICATIONS**

1. **Barnes JD**, Guerrero MD. An R package for computing Canadian Assessment of Physical Literacy (CAPL) scores and interpretations from raw data. PLoS ONE. 2020. In press.
2. Hoffmann MD, McEwan D, Baumeister RF, **Barnes JD**, Guerrero MD. [Home team (dis)advantage patterns in the National Hockey League: Changes through increased emphasis on individual performance with the 3-on-3 overtime rule](https://pubmed.ncbi.nlm.nih.gov/33086910/). Percept Mot Skills. 2021;128(1):424-438.
3. Guerrero MD, **Barnes JD**, Tremblay MS, Pulkki-Råback L. [Typologies of family functioning and 24-hour movement behaviors](https://www.mdpi.com/1660-4601/18/2/699/htm). Int J Environ Res Public Health. 2021;18(2):699.
4. Larouche R, **Barnes JD**, Blanchette S, Faulkner G, Riazi NA, Trudeau F, Tremblay MS. [Relationships among children’s independent mobility, active transportation, and physical activity: a multisite cross-sectional study](https://pubmed.ncbi.nlm.nih.gov/32570211/). Pediatr Exerc Sci. 2020;32(4):189-196.
5. Ludwig A, Berthiaume P, Orpana H, Nadeau C, Diasparra M, **Barnes J**, Hennessy D, Otten A, Ogden N. [Assessing the impact of varying levels of case detection and contact tracing on COVID-19 transmission in Canada during lifting of restrictive closures using a dynamic compartmental model](https://www.canada.ca/en/public-health/services/reports-publications/canada-communicable-disease-report-ccdr/monthly-issue/2020-46/issue-11-12-november-5-2020/contact-tracing-covid-19-transmission-restrictive-closures-canada.html). Can Commun Dis Rep. 2020;46(11/12):409-421.
6. Sampasa-Kanyinga H, Colman I, Goldfield GS, Janssen I, Wang J, Tremblay MS, **Barnes JD**, Walsh JJ, Chaput JP. [24-hour movement behaviours and internalizing and externalizing behaviours among youth](https://pubmed.ncbi.nlm.nih.gov/33069581/). J Adolesc Health. 2020;S1054-139X(20)30524-3.
7. Gonzalez SA, Aubert S, **Barnes JD**, Larouche R, Tremblay MS. [Profiles of active transportation among children and adolescents in the Global Matrix 3.0 initiative: a 49- country comparison](https://www.mdpi.com/1660-4601/17/16/5997/htm). Int J Environ Res Public Health. 2020;17:5997.
8. Aubert S, **Barnes JD**, Tremblay MS. [Evaluation of the process and outcomes of the Global Matrix 3.0 of physical activity grades for children and youth](https://pubmed.ncbi.nlm.nih.gov/32636889/). J Exerc Sci Fit. 2020;18(2):80-88.
9. Lee EY, **Barnes J**, Lang J, Silva D, Tomkinson G, Tremblay M. [Testing validity of FitnessGram in two samples of US adolescents (12-15 years)](https://pubmed.ncbi.nlm.nih.gov/32477417/). J Exerc Sci Fit. 2020;18(3):129-135.
10. Walsh JJ, **Barnes JD**, Chaput JP, Tremblay MS. [Associations between duration and type of electronic screen use and cognition in US children](https://www.sciencedirect.com/science/article/pii/S0747563220300662). Comput Human Behav. 2020;108:106312.
11. Manyanga T, **Barnes JD**, Chaput JP, Dubois L, Katzmarzyk PT, Mire EF, Prista A, Tremblay MS. [Prevalence and correlates of objectively measured weight status among urban and rural Mozambican primary schoolchildren: a cross-sectional study](https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0228592). PLoS ONE. 2020;15(2): e0228592.
12. Guerrero MD, **Barnes JD**, Tremblay MS. [Caution with conclusions required: A response to the paper "Objectively measured aerobic fitness is not related to vascular health outcomes and cardiovascular disease risk in 9-10 year old children"](https://www.ncbi.nlm.nih.gov/pubmed/31827368). J Sports Sci Med. 2019;18(4):830-833.
13. Guerrero MD, **Barnes JD**, Chaput JP, Tremblay MS. [Screen time and problem behaviors in children: exploring the mediating role of sleep duration](https://ijbnpa.biomedcentral.com/track/pdf/10.1186/s12966-019-0862-x). Int J Behav Nutr Phys Act. 2019;16(1):105.
14. Manyanga T, **Barnes JD**, Chaput JP, Katzmarzyk PT, Prista A, Tremblay MS. [Prevalence and correlates of adherence to movement guidelines among urban and rural children in Mozambique: a cross-sectional study](https://www.ncbi.nlm.nih.gov/pubmed/31661004). Int J Behav Nutr Phys Act. 2019;16(1):94.
15. Manyanga T, **Barnes JD**, Chaput JP, Guerrero M, Katzmarzyk PT, Mire E, Prista A, Tremblay MS. [Body mass index and movement behaviors among schoolchildren from 13 countries across a continuum of human development indices: a multinational cross-sectional study](https://www.ncbi.nlm.nih.gov/pubmed/31648413). Am J Hum Biol. 2019;e23341.
16. LeBlanc AG, **Barnes JD**, Saunders TJ, Tremblay MS, Chaput JP. [Scientific sinkhole: the pernicious price of formatting](https://www.ncbi.nlm.nih.gov/pubmed/31557272). PLoS ONE. 2019;14(9):e0223116.
17. Aubert S, **Barnes JD**, Forse ML, Turner E, González SA, Kalinowski J, Katzmarzyk PT, Lee EY, Ocansey R, Reilly JJ, Schranz N, Vanderloo LM, Tremblay MS. [The International Impact of the Active Healthy Kids Global Alliance Physical Activity Report Cards for Children and Youth](https://www.ncbi.nlm.nih.gov/pubmed/31412317). J Phys Act Health. 2019;16:679-697.
18. Guerrero MD, **Barnes JD**, Walsh JJ, Chaput JP, Tremblay MS, Goldfield GS. [24-Hour Movement Behaviors and Impulsivity](https://www.ncbi.nlm.nih.gov/pubmed/31413180). Pediatr. 2019;144(3):e20190187.
19. Delisle Nyström C, **Barnes JD**, Blanchette S, Faulkner G, Leduc G, Riazi NA, Tremblay MS, Trudeau F, Larouche R. [Relationships between area-level socioeconomic status and urbanization with active transportation, independent mobility, outdoor time, and physical activity among Canadian children](https://www.ncbi.nlm.nih.gov/pubmed/31399049). BMC Public Health. 2019;19(1):1082.
20. Aubert S, **Barnes JD**, Abdeta C, Nader PA, Adeniyi AF, Aguilar-Farias N, Tenesaca DSA, Bhawra J, Brazo-Sayavera J, Cardon G, Chang CK, Delisle Nyström C, Demetriou Y, Draper CE, Edwards L, Emeljanovas A, Gába A, Galaviz KI, González SA, Herrera-Cuenca M, Huang WY, Ibrahim IAE, Jürimäe J, Kämppi K, Katapally TR, Katewongsa P, Katzmarzyk PT, Khan A, Korcz A, Kim YS, Lambert E, Lee EY, Löf M, Loney T, López-Taylor J, Liu Y, Makaza D, Manyanga T, Mileva B, Morrison SA, Mota J, Nyawornota VK, Ocansey R, Reilly JJ, Roman-Viñas B, Silva DAS, Saonuam P, Scriven J, Seghers J, Schranz N, Skovgaard T, Smith M, Standage M, Starc G, Stratton G, Subedi N, Takken T, Tammelin T, Tanaka C, Thivel D, Tladi D, Tyler R, Uddin R, Williams A, Wong SHS, Wu CL, Zembura P, Tremblay MS. [Global Matrix 3.0 Physical Activity Report Card grades for children and youth: results and analysis from 49 countries](https://www.ncbi.nlm.nih.gov/pubmed/30475137). J Phys Act Health. 2018;15(S2):S251-S273.
21. Aubert S, **Barnes JD**, Aguilar-Farias N, Cardon G, Chang CK, Delisle Nyström C, Demetriou Y, Edwards L, Emeljanovas A, Gába A, Huang WY, Ibrahim IAE, Jürimäe J, Katzmarzyk PT, Korcz A, Kim YS, Lee EY, Löf M, Loney T, Morrison SA, Mota J, Reilly JJ, Roman-Viñas B, Schranz N, Scriven J, Seghers J, Skovgaard T, Smith M, Standage M, Starc G, Stratton G, Takken T, Tammelin T, Tanaka C, Thivel D, Tyler R, Williams A, Wong SHS, Zembura P, Tremblay MS. [Report Card grades on the physical activity of children and youth comparing 30 Very High Human Development Index countries](https://www.ncbi.nlm.nih.gov/pubmed/30475144). J Phys Act Health. 2018;15(S2):S298-S314.
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26. Delisle Nyström C, **Barnes JD**, Tremblay MS. [An exploratory analysis of missing data from the Royal Bank of Canada (RBC) Learn to Play – Canadian Assessment of Physical Literacy (CAPL) project](https://bmcpublichealth.biomedcentral.com/track/pdf/10.1186/s12889-018-5901-z). BMC Public Health. 2018;18(Suppl 2):1046.
27. Delisle Nyström C, Traversy G, **Barnes JD**, Chaput JP, Longmuir PE, Tremblay MS. [Associations between domains of physical literacy by weight status in 8- to 12-year-old Canadian children](https://bmcpublichealth.biomedcentral.com/track/pdf/10.1186/s12889-018-5898-3). BMC Public Health. 2018;18(Suppl 2):1043.
28. Dutil C, Tremblay MS, Longmuir PE, **Barnes JD**, Belanger K, Chaput JP. [Influence of the relative age effect on children’s scores obtained from the Canadian Assessment of Physical Literacy](https://bmcpublichealth.biomedcentral.com/track/pdf/10.1186/s12889-018-5895-6). BMC Public Health. 2018;18(Suppl 2):1040.
29. Gunnell KE, Longmuir PE, **Barnes JD**, Belanger K, Tremblay MS. [Refining the Canadian Assessment of Physical Literacy based on theory and factor analyses](https://bmcpublichealth.biomedcentral.com/track/pdf/10.1186/s12889-018-5899-2). BMC Public Health. 2018;18(Suppl 2):1044.
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33. Longmuir PE, Gunnell KE, **Barnes JD**, Belanger K, Leduc G, Woodruff SJ, Tremblay MS. [Canadian Assessment of Physical Literacy Second Edition: a streamlined assessment of the capacity for physical activity among children 8 to 12 years of age](https://bmcpublichealth.biomedcentral.com/track/pdf/10.1186/s12889-018-5902-y). BMC Public Health. 2018;18(Suppl 2):1047.
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35. Saunders TJ, MacDonald DJ, Copeland JL, Longmuir PE, **Barnes JD**, Belanger K, Bruner B, Gregg MJ, Hall N, Kolen AM, Law B, Martin LJ, Sheehan D, Stone MR, Woodruff SJ, Tremblay MS. [The relationship between sedentary behaviour and physical literacy in Canadian children: a cross-sectional analysis from the RBC-CAPL Learn to Play study](https://bmcpublichealth.biomedcentral.com/track/pdf/10.1186/s12889-018-5892-9). BMC Public Health. 2018;18(Suppl 2):1037.
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