

(Compiled Monday 6th February, 2023, 12:18)

CV for Bendix Carstensen

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Cand. scient. (MSc) in Mathematical Statistics, University of Copenhagen: January 1983

Graduated gymnasium (high school): June 1971

Born: 14 July 1952

Employment

Research

Senior statistician, Steno Diabetes Center Copenhagen, April 1999 –

Senior statistician, Danish Zoonosis Center, Danish Veterinary Laboratory, Ministry of Food, Agriculture and Fishery, August 1995 – March 1999.

Statistician, Danish Cancer Registry, Institute of Cancer Epidemiology, Danish Cancer Society, June 1984 – July 1995

Research assistant, Statistical Research Unit, Copenhagen, Danish Medical and Social Science Research Councils. February 1983 – May 1984.

Teaching

External lecturer, Department of Biostatistics, University of Copenhagen, 1995–

Assistant lecturer, Statistical Institute, University of Copenhagen, August 1985–December 1997

Research areas

1. Application of registers in surveillance of public health. In my current job this has primarily focused on diabetes in the last 20 years, but I have previously been working in cancer epidemiology [6, 7, 8, 23, 27, 28, 29, 30, 43, 38, 46, 50, 52, 51].
2. I am the maintainer (and a contributor to) the R-package `Epi` for statistical and demographic analysis in epidemiology, <http://BendixCarstensen.com/Epi/>
3. Biostatistics:
 - (a) Analysis of follow-up data from register studies and demographic databases:

- Age-period-cohort models [2, 42, 41].
 - Multistate models and their practical application [10, 12, 13, 14, 25, 31, 32, 38, 45].
- (b) Comparison of clinical measurement methods. This is a topic where I have been involved with the clinical departments and laboratory at Steno Diabetes Center in providing practical analyses and as a consequence also in development of the methodology [36, 37, 39, 40, 44, 47, 48]
- (c) I was maintainer (and main author of) the R-package `MethComp` for statistical analysis of method comparison studies, <http://BendixCarstensen.com/MethComp/>

Grants

- PI: European Foundation of the Study of Diabetes: “Cancer incidence and survival in Danish diabetes patients: The role of medication”, 200,000 EUR, 2011–2013.

Teaching

The following are the most recent courses outside my employment as external lecturer at the Biostatistics Department at University of Copenhagen I have been teaching:

Course co-director and teacher at: “Statistical practice in Epidemiology”, Tartu, Estonia, annually 2002–2009, Lyon 2011, Pärnu, Estonia 2012, Lyon 2013, Tartu 2014, 2015, 2016, 2017, 2018, 2019 (2023 to be)

Course director and teaching assistant at “Bayesian Data Analysis”. Danish Research School of Biostatistics, Copenhagen May 2006 & August 2008 and Department of Medical Epidemiology and Biostatistics, Karolinska Institutet, Stockholm, June 2007.

Modern Demographic Methods in Epidemiology:

- Stockholm, 2-3 February 2006 (using R).
- Oslo, 28 February - 1 March 2007 (with Paul Lambert, using Stata)
- Aalborg, 14-16 January 2008 (using R).
- University of Melbourne, February 2008 (with Paul Dickman, using Stata & R)
- University of St. Andrews, June 2010 (using R).
- IBC, Florence, July 2014 (tutorial).
- University of Edinburgh, August 2014 (using R).
- University of Melbourne, November 2015 (using R).
- Freiburg Institute of Advanced Studies, September 2016 (tutorial).
- Aberdeen, Scotland, August 2017
- Steno Diabetes Center Copenhagen, October 2021

- Steno Diabetes Center Greenland, March 2022
- Aalborg University, March 2022
- Baker HDI, Melbourne, February 2023

Statistical Analysis of Method Comparison Studies:

- Karolinska Institutet, Stockholm, November 2007.
- School of Population Health, University of Melbourne, February 2008.
- Australian Statistical Society, University of Adelaide, February 2009.
- Copenhagen, PhD-school, dept. Biostatistics, February 2011.
- Preconference course at SISMEC, Ancona, September 2011 (with Claus Ekstrøm).

Age-Period-Cohort models:

- Max Planck Institute for Demographic Research, Rostock. March 2009 (with Eva Gelnarova).
- Lisboa, September 2011.
- Max Planck Institute for Demographic Research, Rostock, May 2016.
- European Doctoral School of Demography, 2018, 2019, 2020

Selected publications

A complete list of publications is in the full version of my CV: <http://BendixCarstensen.com/cv.pdf>

- [1] V. Kosjerina, B. Carstensen, M. E. Jørgensen, B. Brock, H. R. Christensen, J. Rungby, and G. S. Andersen. Discontinuation of diabetes medication in the 10 years before death in Denmark: a register-based study. *Lancet Healthy Longev*, 2(9):e561–e570, Sep 2021. [DOI:10.1016/S2666-7568(21)00170-7][PubMed:36098008].
- [2] J. Svensson, E. H. Ibfelt, B. Carstensen, A. Neu, O. Cinek, T. Skrivarhaug, B. Rami-Merhar, R. G. Feltbower, C. Castell, D. Konrad, K. Gillespie, P. Jarosz-Chobot, D. Marčiulionytė, J. Rosenbauer, N. Bratina, C. Ionescu-Tirgoviste, F. Gorus, M. Kocova, C. de Beaufort, and C. C. Patterson. Age-period-cohort modelling of type 1 diabetes incidence rates among children included in the EURODIAB 25-year follow-up study. *Acta Diabetol*, Oct 2022.
- [3] J. I. Morton, P. A. Lazzarini, K. R. Polkinghorne, B. Carstensen, D. J. Magliano, and J. E. Shaw. The association of attained age, age at diagnosis, and duration of type 2 diabetes with the long-term risk for major diabetes-related complications. *Diabetes Res Clin Pract*, 190:110022, Aug 2022.

- [4] D. J. Magliano, L. Chen, B. Carstensen, E. W. Gregg, M. E. Pavkov, A. Salim, L. J. Andes, R. Balicer, M. Baviera, J. C. N. Chan, Y. J. Cheng, H. Gardiner, H. L. Gulseth, R. Gurevicius, K. H. Ha, G. Jermendy, D. J. Kim, Z. Kiss, M. Leventer-Roberts, C. Y. Lin, A. O. Y. Luk, S. Ma, M. Mata-Cases, D. Mauricio, G. A. Nichols, S. Pildava, A. Porath, S. H. Read, C. Robitaille, M. C. Roncaglioni, P. Lopez-Doriga Ruiz, K. L. Wang, S. H. Wild, N. Yekutieli, and J. E. Shaw. Trends in all-cause mortality among people with diagnosed diabetes in high-income settings: a multicountry analysis of aggregate data. *Lancet Diabetes Endocrinol*, 10(2):112–119, 02 2022.
- [5] D. J. Magliano, L. Chen, R. M. Islam, B. Carstensen, E. W. Gregg, M. E. Pavkov, L. J. Andes, R. Balicer, M. Baviera, E. Boersma-van Dam, G. L. Booth, J. C. N. Chan, Y. X. Chua, S. Fosse-Eodorh, S. Fuentes, H. L. Gulseth, R. Gurevicius, K. H. Ha, T. R. Hird, G. Jermendy, M. D. Khalangot, D. J. Kim, Z. Kiss, V. I. Kravchenko, M. Leventer-Roberts, C. Y. Lin, A. O. Y. Luk, M. Mata-Cases, D. Mauricio, G. A. Nichols, M. M. Nielen, D. Pang, S. K. Paul, C. Pelletier, S. Pildava, A. Porath, S. H. Read, M. C. Roncaglioni, P. Lopez-Doriga Ruiz, M. Shestakova, O. Vikulova, K. L. Wang, S. H. Wild, N. Yekutieli, and J. E. Shaw. Trends in the incidence of diagnosed diabetes: a multicountry analysis of aggregate data from 22 million diagnoses in high-income and middle-income settings. *Lancet Diabetes Endocrinol*, 9(4):203–211, 04 2021.
- [6] B. Carstensen, P. F. Rønn, and M. E. Jørgensen. Prevalence, incidence and mortality of type 1 and type 2 diabetes in Denmark 1996-2016. *BMJ Open Diabetes Res Care*, 8, 2020.
- [7] B. Carstensen, P. F. Rønn, and M. E. Jørgensen. Components of diabetes prevalence in Denmark 1996-2016 and future trends until 2030. *BMJ Open Diabetes Res Care*, 8, 2020.
- [8] B. Carstensen, P. F. Rønn, and M. E. Jørgensen. Lifetime risk and years lost to type 1 and type 2 diabetes in Denmark, 1996–2016. *BMJ Open Diabetes Res Care*, 9, 2021.
- [9] O. Silverman-Retana, A. Hulman, J. Nielsen, C. T. Ekstrøm, B. Carstensen, R. K. Simmons, L. Bjerg, L. W. Johnston, and D. R. Witte. Effect of familial diabetes status and age at diagnosis on type 2 diabetes risk: a nation-wide register-based study from Denmark. *Diabetologia*, 63(5):934–943, May 2020.
- [10] L. Bjerg, A. Hulman, B. Carstensen, M. Charles, D. R. Witte, and M. E. Jørgensen. Effect of duration and burden of microvascular complications on mortality rate in type 1 diabetes: an observational clinical cohort study. *Diabetologia*, 62(4):633–643, 04 2019.
- [11] M. E. Jørgensen, C. Ellervik, O. Ekholm, N. B. Johansen, and B. Carstensen. Estimates of prediabetes and undiagnosed type 2 diabetes in Denmark: The end of an epidemic or a diagnostic artefact? *Scand J Public Health*, 48(1):106–112, Feb 2020.
- [12] L. Bjerg, A. Hulman, B. Carstensen, M. Charles, M. E. Jørgensen, and D. R. Witte. Development of Microvascular Complications and Effect of Concurrent Risk Factors in Type 1 Diabetes: A Multistate Model From an Observational Clinical Cohort Study. *Diabetes Care*, 41(11):2297–2305, 11 2018.

- [13] L. Huo, D. J. Magliano, F. Ranciere, J. L. Harding, N. Nanayakkara, J. E. Shaw, and B. Carstensen. Impact of age at diagnosis and duration of type 2 diabetes on mortality in Australia 1997-2011. *Diabetologia*, Feb 2018.
- [14] K. Ishtiak-Ahmed, B. Carstensen, U. Pedersen-Bjergaard, and M. E. Jørgensen. Incidence Trends and Predictors of Hospitalization for Hypoglycemia in 17,230 Adult Patients With Type 1 Diabetes: A Danish Register Linkage Cohort Study. *Diabetes Care*, 40(2):226–232, Feb 2017.
- [15] P. Gæde, J. Oellgaard, B. Carstensen, P. Rossing, H. Lund-Andersen, H. H. Parving, and O. Pedersen. Years of life gained by multifactorial intervention in patients with type 2 diabetes mellitus and microalbuminuria: 21 years follow-up on the Steno-2 randomised trial. *Diabetologia*, Aug 2016.
- [16] B. Carstensen, S. H. Read, S. Friis, R. Sund, I. Keskimaki, A. M. Svensson, R. Ljung, S. H. Wild, J. J. Kerssens, J. L. Harding, D. J. Magliano, and S. Gudbjornsdottir. Cancer incidence in persons with type 1 diabetes: a five-country study of 9,000 cancers in type 1 diabetic individuals. *Diabetologia*, Feb 2016.
- [17] L. Lundby-Christensen, L. Tarnow, T. W. Boesgaard, S. S Lund, N. Wiinberg, H. Perrild, T. Krarup, O. Snorgaard, B. Gade-Rasmussen, B. Thorsteinsson, M. Røder, E. R. Mathiesen, T. Jensen, H. Vestergaard, C. Hedetoft, L. Breum, E. Duun, S. B. Sneppen, O. Pedersen, B. Hemmingsen, B. Carstensen, S. Madsbad, C. Gluud, J. Wetterslev, A. Vaag, and T. P. Almdal. Metformin versus placebo in combination with insulin analogues in patients with type 2 diabetes mellitus-the randomised, blinded Copenhagen Insulin and Metformin Therapy (CIMT) trial. *BMJ Open*, 6(2):e008376, 2016.
- [18] L. Lundby-Christensen, A. Vaag, L. Tarnow, T. P. Almdal, S. S. Lund, J. Wetterslev, C. Gluud, T. W. Boesgaard, N. Wiinberg, H. Perrild, T. Krarup, O. Snorgaard, B. Gade-Rasmussen, B. Thorsteinsson, M. Røder, E. R. Mathiesen, T. Jensen, H. Vestergaard, C. Hedetoft, L. Breum, E. Duun, S. B. Sneppen, O. Pedersen, B. Hemmingsen, B. Carstensen, and S. Madsbad. Effects of biphasic, basal-bolus or basal insulin analogue treatments on carotid intima-media thickness in patients with type 2 diabetes mellitus: the randomised Copenhagen Insulin and Metformin Therapy (CIMT) trial. *BMJ Open*, 6(2):e008377, 2016.
- [19] B. S. Rasmussen, K. B. Yderstræde, B. Carstensen, O. Skov, and H. Beck-Nielsen. Substantial reduction in the number of amputations among patients with diabetes: a cohort study over 16 years. *Diabetologia*, 59(1):121–129, Jan 2016.
- [20] Z. Kamper-Jørgensen, B. Carstensen, M. Nørredam, I. C. Bygbjerg, P. H. Andersen, and M. E. Jørgensen. Diabetes-related tuberculosis in Denmark: effect of ethnicity, diabetes duration and year of diagnosis. *Int. J. Tuberc. Lung Dis.*, 19(10):1169–1175, Oct 2015.
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- [22] R. Hiscock, S. Simmons, B. Carstensen, and L. Gurrin. Comparison of Massimo Pronto-7 and HemoCue Hb 201+ with laboratory haemoglobin estimation: a clinical study. *Anaesth Intensive Care*, 42(5):608–613, Sep 2014.
- [23] B. Carstensen, M. E. Jørgensen, and S. Friis. The epidemiology of diabetes and cancer. *Curr. Diab. Rep.*, 14(10):535, Oct 2014.
- [24] G. Andresdottir, M. L. Jensen, B. Carstensen, H. H. Parving, P. Hovind, T. W. Hansen, and P. Rossing. Improved prognosis of diabetic nephropathy in type 1 diabetes. *Kidney Int.*, Jun 2014.
- [25] S. Iacobelli and B. Carstensen. Multiple time scales in multi-state models. *Stat Med*, 32(30):5315–5327, Dec 2013.
- [26] J. A. Johnson, B. Carstensen, D. Witte, S. L. Bowker, L. Lipscombe, A. G. Renehan, and the Diabetes and Cancer Research Consortium. Diabetes and cancer (1): evaluating the temporal relationship between type 2 diabetes and cancer incidence. *Diabetologia*, 55(6):1607–1618, Jun 2012.
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- [28] M. B. Hansen, M. L. Jensen, and B. Carstensen. Causes of death among diabetic patients in Denmark. *Diabetologia*, 55(2):294–302, Feb 2012.
- [29] B. Carstensen and Borch-Johnsen K. Register-based studies of diabetes. *Scandinavian Journal of Public Health*, 39(7 suppl):175–179, 2011.
- [30] B. Carstensen, Christensen J.K., Marcussen M.M., and Borch-Johnsen K. The National Diabetes Register. *Scandinavian Journal of Public Health*, 39(7 suppl):58–61, 2011.
- [31] Bendix Carstensen and Martyn Plummer. Using Lexis objects for multi-state models in R. *Journal of Statistical Software*, 38(6):1–18, 1 2011.
- [32] Martyn Plummer and Bendix Carstensen. Lexis: An R class for epidemiological studies with long-term follow-up. *Journal of Statistical Software*, 38(5):1–12, 1 2011.
- [33] S. Eising, A. Nilsson, B. Carstensen, D. M. Hougaard, B. Nørgaard-Pedersen, J. Nerup, Å. Lernmark, and F. Pociot. Danish children born with glutamic acid decarboxylase-65 and islet antigen-2 autoantibodies at birth had an increased risk to develop type 1 diabetes. *Eur. J. Endocrinol.*, 164:247–252, Feb 2011.
- [34] K. Pilgaard, K. Færch, B. Carstensen, P. Poulsen, C. Pisinger, O. Pedersen, D. R. Witte, T. Hansen, T. Jørgensen, and A. Vaag. Low birthweight and premature birth are both associated with type 2 diabetes in a random sample of middle-aged Danes. *Diabetologia*, 53:2526–2530, Dec 2010.
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- [44] S.S. Rasmussen, C. Glümer, A. Sandbaek, T. Lauritzen, B. Carstensen, and K. Borch-Johnsen. Short-term reproducibility of impaired fasting glycaemia, impaired glucose tolerance and diabetes The ADDITION study, DK. *Diabetes Res Clin Pract*, Dec 2007.
- [45] Bendix Carstensen. Demography and epidemiology: Practical use of the Lexis diagram in the computer age, or: Who needs the Cox-model anyway? Technical Report 06.2, Department of Biostatistics, University of Copenhagen, <http://publichealth.ku.dk/sections/biostatistics/reports/2006/rr-06-2.pdf>, 2006.
- [46] Freddie Bray, Bendix Carstensen, Henrik Moller, Marco Zappa, Maja Primic Zakelj, Gill Lawrence, Matti Hakama, and Elisabete Weiderpass. Incidence trends of adenocarcinoma of the cervix in 13 European countries. *Cancer Epidemiol Biomarkers Prev*, 14(9):2191–2199, Sep 2005.
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- [48] S Colagiuri, A Sandbæk, B Carstensen, J Christensen, C Glümer, T Lauritzen, and K Borch-Johnsen. Comparability of venous and capillary glucose measurements in blood. *Diabetic Medicine*, 20(11):953–956, Nov 2003.

- [49] Carstensen B, Storm HH, and Schou G, editors. *Survival of Danish Cancer Patients 1943–1987*, volume 101 of *APMIS supplementum*. Munksgaard, 1993.
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