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Section of Biostatistics
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Qualifications

Biostatistics and Bioinformatics, PhD, University of Copenhagen
Award Date: 19 Apr 2022

Epidemiology and biostatistics, MSc, University Hospital and Università Cattolica del Sacro Cuore
Award Date: 31 Jan 2017

Medicine, MD, Aarhus University
Award Date: 6 Jun 2015

Employment

Assistant lecturer

Section of Biostatistics
København K, Denmark
1 Sep 2020 → nu

Guest researcher

Brunak Group
København N.
8 Sep 2022 → 3 Feb 2023

PhD student

Department of Clinical Medicine
København N.
1 Nov 2017 → 1 Apr 2022

Research fellow

Copenhagen University Hospital - Rigshospitalet
København, Denmark
1 Mar 2022 → nu

Visiting data scientist

Uppsala Monitoring Centre
Uppsala, Sweden
1 Oct 2019 → 1 Jan 2020

Research outputs

Effects of IV fluid restriction according to site-specific intensity of standard fluid treatment-protocol

Sivapalan, P., Kaas-Hansen, Benjamin Skov, Meyhoff, T. S., Hjortrup, P. B., Kjær, M. N., Laake, J. H., Cronhjort, M., Jakob, S. M., Cecconi, M., Nalos, M., Ostermann, M., Malbrain, M. L. N. G., Møller, Morten Hylander, Perner, Anders & Granholm, A., 2024, (E-pub ahead of print) In: Acta Anaesthesiologica Scandinavica. 8 p.

Effects of sceptical priors on the performance of adaptive clinical trials with binary outcomes

Granholm, A., Lange, Theis, Harhay, M. O., Perner, Anders, Møller, Morten Hylander & Kaas-Hansen, Benjamin Skov, 2024, (E-pub ahead of print) In: Pharmaceutical Statistics. 14 p.

Restrictive versus standard IV fluid therapy in adult ICU patients with septic shock—Bayesian analyses of the CLASSIC trial

Sivapalan, P., Meyhoff, T. S., Hjortrup, P. B., Lange, Theis, Kaas-Hansen, Benjamin Skov, Kjær, M. B. N., Laake, J. H., Cronhjort, M., Jakob, S. M., Cecconi, M., Nalos, M., Ostermann, M., Malbrain, M. L. N. G., Møller, Morten Hylander, Perner, Anders & Granholm, A., 2024, In: *Acta Anaesthesiologica Scandinavica*. 68, 2, p. 236-246 11 p.

Abnormal serum levels of magnesium, phosphate, and zinc in ICU patients—Characteristics, management, and outcomes: The WhyTrace cohort study

Vesterlund, G. K., Thorsen-Meyer, H. C., Møller, Morten Hylander, Brunak, Søren, Strøm, T., Perner, Anders & Kaas-Hansen, Benjamin Skov, 2023, In: *Acta Anaesthesiologica Scandinavica*. 67, 7, p. 925-935 11 p.

An overview of methodological considerations regarding adaptive stopping, arm dropping and randomisation in clinical trials

Granholm, A., Kaas-Hansen, Benjamin Skov, Lange, Theis, Schjørring, O. L., Andersen, L. W., Perner, Anders, Jensen, Aksel Karl Georg & Møller, Morten Hylander, 2023, In: *Journal of Clinical Epidemiology*. 153, p. 45-54 10 p.

Association between days alive without life support/out of hospital and health-related quality of life

Granholm, A., Schjørring, O. L., Jensen, Aksel Karl Georg, Kaas-Hansen, Benjamin Skov, Munch, M. W., Klitgaard, T. L., Crescioli, E., Kjaer, M. N., Strom, T., Lange, Theis, Perner, Anders, Rasmussen, B. S. & Møller, Morten Hylander, 2023, In: *Acta Anaesthesiologica Scandinavica*. 67, 6, p. 762-771 10 p.

Development of a dynamic prediction model for unplanned ICU admission and mortality in hospitalized patients

Placido, Davide, Thorsen-Meyer, H., Kaas-Hansen, Benjamin Skov, Reguant, R. & Brunak, Søren, 2023, In: *PLOS Digital Health*. 2, 6, 18 p., e0000116.

Effects of duration of follow-up and lag in data collection on the performance of adaptive clinical trials

Granholm, A., Lange, Theis, Harhay, M. O., Jensen, Aksel Karl Georg, Perner, Anders, Møller, Morten Hylander & Kaas-Hansen, Benjamin Skov, 2023, In: *Pharmaceutical Statistics*. 23, 2, p. 138-150 12 p.

Exploratory pharmacovigilance with machine learning in big patient data: a focused scoping review

Kaas-Hansen, Benjamin Skov, Gentile, S., Caioli, A. & Andersen, Stig Ejdrup, 2023, In: *Basic & clinical pharmacology & toxicology*. 132, 3, p. 233-241 9 p.

Health-related quality of life trajectories in critical illness: Protocol for a Monte Carlo simulation study

Kaas-Hansen, Benjamin Skov, Kjaer, M. N., Møller, Morten Hylander, Jensen, Aksel Karl Georg, Larsen, M. E., Cuthbertson, B. H., Perner, Anders & Granholm, A., 2023, In: *Acta Anaesthesiologica Scandinavica*. 68, 1, 8 p.

Platform trials: Platformforsøg

Perner, A., Kjær, M. B. N., Thorsen-Meyer, H. C., Kaas-Hansen, B. S., Munch, M. W., Collet, M. O., Bruun, C. R., Jensen, A. K., Lange, T., Albertsen, T., Pedersen, C. D., Poulsen, L. M., Mathiesen, O., Brøchner, A. C., Strøm, T., Andersen, L. W., Christensen, S., Rasmussen, B. S., Schjørring, O. L., Maagaard, M. & 2 others, Møller, Morten Hylander & Granholm, A., 2023, In: *Ugeskrift for Læger*. 185, 41, 10 p.

Real-world causal evidence for planned predictive enrichment in critical care trials: A scoping review

Kaas-Hansen, Benjamin Skov, Granholm, A., Sivapalan, P., Anthon, C. T., Schjørring, O. L., Maagaard, M., Kjaer, M. N., Mølgaard, J., Ellekjaer, K. L., Fagerberg, S. K., Lange, Theis, Møller, Morten Hylander & Perner, Anders, 2023, In: *Acta Anaesthesiologica Scandinavica*. 68, 1, p. 16-25 10 p.

Use of days alive without life support and similar count outcomes in randomised clinical trials – an overview and comparison of methodological choices and analysis methods

Granholm, A., Kaas-Hansen, Benjamin Skov, Lange, Theis, Munch, M. W., Harhay, M. O., Zampieri, F. G., Perner, Anders, Møller, Morten Hylander & Jensen, Aksel Karl Georg, 2023, In: *BMC Medical Research Methodology*. 23, 1, 12 p., 139.

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Is the CYP2D6 Genotype Associated with Antipsychotic-Induced Weight Gain?

Jürgens, Gesche, Kaas-Hansen, Benjamin Skov, Nordentoft, Merete, Werge, Thomas & Andersen, Stig Ejdrup, Oct 2022, In: *Journal of Personalized Medicine*. 12, 10, 12 p., 1728.

Low serum levels of magnesium, phosphate, and zinc in ICU patients. Prevalence, management, characteristics, and outcomes. Protocol and statistical analysis plan for The WhyTrace cohort study

Vesterlund, G. K., Thorsen-Meyer, H., Kaas-Hansen, Benjamin Skov, Møller, Morten Hylander & Perner, Anders, May 2022, medRxiv.

Design considerations in clinical trials with adaptive stopping, arm-dropping and randomisation

Granholm, A., Kaas-Hansen, Benjamin Skov, Lange, T., Schjørring, O., Andersen, L., Perner, Anders, Jensen, A. & Møller, M., 2022, p. S88-S89. 2 p.

Development and validation of a dynamic prediction model for unplanned ICU admission and mortality in hospitalized patients

Placido, Davide, Thorsen-Meyer, H., Kaas-Hansen, Benjamin Skov, Reguant, R. & Brunak, Søren, 2022.

Discrete-time survival analysis in the critically ill: a deep learning approach using heterogeneous data

Thorsen-Meyer, H., Placido, Davide, Kaas-Hansen, Benjamin Skov, Nielsen, A. P., Lange, Theis, Nielsen, A. B., Toft, P., Schierbeck, J., Strøm, T., Chmura, Piotr Jaroslaw, Heimann, M., Belling, K., Perner, Anders & Brunak, Søren, 2022, In: *npj Digital Medicine*. 5, 10 p., 142.

Drug interactions in hospital prescriptions in Denmark: Prevalence and associations with adverse outcomes

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Eliciting drug safety signals from patient records: a language-agnostic approach

Kaas-Hansen, Benjamin Skov, Placido, Davide, Rodríguez, C., Thorsen-Meyer, H., Gentile, S., Nielsen, A., Brunak, Søren, Jürgens, Gesche & Andersen, S., 2022, p. S15-S16. 2 p.

Health-related quality of life and days alive without life support or out of hospital: protocol

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Language-agnostic pharmacovigilant text mining to elicit side effects from clinical notes and hospital medication records

Kaas-Hansen, Benjamin Skov, Placido, Davide, Rodríguez, C. L., Thorsen-Meyer, H., Gentile, S., Nielsen, A. P., Brunak, Søren, Jürgens, Gesche & Andersen, Stig Ejdrup, 2022, Authorea, (Authorea Preprints).

Language-agnostic pharmacovigilant text mining to elicit side effects from clinical notes and hospital medication records

Kaas-Hansen, Benjamin Skov, Placido, Davide, Rodríguez, C. L., Thorsen-Meyer, H., Gentile, S., Nielsen, A. P., Brunak, Søren, Jürgens, Gesche & Andersen, Stig Ejdrup, 2022, In: *Basic & clinical pharmacology & toxicology*. 131, 4, p. 282-293 12 p.

Machine Learning to Identify Patients at Risk of Inappropriate Dosing for Renal Risk Medications: A Critical Comment on Kaas-Hansen et al [Response to Letter]

Kaas-Hansen, Benjamin Skov, Leal Rodríguez, C., Placido, Davide, Thorsen-Meyer, H., Nielsen, A. P., Dérian, N., Brunak, Søren & Andersen, Stig Ejdrup, 2022, In: *Clinical Epidemiology*. 14, p. 765-766 2 p.

Patient-Important Outcomes Other Than Mortality in Contemporary ICU Trials: A Scoping Review

Granholm, A., Anthon, C. T., Kjær, M. N., Maagaard, M., Kaas-Hansen, Benjamin Skov, Sivapalan, P., Schjørring, O. L., Andersen, L. W., Mathiesen, Ole, Strøm, T., Jensen, Aksel Karl Georg, Perner, Anders & Møller, Morten Hylander, 2022, In: *Critical Care Medicine*. 50, 10, p. e759-e771 13 p.

Pharmacovigilant Machine Learning in Big Data?

Kaas-Hansen, Benjamin Skov, 2022

Seek COVER: using a disease proxy to rapidly develop and validate a personalized risk calculator for COVID-19 outcomes in an international network

Williams, R. D., Markus, A. F., Yang, C., Duarte-Salles, T., DuVall, S. L., Falconer, T., Jonnagaddala, J., Kim, C., Rho, Y., Williams, A. E., Machado, A. A., An, M. H., Aragón, M., Areia, C., Burn, E., Choi, Y. H., Drakos, I., Abrahão, M. T. F., Fernández-Bertolín, S., Hripcsak, G. & 28 others, Kaas-Hansen, Benjamin Skov, Kandukuri, P. L., Kors, J. A., Kostka, K., Liaw, S., Lynch, K. E., Machnicki, G., Matheny, M. E., Morales, D., Nyberg, F., Park, R. W., Prats-Urbe, A., Pratt, N., Rao, G., Reich, C. G., Rivera, M., Seinen, T., Shoaibi, A., Spotnitz, M. E., Steyerberg, E. W., Suchard, M. A., You, S. C., Zhang, L., Zhou, L., Ryan, P. B., Prieto-Alhambra, D., Reys, J. M. & Rijnbeek, P. R., 2022, In: *BMC Medical Research Methodology*. 22, 13 p., 35.

Using Machine Learning to Identify Patients at High Risk of Inappropriate Drug Dosing in Periods with Renal Dysfunction

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adaptr: an R package for simulating and comparing adaptive clinical trials

Granholm, A., Jensen, Aksel Karl Georg, Lange, Theis & Kaas-Hansen, Benjamin Skov, 2022, In: *Journal of Open Source Software*. 7, 72, 1 p., 4284.

Developing and validating COVID-19 adverse outcome risk prediction models from a bi-national European cohort of 5594 patients

Jimenez-Solem, E., Petersen, T. S., Hansen, C., Hansen, C., Lioma, C., Igel, C., Boomsma, W., Krause, O., Lorenzen, S., Selvan, R., Petersen, J., Nyeland, M. E., Ankarfeldt, M. Z., Virenfeldt, G. M., Winther-Jensen, M., Linneberg, A., Ghazi, M. M., Detlefsen, N., Lauritzen, A. D., Smith, A. G. & 15 others, de Bruijne, Marleen, Ibragimov, Bulat, Petersen, Jens, Lillholm, Martin, Middleton, Jon Anthony, Mogensen, S. H., Thorsen-Meyer, H., Perner, Anders, Helleberg, M., Kaas-Hansen, Benjamin Skov, Bonde, M., Bonde, A., Pai, A., Nielsen, Mads & Sillesen, Martin Hylleholt, 2021, In: *Scientific Reports*. 11, 1, 12 p., 3246.

Identifying patients at high risk of inappropriate drug dosing in periods with renal dysfunction

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Implementation of the COVID-19 Vulnerability Index Across an International Network of Health Care Data Sets: Collaborative External Validation Study

Reps, J. M., Kim, C., Williams, R. D., Markus, A. F., Yang, C., Salles, T. D., Falconer, T., Jonnagaddala, J., Williams, A., Fernández-Bertolín, S., DuVall, S. L., Kostka, K., Rao, G., Shoaibi, A., Ostropelets, A., Spotnitz, M. E., Zhang, L., Casajust, P., Steyerberg, E. W., Nyberg, F. & 16 others, Kaas-Hansen, Benjamin Skov, Choi, Y. H., Morales, D., Liaw, S., Abrahão, M. T. F., Areia, C., Matheny, M. E., Aragón, M., Park, R. W., Hripcsak, G., Reich, C. G., Suchard, M. A., You, S. C., Ryan, P. B., Prieto-Alhambra, D. & Rijnbeek, P. R., 2021, In: *J M I R Medical Informatics*. 9, 4, 11 p.

Patient-important outcomes other than mortality in recent ICU trials: protocol for a scoping review

Granholm, A., Kaas-Hansen, Benjamin Skov, Kjaer, M. N., Anthon, C. T., Sivapalan, P., Schjørring, O. L., Andersen, L. W., Mathiesen, Ole, Strøm, T., Jensen, Aksel Karl Georg, Perner, Anders & Møller, Morten Hylander, 2021, In: *Acta Anaesthesiologica Scandinavica*. 65, 7, p. 1002-1007 6 p.

Risk of depression, suicide and psychosis with hydroxychloroquine treatment for rheumatoid arthritis: a multinational network cohort study

Lane, J. C. E., Weaver, J., Kostka, K., Duarte-Salles, T., Abrahao, M. T. F., Alghoul, H., Alser, O., Alshammari, T. M., Areia, C., Biedermann, P., Banda, J. M., Burn, E., Casajust, P., Fister, K., Hardin, J., Hester, L., Hripcsak, G., Kaas-Hansen, B. S., Khosla, S., Kolovos, S. & 29 others, Lynch, K. E., Makadia, R., Mehta, P. P., Morales, D. R., Morgan-Stewart, H., Mosseveld, M., Newby, D., Nyberg, F., Ostropelets, A., Woong Park, R., Prats-Urbe, A., Rao, G. A., Reich, C., Rijnbeek, P., Sena, A. G., Shoaibi, A., Spotnitz, M., Vignesh, S., Suchard, M. A., Vizcaya, D., Wen, H., de Wilde, M.,

Xie, J., You, S. C., Zhang, L., Lovestone, S., Ryan, P., Prieto-Alhambra, D. & OHDSI-COVID-19 consortium, O. C., 2021, In: *Rheumatology*. 60, 7, p. 3222–3234 13 p.

Effect of Routine Cytochrome P450 2D6 and 2C19 Genotyping on Antipsychotic Drug Persistence in Patients With Schizophrenia: A Randomized Clinical Trial

Jürgens, Gesche, Andersen, Stig Ejdrup, Rasmussen, H. B., Werge, Thomas, Jensen, H. D., Kaas-Hansen, Benjamin Skov & Nordentoft, Merete, 1 Dec 2020, In: *JAMA Network Open*. 3, 12, p. e2027909

Deep phenotyping of 34,128 adult patients hospitalised with COVID-19 in an international network study

Burn, E., You, S. C., Sena, A. G., Kostka, K., Abedtash, H., Abrahão, M. T. F., Alberga, A., Alghoul, H., Alser, O., Alshammari, T. M., Aragon, M., Areia, C., Banda, J. M., Cho, J., Culhane, A. C., Davydov, A., DeFalco, F. J., Duarte-Salles, T., DuVall, S., Falconer, T. & 49 others, Fernandez-Bertolin, S., Gao, W., Golozar, A., Hardin, J., Hripcsak, G., Huser, V., Jeon, H., Jing, Y., Jung, C. Y., Kaas-Hansen, Benjamin Skov, Kaduk, D., Kent, S., Kim, Y., Kolovos, S., Lane, J. C. E., Lee, H., Lynch, K. E., Makadia, R., Matheny, M. E., Mehta, P. P., Morales, D. R., Natarajan, K., Nyberg, F., Ostropolets, A., Park, R. W., Park, J., Posada, J. D., Prats-Urbe, A., Rao, G., Reich, C., Rho, Y., Rijnbeek, P., Schilling, L. M., Schuemie, M., Shah, N. H., Shoaibi, A., Song, S., Spotnitz, M., Suchard, M. A., Swerdel, J. N., Vizcaya, D., Volpe, S., Wen, H., Williams, A. E., Yimer, B. B., Zhang, L., Zhuk, O., Prieto-Alhambra, D. & Ryan, P., 2020, In: *Nature Communications*. 11, 1, 11 p., 5009.

Dynamic and explainable machine learning prediction of mortality in patients in the intensive care unit: a retrospective study of high-frequency data in electronic patient records

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Risk of hydroxychloroquine alone and in combination with azithromycin in the treatment of rheumatoid arthritis: a multinational, retrospective study

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Different Original and Biosimilar TNF Inhibitors Similarly Reduce Joint Destruction in Rheumatoid Arthritis-A Network Meta-Analysis of 36 Randomized Controlled Trials

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Heterogeneity of treatment effect of stress ulcer prophylaxis in ICU patients: A secondary analysis protocol

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Severe Violence in Eastern Jutland 2003-2014

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Severe violence in Eastern Jutland 2003-2014: a pilot study [v1; not peer reviewed]: A pilot study [v1; not peer reviewed]

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Beyond access to medicines: Eliciting high-income country support for a new global health research and development paradigm

Regmi, S., Kaas-Hansen, Benjamin Skov & Iversen, J. H., 2013, In: Journal of Global Health. 3, 2, 6 p., 020303.

Prizes

Best oral presentation: Severe Violence in Eastern Jutland: A Pilot Study

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