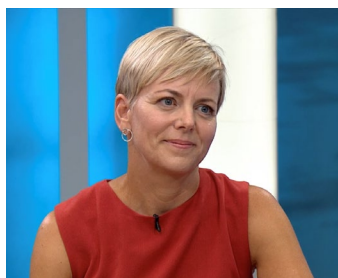


## PERSONAL INFORMATION

## Christine Stabell Benn



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Date of birth 15/06/1968 | Nationality Danish | ORCID [0000-0001-6102-3810](https://orcid.org/0000-0001-6102-3810)

## WORK EXPERIENCE

2013->	<b>Professor, OPEN, University of Southern Denmark (USD)/Odense University Hospital</b>
2012->	<b>Head, Bandim Health Project Copenhagen Division</b> (hosted at SDU from 2020)
2012-2020	<b>Center leader, Research Center for Vitamins and Vaccines (CVIVA)</b>
2008-2015	External associate professor, University of Copenhagen, Denmark (UCD)
2007-2011	Senior researcher, Bandim Health Project (BHP), Statens Serum Institut (SSI)
2005-2007	Post-doc, Bandim Health Project, SSI, and Dept. of Infectious Diseases, Rigshospitalet
2003-2004	Post-doc, Dept. of Epidemiology Research, SSI
1999-2003	PhD-student, Dept. of Epidemiology Research, SSI
1998	Maternity leave (March 1998-December 1998)
1996-98	Residence in Surgery, Internal Medicine and GP, Copenhagen
1995	Maternity leave (September 1995-February 1995)
1993	12 months' scholarship, Institute of Epidemiology and Social Science, University of Aarhus, Denmark (UAD) and BHP, Guinea-Bissau

## EDUCATION AND TRAINING

2014	Advanced course in responsible research conduct, SSI
2011	<b>Doctor of Medical Science, UCD</b>
2006	One month at Pediatric Immunology Department, Stanford University, US
2003	PhD, UCD
1996	MD, UCD
1994	Diploma in Medical Research, UAD
1987-96	Medical Student, UAD and UCD

## HONOURS AND AWARDS

2020	<b>Elected member of the <i>Academia Europaea</i></b>
2019	<b>University of Southern Denmark's "Innovation Prize"</b>
2018	Selected to give a TEDx talk ( <a href="https://www.youtube.com/watch?v=_d8PNIXHJ48">https://www.youtube.com/watch?v=_d8PNIXHJ48</a> )
2017	<b>Chair, Danish Institute for Advanced Studies</b>
2015	Prize for Best Publications, Department of Clinical Research, USD
2014	Nominated for "Best Danish research result of the year"
2011	<b>Selected by the Danish National Research Foundation for a "Center of Excellence"</b>
2010	<b>Received an ERC Starting Grant</b>
2009+2011	2 <sup>nd</sup> prize: "Best Danish research result of the year"
2009	<b>Received a Female Research Leader Grant</b> (Danish Council for Independent Research)
2005	<b>Awarded Young Research Leader Grant</b> (Strategic Research Council) as one among the 19 most talented young Danish Researchers
2004	<b>Nominated for EURYI award as one among the 9 most talented Danish Researchers</b>

## ORGANISATIONAL SKILLS/ MENTORING

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- **Responsible for a team of ~15 people at SDU, Denmark**
- **One of seven member of the Steering Board of the Bandim Health Project, Guinea-Bissau**
- **The principal investigator/co-investigator for many large-scale randomised trials in Guinea-Bissau, e.g.:**
  - 1993-1995: The effect of vitamin A supplementation on the antibody-response to measles vaccine (*Lancet* 1997, *Lancet* 2002)
  - 2002-2004 : The effect on mortality of 50,000 IU vitamin A given with BCG at birth to normal-birth-weight neonates (*BMJ* 2008)
  - 2005-2008: The effect on mortality of 25,000 IU vitamin A given with or without BCG to low-birth-weight-neonates (*BMJ* 2010)
  - 2007-2011: An evaluation of the WHO vitamin A policy: Vitamin A given with vaccines after 6 months of age (*Pediatrics* 2014)
  - 2008-2012 : The effect on mortality of providing oral polio vaccine at birth (*Clin Inf Dis* 2015)
  - 2008-2014: The effect on mortality of providing early BCG vaccine to children with low weight (*Clin Inf Dis* 2017)
- **The previous or current supervisor of 26 PhD students and >40 Research year/Masters students.**

## OTHER QUALIFICATIONS

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- **Member of the Scientific Advisory Committee for EDCTP 2019->**
- **Member of the Life Science assessment panel of ERC Starting Grants 2019**
- PI for a Nordic project "Childhood morbidity and potential non-specific effects of the childhood vaccination programmes", involving the National Immunization Programs in Denmark, Norway, Sweden and Finland (with funding from "NordForsk"), 2017-2022
- Participant, EDCTP Stakeholder Meeting on Co-infections and Co-morbidities, Den Haag 2017
- Member of the PhD grant assessment committee, Odense University Hospital, 2014-2016
- **Technical Advisor, WHO** (Neonatal vitamin A policy), 2008, 2014-16
- **Member of WHO/SAGE working group** on non-specific effects of vaccines 2013-2014 ([www.who.int/immunization/sage/sage\\_wg\\_non\\_specific\\_effects\\_vaccines\\_march2013/](http://www.who.int/immunization/sage/sage_wg_non_specific_effects_vaccines_march2013/))
- **Expert member of working group, NIH** (INSPIRE), USA, 2012-2014
- **Co-funder of "OPTIMMUNIZE"**, a consortium which aims to investigate the immunological mechanisms behind the non-specific and sex-differential effects of health interventions, 2010->

## SCIENTIFIC INTERESTS

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My research focusses on **epidemiological studies** of **health interventions** and their **effect on overall health** in real life. We have observed that that vitamins and vaccines affect **the immune system** in much more general ways than previously thought. Vitamins and vaccines have so-called **non-specific effects**. Based to a large extent on work done in one of the world's poorest countries, Guinea-Bissau, I have formulated the hypothesis that these **health interventions interact**, the interventions and the interactions are **sex-differential**, and the effect of a given intervention may depend more on these interactions than on the specific effects of the interventions. Furthermore, I have formulated the hypothesis that the **beneficial non-specific effects of live attenuated vaccines** are enhanced by **maternal priming** and by **revaccination** with the same vaccine.

My main contribution has been to take the observations on non-specific effects forward to **randomised controlled trials**, being the PI for many trials testing the overall health effects of vitamin A supplementation, BCG vaccine, oral polio vaccine and early measles vaccine. I have also bridged to **immunological studies**, and explored the **biological mechanisms** underlying the non-specific effects of vitamins and vaccines. Furthermore, we have taken the observations back to Denmark, to test in randomised trials and observational **register-based studies** whether non-specific effects of vaccines are important in high-income settings. Most recently, we are testing whether non-specific effects of BCG vaccine and oral polio vaccine can provide partial protection against COVID-19. I am the **author of 301 scientific articles for peer-reviewed journals**.

**Total number of publications in peer reviewed journals (not abstracts):** 301. H-index=44 (Web of Science)

1. **Stabell C**, Balé C, da Silva AP, Olsen J, Aaby P. No evidence of fontanelle-bulging episodes after vitamin A supplementation of 6- and 9-months old infants in Guinea-Bissau. *Eur J Clin Nutr* 1995; 49: 73-74
2. **Benn CS**, Whittle H, Aaby P, Balé C, Michaelsen KF, Olsen J. Vitamin A and measles. *Lancet* 1995; 346: 503-504
3. **Benn CS**, Aaby P, Balé C, Olsen J, Michaelsen KF, George E, Whittle H. Randomised trial of effect of vitamin A supplementation on antibody response to measles vaccine in Guinea-Bissau, West Africa. *Lancet* 1997; 350: 101-105
4. **Benn CS**, Lisse IM, Balé C, Michaelsen KF, Olsen J, Hedegaard K, Aaby P. No strong long-term effect of vitamin A supplementation in infancy on CD4 and CD8 T-cell subsets. A community study from Guinea-Bissau, West Africa. *Ann Trop Paediatr* 2000; 20: 259-264.
5. **Benn CS**, Jeppesen DL, Hasselbalch H, Olesen AB, Nielsen J, Björkstén B, Lisse IL, Aaby P. Thymus size and head circumference at birth and development of allergic diseases. *Clin Exp Allergy* 2001; 31: 1862-1866.
6. **Benn CS**, Bager P, Jensen H, Lisse I, Aaby P. Measles and atopy – rash on rash? *Allergy* 2001; 56: 800-801.
7. **Benn CS**, Balde A, George E, Kidd M, Whittle H, Lisse IM, Aaby P. Long-term effect of vitamin A supplementation with measles vaccine in infancy on measles-specific antibody levels in Guinea-Bissau, West Africa. *Lancet* 2002; 359: 1313-14.
8. **Benn CS**, Bendixen M, Krause TG, Olesen, AB. Questionable coexistence of Th1 and Th2-related diseases. *J Allergy Clin Immunol* 2002; 110: 328-29.
9. **Benn CS**, Thorsen P, Jensen JS, Kjær BB, Bisgaard H, Andersen M, Rostgaard K, Björkstén B, Melbye M. Maternal vaginal microflora during pregnancy and risk of asthma hospitalization and anti-asthma medication in early childhood. *J Allergy Clin Immunol* 2002; 110: 72-77.
10. Bager P, Westergaard T, Rostgaard K, **Benn CS**, Melbye M. Mode of delivery and risk of allergic rhinitis and asthma. *J Allergy Clin Immunol* 2003; 111: 51-6.
11. Westergaard T, Begtrup K, Rostgaard K, Krause TG, **Benn CS**, Melbye M. Reproductive history and allergic rhinitis among 31,145 Danish Women. *Clin Exp Allergy* 2003; 33:301-5.
12. **Benn CS**, Benfeldt E, Andersen PK, Olesen AB, Melbye M, Björkstén B. Atopic Dermatitis in Young Children: Diagnostic criteria for Use in Epidemiological Studies Based on Telephone Interviews. *Acta Derm Venereol* 2003; 83: 347-350.
13. **Benn CS**, Balé C, Sommerfelt H, Friis H, Aaby P. Vitamin A supplementation and childhood mortality: Amplification of the non-specific effects of vaccines? *Int J Epidemiol* 2003; 32:822-8.
14. Aaby P, Jensen H, Rodrigues A, Garly ML, **Benn CS**, Lisse IM, Simondon F. Divergent female-male mortality ratios associated with different routine vaccinations among female-male twin pairs. *Int J Epidemiol* 2004; 33:367-73.
15. **Benn CS**, Böttcher MF, Pedersen BV, Filteau SM, Duchén K. Mammary epithelial paracellular permeability in atopic and non-atopic mothers versus childhood atopy. *Pediatr Allergy Immunol* 2004; 15:123-6.
16. **Benn CS**, Melbye M, Wohlfahrt J, Björkstén B, Aaby P. The sibling effect, infectious diseases, and risk of atopic dermatitis before 18 months of age. *BMJ* 2004; 328:1223-8.
17. Aaby P, Rodrigues A, Biai S, Martins C, Veirum JE, **Benn CS**, Jensen H. Oral polio vaccine and low case fatality at the paediatric ward in Bissau. *Vaccine* 2004; 22: 3014-7.
18. **Benn CS**, Wohlfahrt J, Aaby P, Westergaard T, Benfeldt E, Michaelsen KF, Björkstén B, Melbye M. Breastfeeding and Risk of Atopic Dermatitis During The First 18 Months of Life by Parental History of Allergy. *Am J Epidemiol* 2004; 160:217-23.
19. Linneberg A, Petersen J, Grønbæk M, **Benn CS**. Alcohol during pregnancy and atopic dermatitis in the offspring. *Clin Exp Allergy* 2004; 34: 1678-1683.
20. Nielsen J, **Benn CS**, Bale C, Martins C, Aaby P. Vitamin A supplementation during war-emergency in Guinea-Bissau 1998-1999. *Acta Trop* 2005; 93: 275-82.
21. Aaby P, Rodrigues A, Biai S, Martins C, Veirum JE, **Benn CB**, Jensen H. Vaccines and unexpected observations: Flaws or cause for concern? *Vaccine* 2005; 23: 2407-8.
22. **Benn CS**, Melbye M, Wohlfahrt J, Björkstén B, Aaby P. [Kohortestudie af effekten af søskende og infektionssygdomme på udvikling af atopisk dermatitis]. *Ugeskr Laeger* 2005;167 :1754-7
23. Aaby P, Jensen H, **Benn CS**, Lisse IM. Non-specific effects of vaccination: survival bias may explain findings. *BMJ* 2005; 330:844-5.
24. Jensen H, **Benn CS**, Aaby P. Diphtheria-tetanus-pertussis vaccination in low-income countries: improved child survival or survival bias? *BMJ* 2005; 330:845-6.
25. Olesen AB, Andersen G, Jeppesen DL, **Benn CS**, Juul S, Thestrup-Pedersen K. Thymus is enlarged in children with current atopic dermatitis. A cross-sectional study. *Acta Dem Venereol* 2005; 85: 240-243.

26. **Benn CS**, Michaelsen KF. Does the effect of breast-feeding on atopic dermatitis depend on family history of allergy? *J Pediatr* 2005;147(1):128-9.
27. **Benn CS**, Martins C, Rodrigues A, Jensen H, Lisse IM, Aaby P. Randomised study of the impact of different doses of vitamin A on childhood morbidity and mortality. *BMJ* 2005; 331:1428-32.
28. Linneberg A, Simonsen JB, Petersen J, Stensballe LG, **Benn CS**. Differential effects of risk factors on infant wheeze and atopic dermatitis emphasize a different etiology. *J Allergy Clin Immunol* 2006; 117(1):184-9.
29. Kamper-Jørgensen M, Wohlhahrt J, Simonsen J, Thrane N, **Benn CS**. Temporal trends in paediatric infections in Denmark. *Arch Dis Child* 2006; 91:401-4.
30. **Benn CS**, Diness B, Fisker AB, Christoffersen D, Friis H. [Høj-dosis vitamin A tilskud sænker børnedødeligheden i lavindkomstlande – kan det blive bedre?]. *Ugeskr Laeger* 2006; 168: 2442- 2445.
31. Aaby P, Gustafson P, Roth A, Rodrigues A, Fernandes M, Sodemann M, Holmgren B, **Benn CS**, Garly ML, Lisse IM, and Jensen H. Vaccinia scars associated with better survival for adults. An observational study from Guinea-Bissau. *Vaccine* 2006; 24:5718-25.
32. Aaby P, Vessari H, Nielsen J, Maleta K, **Benn CS**, Jensen H, Ashorn P. Non-specific and sex-differential effects of routine immunizations in rural Malawi. *Ped Inf Dis J* 2006; 25:721-727.
33. **Benn CS**, Fisker AB, Diness BR, Aaby P. Sex-differential effects of neonatal vitamin A supplementation on mortality? *J Infect Dis* 2006; 194: 719.
34. Kamper-Jørgensen M, Wohlfahrt J, Simonsen J, Grønbaek M, **Benn CS**. Population-based study of the impact of childcare attendance on hospitalizations for acute respiratory infections. *Pediatrics* 2006; 118: 1439-46.
35. Stensballe LG, Kristensen K, Simoes EAF, Jensen H, Nielsen J, **Benn CS**, Aaby P. Atopic Disposition, Wheezing, and Subsequent Respiratory Syncytial Virus Hospitalization in Danish Children Younger Than 18 Months: A Nested Case-Control Study. *Pediatrics* 2006;118: 1360-8.
36. **Benn CS**, Aaby P. [Kønsforskelle i respons på præventive sundhedsprogrammer]. *Ugeskr Laeger* 2006; 168: 3045-3046.
37. Poulsen A, Stensballe LG, Nielsen J, **Benn CS**, Balde A, Roth A, Lisse IM, Aaby P. Long-term consequences of respiratory syncytial virus acute lower respiratory tract infection in early childhood in Guinea-Bissau. *Ped Inf Dis J* 2006; 25: 1025-1031.
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39. Aaby P, **Benn CS**, Nielsen J, Lisse IM, Rodrigues A, Jensen H. Estimating the effect of DTP vaccination on mortality in observational studies with incomplete vaccination data. *Trop Med Int Health* 2007;12:15-24.
40. Jensen H, **Benn CS**, Nielsen J, Lisse IM, Rodrigues A, Andersen PK, Aaby P. Survival bias in observational studies of the impact of routine immunisations on childhood survival. *Trop Med Int Health* 2007; 12:5-14.
41. **Benn CS**, Fisker AB, Jørgensen MJ, Aaby P. Why worry: Vitamin A with DTP vaccine? *Vaccine* 2007; 25: 777-779.
42. Aaby P, Biai S, Veirum JE, Sodeman M, Lisse I, Garly ML, Jensen H, **Benn CS**, Rodrigues A. DTP with or after measles vaccination is associated with increased in-hospital mortality in Guinea-Bissau. *Vaccine* 2007; 25: 1265-69.
43. Kamper-Jørgensen M, Wohlfahrt J, Simonsen JB, **Benn CS**. The Childcare Database: a valuable register-linkage. *Scand J Public Health* 2007; 35: 323-9.
44. Jensen ML, Dave S, van der Loeff MS, da Costa C, Vincent T, Leligdowicz A, **Benn CS**, Roth A, Ravn H, Lisse IM, Whittle H, Aaby P. Vaccinia Scars Associated with Improved Survival among Adults in Rural Guinea-Bissau. *PLoS ONE* 2006; 1: e101.
45. Larsen JM, **Benn CS**, Fillie Y, van der Kleij D, Aaby P, Yazdanbakhsh M. BCG stimulated dendritic cells induce an IL-10 producing T-cell population with no Th1/Th2 bias in vitro. *Immunology* 2007; 121: 276-82
46. Aaby P, Garly ML, Jensen H, Martins C, Balé C, **Benn CS**, Rodrigues A, Lisse IM. Inactivated polio and diphtheria-tetanus-pertussis vaccines associated with increased female mortality prior to measles vaccination: Observations from vaccination trials in Guinea-Bissau. *Ped Inf Dis J* 2007; 26: 247-52.
47. Nante E, Diness BR, Ravn H, Roth A, Aaby P, **Benn CS**. No adverse events associated with simultaneous vitamin A supplementation and Baccille Calmette-Guerin vaccination in normal-birth-weight infants in Guinea-Bissau. *Eur J Clin Nutr* 2007 May 30;
48. **Benn CS**, Aaby P. Sex-differential responses to preventive health interventions. *Dan Med Bull* 2007; 54: 153-4.

49. Fisker AB, Lisse IM, Aaby P, Erhardt J, Rodrigues A, Bibby B, **Benn CS**. Impact of neonatal vitamin A supplementation with BCG vaccine on vitamin A status at 6 weeks and 4 months of age. *Am J Clin Nutr* 2007; 86:1032-9.
50. Diness BR, Fisker AB, Roth A, Yazdanbakhsh M, Sartono E, Whittle H, Nante JE, Lisse IM, Ravn H, Rodrigues A, Aaby P, **Benn CS**. The effect of high-dose vitamin A supplementation on the immune response to Bacille Calmette-Guérin vaccination. *Am J Clin Nutr* 2007; 86:1152-9.
51. Kamper-Jørgensen M, Woodward A, Wohlfahrt J, **Benn CS**, Simonsen J, Hjalgrim H, Schmiegelow K. Childcare in the first two years of life reduces the risk of childhood acute lymphoblastic leukaemia. *Leukaemia* 2008; 22 :189-93.
52. Eriksson M, Sartono E, Martins CL, Balé C, Garly ML, Whittle H, Aaby P, Pedersen BK, Yazdanbakhsh M, Erikstrup C, **Benn CS**. A comparison of ex vivo cytokine production in venous and capillary blood. *Clin Exp Immunol* 2007; 150 :469-76.
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55. **Benn CS**, Fisker AB, Jørgensen MJ, Aaby P. Conflicting evidence for neonatal vitamin A supplementation. *Vaccine* 2008; 26:4111-2.
56. Hersoug L-G, **Benn CS**, Simonsen JB, Kamper-Jørgensen M, Linneberg A. Maternal employment in childcare institutions and the risk of infant wheeze and atopic dermatitis in the offspring. *Ped All Immunol* 2008; 19(8):688-95
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### Miscellaneous:

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**Christine Stabell Benn**: Declaring vaccine hesitancy one of the ten biggest health threats in 2019 is unhelpful <https://theconversation.com/declaring-vaccine-hesitancy-one-of-the-ten-biggest-health-threats-in-2019-is-unhelpful-123628> (2019) [More than 49,000 reads]

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**TEDx talk**: How vaccines train the immune system in ways no one expected | Christine Stabell Benn | TEDxAarhus. [https://www.youtube.com/watch?v=\\_d8PNIXHJ48](https://www.youtube.com/watch?v=_d8PNIXHJ48) (2019) [More than 57000 views]