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RESEARCHER

**Health Economics and HTA**

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## Biography

Carlo Federici is a Researcher of Health Economics and Health Technology Assessment (HTA) at the Center for Research on Health and Social Care Management (CERGAS) of SDA Bocconi School of Management.

At SDA Bocconi Carlo teaches the Advanced Decision Modelling course at the Master of International Healthcare Management, Economics and Policy (MIHMEP) as well as several courses on HTA and economic evaluations of healthcare technologies. He conducted numerous research, training and consulting projects with Medtronic, Janssen, ABBOTT, Chiesi Farmaceutica, Assobiomedica, and many others. He contributed to several European research projects such as the H2020 projects MedtecHTA and COMED addressing the assessment of medical devices from different perspectives. In the past years, Carlo has also conducted several research activities with the Italian Ministry of Health on both reimbursement and regulatory aspects of medical technologies.

His research activities focus on the area of HTA and Health Policy Evaluation. His current research addresses both methodological aspects as well as applied case studies on decision analytical models to estimate cost-effectiveness of innovative health technologies as compared to other policy options. Other recent research areas include the identification of different dimensions of value when assessing health interventions, such as for example the real option value and insurance value of health technologies; the impact of technologies characteristics on organizational impact and operations management; or the study of performance-based risk sharing agreements between payers and technology developers (e.g., coverage with evidence development, payment by results etc.)

He is the author of numerous articles on the subject. His work has been published in Journal of Value in Health, PlosOne, Pharmacoeconomics, Health Policy among others. Carlo serves as a topic editor in the pharmacoconomics and outcome research area for the Journal Clinical Therapeutics. He is a member of the Italian Association of Health Economics (AIES) and the International Society for Pharmacoeconomics and Outcomes Research (ISPOR).

Carlo earned his MSc in Health Economics from the University of York and his Ph.D. at the University of Warwick.

## Teaching domains

Markov Models

Economic Evaluations of Drugs

Meta-Analysis

Survival Analysis

Statistics for Clinical Studies

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## ARTICLES IN SCHOLARLY JOURNALS

FEDERICI C. B., ROGNONI C., COSTA F., ARMENI P., CROVATO E., BELLUCCI S.

**Use of Resource Modeling to Quantify the Organizational Impact of Subcutaneous Formulations for the Treatment of Oncologic Patients: The Case of Daratumumab in Multiple Myeloma**

Clinical Therapeutics, 2022, vol.44, no. 11, pp.1480-1493

ISKANDAR R., FEDERICI C. B., BERNS C., BLANKART C. R.

**An approach to quantify parameter uncertainty in early assessment of novel health technologies**

Health Economics, 2022, vol.31, no. S1, pp.116-134

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FEDERICI C. B., PECCHIA L.

**Exploring the misalignment on the value of further research between payers and manufacturers. A case study on a novel total artificial heart**

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KOVÁCS S., KALÓ Z., DAUBNER-BENDES R., KOLASA K., HREN R., TESAR T., RECKERS-DROOG V., BROUWER W., FEDERICI C. B., DRUMMOND M., ZEMPLÉNYI A. T.

**Implementation of coverage with evidence development schemes for medical devices: A decision tool for late technology adopter countries**

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CALLEA G., FEDERICI C. B., FREDDI R., TARRICONE R.

**Recommendations for the design and implementation of an Early Feasibility Studies program for medical devices in the European Union**

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**The use of artificial intelligence systems in diagnosis of pneumonia via signs and symptoms: A systematic review**

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FEDERICI C. B., RECKERS-DROOG V., CIANI O., DAMS F., GRIGORE B., KALÓ Z., KOVÁCS S., SHATROV K., BROUWER W., DRUMMOND M.

**Coverage with evidence development schemes for medical devices in Europe: characteristics and challenges**

The European Journal of Health Economics, 2021, vol.22, pp.1253-1273

BLANKART C. R., DAMS F., PENTON H., KALÓ Z., ZEMPLÉNYI A., SHATROV K., ISKANDAR R., FEDERICI C. B.  
**Regulatory and HTA early dialogues in medical devices**

Health Policy, 2021, vol.125, no. 10, pp.1322-1329

FEDERICI C. B., PECCHIA L.

**Early health technology assessment using the MAFEIP tool. A case study on a wearable device for fall prediction in elderly patients**

Health and Technology, 2021, vol.11, no. 5, pp.995-1002

FATTORE G., FEDERICI C. B., DRUMMOND M., MAZZOCCHI M., DETZEL P., HUTTON Z. V., SHANKAR B.

**Economic evaluation of nutrition interventions: Does one size fit all?**

Health Policy, 2021, vol.125, no. 9, pp.1238-1246

FORNARO G., FEDERICI C. B., ROGNONI C., CIANI O.

**Broadening the Concept of Value: A Scoping Review on the Option Value of Medical Technologies**

Value in Health, 2021, vol.24, no. 7, pp.1045-1058

FEDERICI C. B., FORNARO G., ROEHR C. C.

**Cost-saving effect of early less invasive surfactant administration versus continuous positive airway pressure therapy alone for preterm infants with respiratory distress syndrome**

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**Establishing a national HTA program for medical devices in Italy: Overhauling a fragmented system to ensure value and equal access to new medical technologies**

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**Performance-based risk-sharing agreements in renal care: current experience and future prospects**

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GRIGORE B., CIANI O., DAMS F., FEDERICI C. B., DE GROOT S., MÖLLENKAMP M., RABBE S., SHATROV K., ZEMPLÉNYI A., TAYLOR R. S.

**Surrogate Endpoints in Health Technology Assessment: An International Review of Methodological Guidelines**

PharmacoEconomics, 2020, vol.38, no. 10, pp.1055-1070

BARCHIESI M., BULGHERONI M., FEDERICI C. B., CASELLA F., MEDICO M. D., TORZILLO D., POPESCU J. V., TARRICONE R., COGLIATI C.

**Impact of point of care ultrasound on the number of diagnostic examinations in elderly patients admitted to an internal medicine ward**

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PIRC E., FEDERICI C. B., BOŠNJAK M., PERIC B., REBERŠEK M., PECCHIA L., GLUMAC N., CEMAŽAR M., SNOJ M., SERŠA G., MIKLAVCIC D.

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**The impact of food reformulation on nutrient intakes and health, a systematic review of modelling studies**

BMC Nutrition, 2019, vol.5, no. 2

FEDERICI C. B., PEREGO F., BORSOI L., CROSTA V., ZANICHELLI A., GIDARO A., TARRICONE R., CICARDI M.

**Costs and effects of on-demand treatment of hereditary angioedema in Italy: a prospective cohort study of 167 patients**

BMJ, 2018, vol.8, no. 7, pp.e022291

POLISENA J., CASTALDO R., CIANI O., FEDERICI C. B., BORSCI S., RITROVATO M., CLARK D., PECCHIA L.

**Health Technology Assessment Methods Guidelines For Medical Devices: How Can We Address The Gaps? The International Federation Of Medical And Biological Engineering Perspective**

International Journal of Technology Assessment in Health Care, 2018, vol.34, no. 3, pp.276-289

FEDERICI C. B., CAVAZZA M., COSTA F., JOMMI C., DE BOER P. T.

## CONTRIBUTION TO CHAPTERS, BOOKS OR RESEARCH MONOGRAPHS

ARDITO V., FEDERICI C. B., FURNARI A., CIANI O., TARRICONE R.

**Esiti di salute e performance del Servizio Sanitario Nazionale** in *Rapporto OASI 2022*  
CERGAS (Eds),Egea, chap. 7, pp.285-346, 2022

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CALLEA G., FEDERICI C. B., CIANI O., AMATUCCI F., BORSOI L., TARRICONE R., MARLETTA M.

**Integrating HTA Principles into Procurement of Medical Devices: The Italian National HTA Programme for Medical Devices** in *XV Mediterranean Conference on Medical and Biological Engineering and Computing – MEDICON 2019*  
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CIANI O., FEDERICI C. B.

**Introduction to economic evaluation and health technology assessment** in *Clinical Engineering Handbook*  
Iadanza, Ernesto (Eds),Elsevier, pp.789-793, 2020

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**The evaluation of medical devices: are we getting closer to solve the puzzle? A review of recent trends** in *EMBEC & NBC 2017*

Hannu Eskola, Outi Väisänen, Jari Viik, Jari Hyttinen (Eds),Springer Singapore, pp.916-919, 2018

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TARRICONE R., CIANI O., AMATUCCI F., ARMENI P., BORSOI L., CALLEA G., COSTA F., FEDERICI C., TORBICA A., MARLETTA M.

**Programma Nazionale HTA per dispositivi medici: prove tecniche di implementazione** in *Rapporto OASI 2017*  
CERGAS (Eds),Egea, chap. 15, pp.535-553, 2017

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**Current and Future Trends in the HTA of Medical Devices** in *XIV Mediterranean Conference on Medical and Biological Engineering and Computing 2016*

Efthymou Kyriacou, Stelios Christofides, Constantinos S. Pattichis (Eds), Springer International Publishing, pp.1345-1348, 2016

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## COMMENTS, DISCUSSIONS, REPLIES IN JOURNAL

FEDERICI C. B., TORBICA A.

**Expanding the Role of Early Health Economic Modelling in Evaluation of Health Technologies Comment on "Problems and Promises of Health Technologies: The Role of Early Health Economic Modeling"**

2020, International Journal of Health Policy and Management

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## EDITORIALS IN JOURNAL

FEDERICI C. B., ARMENI P., CALLEA G.

**A Value-based Revolution in Health Care: Perspectives, Challenges, and Emerging Approaches to Defining and Measuring the Value of Health Care Technologies**

2020, Clinical Therapeutics

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## EDITORSHIP OF SPECIAL ISSUES

ARMENI P., CALLEA G., FEDERICI C. B.

**Pharmacoeconomics, Outcomes, and Health Policy Update**

2020, Clinical Therapeutics

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## PROCEEDINGS/PRESENTATIONS

CALLEA G., FEDERICI C. B., FREDDI R., TARRICONE R.

**Recommendations for the design and implementation of an Early Feasibility Studies program for medical devices in Italy**

*Italian Health Economics Association (AIES), 26th Annual Conference, 2-3 December, 2021, Milano, Italy*

FORNARO G., FEDERICI C. B., ROGNONI C., CIANI O.

**Broadening the Concept of Value: A Scoping Review on the Option Value of Medical Technologies**

*EUHEA Conference (virtual), 9 July, 2020, Oslo, Norway*

ROGNONI C., FEDERICI C. B., CIANI O.

**Comparazione di Strategie Alternative di Modellizzazione per Analisi Costo-Efficacia: Applicazione al Trattamento in Prima Linea per Pazienti con Mieloma Multiplo non Eleggibili a Trapianto**

*AIES (Italian Health Economics Association), 24th Annual Conference, 3-4 October, 2019, Pisa, Italy*

TORBICA A., PONGIGLIONE B., CIANI O., PETRACCA F., FEDERICI C. B.

**Pushing the Boundaries of Existing Methods for Cost and Outcome Analysis of Medical Technologies: First**

**Results from H2020 EU Project COMED**

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CALLEA G., FEDERICI C. B.

**Cost-effectiveness analysis of radiofrequency ablation in patients with Barrett Esophagus and high grade dysplasia in Italy**

*ISPOR Conference, May 18-22, 2019, New Orleans, LA, United States of America*

ARMENI P., FEDERICI C. B., COSTA F., TARRICONE R., TORBICA A., CALLEA G.

**Inclusion Of Learning Curve Effects In Economic Evaluations Of Medical Devices- Empirical Evidence For Hta**

*ISPOR 22nd Annual International Meeting - May 20-24, 2017, Boston, MA, United States of America*

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