#### Stefania Manetti

#### Personal details

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#### **BIO**

Stefania Manetti is an assistant professor at the School of Management of Politecnico di Milano (Milano, Italy). Stefania has been a research fellow at the Institute of Management of Scuola Superiore Sant'Anna (Pisa, Italy), where she got her PhD in Healthcare Innovation Management with distinction. Previously, she has been a research associate in health technology Assessment (HTA) at the London In-Vitro Diagnostics (LIVD) Cooperative and the Department of Surgery and Cancer of Imperial College London. Stefania has been a visiting scholar at the Health Economic Research Center (HERC) of Oxford University and the Public Health Department of Karolinska Institutet (Stockholm, Sweden). Her research interests focus on open innovation strategies in life sciences, impact assessment frameworks of disruptive innovations in healthcare, go-to-market and value-based procurement paradigms for digital innovations, and measurement of value in healthcare. Her research has appeared in Pharmacoeconomics, PLOS ONE, BMC Health Service Research, and BMJ Open, among others. Stefania teaches Healthcare Management (5 ECTF) in the M.Sc. in Biomedical Engineering and Innovation in Health and Social Care (5 ECTF) in the M.Sc. in Management Engineering at Politecnico di Milano. Stefania has been involved in many projects funded by med-tech companies, and national and international institutions, including European projects. She has been a member of international scientific committees, such as the WHO's Research Front Desk for independent reviews of research protocols on healthcare innovation. Stefania is also an Honorary Research Associate at the Department of Surgery and Cancer of Imperial College London.

#### Research interests

- Open innovation strategies in hospitals and life science companies
- Go-to-market and value-based procurement paradigms for digital innovations
- Impact assessment frameworks of disruptive innovations in healthcare, such as digital therapeutics, robotics, and patient support programs, at different time points of a medical technology's lifecycle
- Financial sustainability of innovation in healthcare
- Measurement of value in healthcare

#### **Academic positions**

Feb 2023 – Present Assistant Professor in Management Engineering at School of Management of

Politecnico di Milano, Milano, Italy.

Jan 2020 – Jan 2023 **Post-doctoral research fellow** in **Healthcare Innovation Management** at the Health and

Management Laboratory, Institute of Management, Sant'Anna School of Advanced

Studies, Pisa, Italy.

Research activity carried out at the regional and national level on the impact assessment of biomedical innovations using administrative databases from hospitals and public

institutions, and a combination of qualitative and quantitative research. Teaching

activities, writing of project grants, reports, and papers.

Aug 2018 - Dec 2019

# Post-doctoral research fellow, Department of Surgery and Cancer, Imperial College London, UK.

Scientific Responsible: Prof G. Hanna; Line Manager: Dr M. Z. Ni

Research activity at the hospital and national level on (1) the impact of new biomarkers and diagnostics on the organisation of clinical pathways and services; (2) hospital-based HTA, with a focus on health economics and human factors; (3) market access planning and evidence generation for technology transfer to support MedTech companies. Writing of project grants, reports, and papers.

Jan 2018 – July 2018

Research assistant, Institute of Management, Scuola Superiore Sant'Anna, Pisa, Italy. "Borsa di ricerca post-laurea", tutor: Prof G. Turchetti

Research activity on early-stage HTA of innovative medical devices, focusing on economic evaluations and sensitivity analyses, such as cost-utility analysis and value of information. Writing of project reports.

#### **Education**

Oct 2014 - May 2018

**Ph.D. in Healthcare Innovation Management, Scuola Superiore Sant'Anna**, Pisa, Italy. Dissertation project: "Incorporating Health Technology Assessment (HTA) into Medical Device R&D: the costs and benefits of being an early bird". Supervisor: Prof G. Turchetti, Tutor: Prof N. Orsini. External reviewers: Prof E. Geisler, Prof L. Pecchia. Committee: Prof S. Nuti, Prof A. Piccaluga, Prof. L. Pecchia, Prof G. Turchetti. Final mark: **Highest Honours (Cum Laude)**.

Jan 2011 – Apr 2014 (A.Y. 2013)

### Master's Degree in Biomedical Engineering, University of Pisa, Italy.

Thesis: "Health Technology Assessment (HTA) of the Da Vinci Master-Slave Manipulator in Italy", carried out with the EndoCAS centre of excellence in Computer Assisted Surgery. Supervisors: Prof L. Landini, Prof G. Turchetti, A. Ginghiali (ESTAR Director of the HTA Unit of Tuscany Region). Final mark: 110/110 Cum Laude.

Oct 2006 – Dec 2010 (A.Y. 2009)

#### Bachelor's Degree in Biomedical Engineering, University of Pisa, Italy.

Thesis: "Biomechanical model of the ossicular chain of the human middle ear", carried out with the Ear and Neck Unit of Cisanello University Hospital, Pisa. Supervisors: Prof P. Forte, Prof F. Di Puccio. Final mark: 110/110.

#### Visiting periods

Sep 2016 - Mar 2017

Visiting Scholar at **Health Economics Research Center (HERC)**, **University of Oxford**, UK, invited by Prof J. Leal.

Research activity on DRG-based hospital costing methods; cost-utility analysis; predictive statistics, such as bootstrap and Monte Carlo techniques; use of Hospital Episode Statistics (HES) and Clinical Practice Research Datalink (CPRD). Writing of a paper.

Feb 2016 - May 2016

PhD. Visiting Student, **Public Health Sciences Department, Karolinska Institutet**, Stockholm, Sweden.

Supervisor: Prof N. Orsini

Research activity on the use of survival analysis in economic evaluations and HTA. Writing of a conference paper.

#### Participation in scientific committee/other relevant positions

Jan 2022 - June 2022

World Health Organization's (WHO) Research Front Desk pilot technical research review roster (Roster).

Scientific Committee: Dr E., Mumford, Dr A. L., Ross, Dr K., Littler.

Research activity carried out to support the development of the Research Front Desk (RFD) aimed at supporting the independent technical reviews of research protocols prior

to submission to WHO Ethics Review Committee (ERC). Implementation of review of research protocols, collection, and analysis of secondary data.

Jan 2021 – Dec 2021

Member of the MedTech SuperConnector (MTSC) Scientific Committee, Diagnostics Accelerator 2021 Programme coordinated by London In-Vitro Diagnostics (LIVD) Co-op.

MTSC partner institutions include Imperial College London, Queen Mary University of London, Bucks New University, Francis Crick Institute, Royal College of Art, Royal College of Music, Institute of Cancer Research and Royal Veterinary College.

Research activity on market access and evidence generation in Med-Tech industry. Selection of applications. Writing of papers.

May 2021 - Dec 2021

Coordinator of the International Society for Pharmacoeconomics and Outcomes Research (ISPOR) Italy Rome-Chapter Working Group on "Drafting Guidelines for the role of economic evaluations in assessing the value of new pharmaceuticals in the Italian Healthcare Service".

Scientific Committee: Prof P. Russo, Prof F. S. Mennini, Prof P. L. Canonico, Prof A. Marcellusi.

Research activity on new approaches to multidimensional value determination and value-based healthcare. Coordination of a multidisciplinary group with representatives from academia, industry, regional health systems, and local health authorities, including the Italian Drug Agency (AIFA). Conceptualisation, design, and writing of the guidelines. Organisation of the ISPOR Italy-Rome Chapter VII National Conference in Rome.

#### Participation and coordination of scientific research projects

Jan 2022 - Present

"Studio esplorativo di valutazione della qualità di vita, dell'esperienza e della soddisfazione di un servizio di follow up molecolare a domicilio dei pazienti con carcinoma superficiale della vescica" (ESTENS-PoC) funded by Toscana Life Sciences Foundation and coordinated by Ferrara Local Health Authority in collaboration with Laboratorio Management e Sanità (MeS), Scuola Superiore Sant'Anna.

Coordinator under the scientific responsibility of Dr F. Ferré.

June 2021 - Present

"Towards new performance indicators to manage healthcare-related infections" funded by Tuscany Region and coordinated by Laboratorio Management e Sanità (MeS), Scuola Superiore Sant'Anna.

Coordinator under the scientific responsibility of Prof C. Seghieri.

Jan 2021 – May 2022

"Multi-stakeholder assessment of a new diagnostics for the early identification of Sepsis in the Italian Healthcare Service" (2021 $\rightarrow$ ) funded by Beckman Coulter S.r.l. ( $\in$  40,000) and coordinated by Laboratorio Management e Sanità (MeS), Scuola Superiore Sant'Anna.

Principal Investigator.

Jan 2021 - Present

"Systematic collection of Patient-Reported Outcome Measures (PROMs) in robotic oncological surgery" funded by Tuscany Region and coordinated by Laboratorio Management e Sanità (MeS), Scuola Superiore Sant'Anna.

Co-Principal Investigator with Prof M. Vainieri.

Sept 2020 - Present

Participation in the research activities within the national project entitled "Definition and testing of a new model of clinical governance based on the integration of tools, such as Health Technology Assessment, Clinical Practice Guidelines, Clinical Pathways, and healthcare performance measurement for planning, implementation and management of healthcare interventions in different settings" (Integrate-Health-Gov 2020→) funded by Italian Ministry of Health and coordinated by National Institute of Health (ISS).

Integrate-Health-Gov partners include Niguarda Hospital, Galeazzi Orthopaedic Institute, National Institute of Care for Elderly (INRCA), and Giovanni Paolo II Cancer Institute (IRCSS), Careggi University Hospital, Azienda Zero (Veneto Region).

Research activities carried out within WP 7 under the scientific responsibility of Prof M. Vainieri and Prof C. Passino for Scuola Superiore Sant'Anna.

Jan 2020 - Present

"Systematic and continuous post-market monitoring of the medical device consumption" funded by Tuscany Region and coordinated by Laboratorio Management e Sanità (MeS), Scuola Superiore Sant'Anna.

Project coordinator under the scientific responsibility of Prof M. Vainieri.

Jan 2020 – Present

Participation in the research activities within the national project entitled "UBiquitous Integrated Care: un approccio innovativo centrato sul paziente mediante una piattaforma di salute digitale" (UBICARE 2018→) funded by the Regional Operational Programme of the European Regional Development Fund (ERDF ROP) 2014-2020, implemented by Tuscany Region (grant number: 7429.31052017.113000148).

PI Prof M. Emdin, WinMedical S.r.l. Partners: Extra Red S.r.l, BeeApp S.r.l, Scuola Superiore Sant'Anna.

Research activities carried out within WP 1.3 "Definizione piano di validazione sistema UBICARE" and WP 4.1 "Validazione Performance dispositivo indossabile" under the scientific responsibility of Prof M. Emdin and Prof M. Vainieri for Scuola Superiore Sant'Anna.

Jan 2021 – May 2021

Participation in the research activities within the national project entitled "Performance evaluation and value assessment for cardiovascular and oncological care paths in a regional network context: challenges and opportunities" (CARE-NET 2016 →) NET-2016-02363853 funded by the Italian Ministry of Health within the grant "Bando ricerca finalizzata 2016-esercizi finanziari 2014 e 2015".

PI Prof. S. Siena, AAST Grande Ospedale Metropolitano Niguarda (Milano). Partners: ASST Grande Ospedale Metropolitano Niguarda; Università degli Studi di Milano Bicocca; Fondazione Toscana G. Monasterio, Scuola Superiore Sant'Anna, Azienda Ospedaliera di Perugia, Istituto Oncologico Veneto, Azienda Ospedaliera di Padova, Azienda ospedaliera universitaria San Martino.

Sept 2020 - Jan 2021

"The Performance Evaluation System (PES) of Tuscany Region. Pharmaceutical Service and Medical Devices" funded by Tuscany Region and coordinated by Laboratorio Management e Sanità (MeS), Scuola Superiore Sant'Anna.

Project coordinator under the scientific responsibility of Prof M. Vainieri.

Sept 2020 - Jan 2021

"Systematic collection of Patient-Reported Outcome Measures (PROMs) in robotic oncological surgery" funded by Tuscany Region and coordinated by Laboratorio Management e Sanità (MeS), Scuola Superiore Sant'Anna.

Project coordinator under the scientific responsibility of Prof S. Nuti.

Aug 2018 - Dec 2019

"Biosensor for the Precision Treatment of Trauma Patients with Severe Haemorrhage" (2016→), funded by Innovate UK (grant number: 103944) and coordinated by Highland Biosciences (HBL) in collaboration with Imperial College London and NHS trusts.

Project coordinator under the scientific responsibility of Prof G. Hanna.

Aug 2018 - Dec 2019

Participation in the research activities within the UK national project entitled "Accelerated Diagnosis of neuro Endocrine and Pancreatic TumourS" (ADEPTS 2018→) coordinated by University College London, funded by Pancreatic Cancer UK.

ADEPTS partner institutions include Imperial College London, Universities of Oxford, University of Liverpool, University of Nottingham, University of Strathclyde, King's

College London, Royal Free Hospital, Institute of Cancer Research, St Mary's Hospital, UCLH/UCL Joint Research Unit, Barts Cancer Institute.

Research activities carried out within WP4 "Stakeholder analysis, barriers to adoption and health economics to support early detection of Pancreatic Cancers" under the scientific responsibility of Dr M. Z. Ni and Dr Robert Van Der Meer for Imperial College London.

Aug 2018 - Dec 2019

Participation in the research activities within the UK national project entitled "Developing a Schedule for Unscheduled Care - NHS Test Beds: testing innovations to address health and care challenges - Wave 2 Programme" (2018 →), coordinated by Chelsea and Westminster NHS Foundation Trust, funded by NHS England.

Project partners include Transforming Systems Limited; Patients Know Best Limited, Inch ltd, Behavioural Insights Ltd, Imperial College London & Imperial College Health Partners (ICHP), and Medopad ltd.

Research activities carried out under the scientific responsibility of Prof G. Hanna and Dr M. Z. Ni for Imperial College London.

Jan 2018 – Dec 2019

"Medical devices" (2019-2020) funded and coordinated by Clinical Research Network (CRN) in collaboration with Imperial College London-.

Project coordinator under the scientific responsibility of Prof D. Johnston and Dr M. Z. Ni for Imperial College London.

Jan 2017 - July 2018

Participation in the research activities within the European project entitled "The CYBERnetic LowEr-Limb CoGnitive Ortho-prosthesis Plus Plus" (CYBERLEGS Plus Plus) (2017-2021) funded by the European Commission under the "H2020-EU.2.1.1. - INDUSTRIAL LEADERSHIP - Leadership in enabling and industrial technologies - Information and Communication Technologies (ICT)" (ID 731931) and coordinated by Scuola Superiore Sant'Anna.

CYBERLEGs Plus Plus partners include Universite Catholique De Louvain (Belgium), Vrije Universiteit Brussel (Belgium), Univerza v Ljubljani (Slovenia), Fondazione Don Carlo Gnocchi Onlus (Italy), Össur HF (Iceland), Iuvo S.r.l. (Italy).

Research activities carried out under the scientific responsibility of Prof G. Turchetti for Scuola Superiore Sant'Anna.

Oct 2014 - Dec 2015

Participation in the research activities within the European project entitled "A Modular Smart System for Infants' Rehabilitation At Home based on Mechatronic Toys" (CareToy) (2011-2015) funded by the European Commission under the "FP7-ICT - Specific Programme Cooperation: Information and communication technologies" (ID 287932) and coordinated by Scuola Superiore Sant'Anna.

CareToy partners include Universitaet Hamburg (Germany), Elsass Fonden (Denmark), Fonden for Helene Elsass Centre (Denmark), STMicroelectronics S.r.l (Italy), Fondazione Stella Maris (Italy), M R & D S.p.a (Italy), Univerza V Ljubljani (Slovenia).

Research activities carried out under the scientific responsibility of Dr F. Cecchi and Prof P. Dario for Scuola Superiore Sant'Anna.

Jan 2013 - Apr 2014

Participation in the research activities within the PRIN project entitled "Health Technology Assessment of the da Vinci Master-Slave Manipulator in Italy" (2008-2014), funded by the Italian Ministry for Universities and Research (MIUR) (CUP code J51J10000000001).

Research activities carried out under the scientific responsibility of Prof G. Turchetti for Scuola Superiore Sant'Anna.

#### **Teaching**

Sept 2023 – Present

Professor in charge of the course: "Innovation in Health and Social Care" (5 ECTF) for the Master students in Management Engineering at Politecnico di Milano.

Feb 2023 – Present	Professor in charge of the course " <b>Healthcare Management</b> " (5 ECTF) for the Master students in Biomedical Engineering at Politecnico di Milano.
Sept 2021 – Present	Co-instructor with Prof E. Lettieri of the optional course "Innovation in Health and Social Care" (ING-IND/35, 5 ECTS), Master ("Laurea Magistrale") in Management Engineering – Ingegneria Gestionale, Politecnico di Milano, Italy.
26 January 2022	Lecturer "Health Technology Assessment and Real-World Evidence", course "Healthcare Performance Management", PhD in Management, Innovation, Sustainability, and Healthcare, Scuola Superiore Sant'Anna, Pisa (Doctoral level).
14 January 2022	Lecturer "Hospital-Based Health Technology Assessment", Advanced Training Course ("Corso di Alta Formazione") "Dirigenti di Struttura Complessa e Aspiranti Direttori Generali" XXIX edition, Scuola Superiore Sant'Anna, Pisa (Ad-hoc executive education).
12 January 2022	Lecturer "Digital health and telemedicine", Advanced Training Course ("Corso di Alta Formazione") "Dirigenti di Struttura Complessa e Aspiranti Direttori Generali" XXIX edition, Scuola Superiore Sant'Anna, Pisa (Ad-hoc executive education).
13 December 2021	Lecturer "Managing innovation in health and social care: an introduction to Health Technology Assessment", Master in "Percutaneous treatment of coronary heart disease", III edition, Scuola Superiore Sant'Anna, Pisa (Ad-hoc executive education).
12 November 2021	Lecturer "Digital innovation in healthcare", Advanced Training Course ("Corso di Alta Formazione") "Dirigenti di Struttura Complessa e Aspiranti Direttori Generali" XXIX edition, Scuola Superiore Sant'Anna, Pisa (Ad-hoc executive education).
11 November 2021	Lecturer "Governance in new health technologies", mandatory course "Performance in Service: managing performance in healthcare" (6 ECTS), Master ("Laurea Magistrale") in Innovation Management – MAIN, Scuola Superiore Sant'Anna, Pisa (Undergraduate level).
25 October 2021	Lecturer "Introduction to Health Technology Assessment", II Level Master Course in "Percutaneous interventional treatment of structural heart diseases" IV edition, Scuola Superiore Sant'Anna, Pisa (Ad-hoc executive education).
6 October 2021	Lecturer "Managing technological innovation in healthcare through Health Technology Assessment and Real-World Evidence", Advanced Training Course ("Corso di Alta Formazione") "Dirigenti di Struttura Complessa – Corso di Rivalidazione" IV edition, Scuola Superiore Sant'Anna, Pisa (Ad-hoc executive education).
11 June 2021	Lecturer "The healthcare in the patient point of view: patient-reported measures", Advanced Training Course in Healthcare Management, Department of Biotechnology, chemistry and pharmacy, University of Pisa (Ad-hoc executive education).
10 June 2021	Lecturer "Integrated use of patient-reported information in Health Technology Assessment", Advanced Training Course ("Corso di Alta Formazione") "Dirigenti di Struttura Complessa" XXVIII edition, Scuola Superiore Sant'Anna, Pisa (Ad-hoc executive education).
28 May 2021	Lecturer "Governance of pharmaceuticals and medical devices via real-world evidence", Advanced Training Course in Healthcare Management, Department of Biotechnology, chemistry and pharmacy, University of Pisa (Ad-hoc executive education).
19 May 2021	Lecturer "Governance in Medical Devices", course "Health care management in public health systems", PhD in Health Science, Technology and Management, Scuola Superiore Sant'Anna, Pisa (Doctoral level).

	28 April 2021	Lecturer "Governance in new health technologies", mandatory course "Performance in Service: managing performance in healthcare" (6 ECTS), Master ("Laurea Magistrale") in Innovation Management – MAIN, Scuola Superiore Sant'Anna, Pisa (Undergraduate level).	
	26 April 2021	Lecturer "Innovative technology solutions in health care", mandatory course "Performance in Service: managing performance in healthcare" (6 ECTS), Master ("Laurea Magistrale") in Innovation Management – MAIN, Scuola Superiore Sant'Anna, Pisa (Undergraduate level).	
	25 March 2021	Lecturer "Il governo delle tecnologie sanitarie", Advanced Training Course ("Corso di Alta Formazione") "Corsi per Direttore Generale" XXVII edition, Scuola Superiore Sant'Anna, Pisa (Ad-hoc executive education).	
	5 February 2021	Lecturer "Towards Real-World Evidence", course "Performance Management in Healthcare", PhD in Management - Management - Innovation, Sevices and Sustainability, Scuola Superiore Sant'Anna, Pisa (Doctoral level).	
	7 December 2020	Lecturer "Health Technology Assessment (HTA) of innovative cardiovascular medical devices and the role of Real-World Evidence", Master in "Hemodynamics", Scuola Superiore Sant'Anna, Pisa (Ad-hoc executive education).	
	15 October 2020	Lecturer "Health Economics in Heart Failure", Master in "Clinical Pathophysiology and Management of Heart Failure", Scuola Superiore Sant'Anna, Pisa (Ad-hoc executive education).	
	27 June 2020	Lecturer "Innovation in healthcare: management and opportunities", Advanced Training Course ("Corso di Alta Formazione") "Dirigenti di Struttura Complessa" XXVI edition, Scuola Superiore Sant'Anna, Pisa (Ad-hoc executive education).	
	Oct 2014 – July 2018	Teaching assistant in charge of student reception and test marks, elective course "Healthcare management and Health Technology Assessment" (6 ECTS), Master ("Laurea Magistrale") in Biomedical Engineering, University of Pisa (Undergraduate level).	
	17 May 2017	Lecturer "Health Technology Assessment: concept, applications, and managerial implications", elective course "Economic assessment of medical technologies and robotics for healthcare" (6 ECTS), Master ("Laurea Magistrale") in Bionics Engineering, Scuola Superiore Sant'Anna, Pisa (Undergraduate level).	
	7 February 2017	Lecturer "Managing innovation in Biomedical Engineering", mandatory course "Economic assessment of medical technologies and robotics for healthcare" (6 ECTS), Master's degree in Biomedical Engineering, School of Engineering, University of Warwick, Coventry, UK (Undergraduate level).	
Supervision and tutoring			
	Feb 2023 - Present	Supervisor of Master's degree thesis in Biomedical Engineering and Management	

Feb 2023 - Present	Supervisor of Master's degree thesis in Biomedical Engineering and Management Engineering, Politecnico di Milano, carried out in collaboration with med-tech companies, public and private hospitals.
Jan 2023 – Present	Co-supervisor with Prof E. Lettieri of M. Maioru, Ph.D. candidate at the Department of Management Engineering, Politecnico di Milano.
Jan 2022 - Present	Co-supervisor with Prof E. Lettieri of M. Pinelli, Ph.D. candidate at the Department of Management Engineering, Politecnico di Milano.
Jan 2022 - Present	Co-supervisor with Prof E. Lettieri of G. Giorgetti, Master of Science ("Laurea Magistrale") in Management Engineering, Politecnico di Milano. Thesis: "Impact assessment of digital therapeutics".

Academic tutor of the student project work "Assessing the CardioMEMS HF System in a Feb 2022 - June 2022 target Italian General Hospital" within the course "Health Care Management" (ING-IND/35", 5 ECTS) coordinated by Prof E. Lettieri, Master ("Laurea Magistrale") in Biomedical Engineering – Ingegneria Biomedica, Politecnico di Milano, Italy. June 2021 - June 2022 Academic tutor of M. Cumetti, Research Assistant in Management and governance of innovative Medical Devices, Scuola Superiore Sant'Anna, Pisa. Sept 2020 - July 2022 Academic tutor of E. Guidotti, Ph.D. candidate in Management, Innovation, Sevices and Sustainability, Scuola Superiore Sant'Anna, Pisa. Supervisor: Prof S. Nuti. Mar 2020 - Oct 2020 Tutor of B. M. Morfino, Master of Science ("Laurea Magistrale") in Innovation Management - MAIN, University of Trento & Scuola Superiore Sant'Anna, Pisa. Supervisor: Prof M. Vainieri. Thesis: "Using real-world evidence for improving performance evaluation of medical devices into clinical practice".

#### **Publications**

- P1. Manetti, S., Lettieri, E., Ni, MZ. (2023). Development and validation of Medical Device Key Evidence Tool ('MeDKET'): An evidence-based framework to explain success in selected European and US companies. PLOS ONE (Silver AiIG, Scopus Q<sub>1</sub>) 18(7).
- P2. Pinelli, M., Manetti, S., Lettieri, E. (2022). Assessing the Social and Environmental Impact of Healthcare Technologies: Towards an Extended Social Return on Investment. International Journal of Environmental Research and Public Health (AiIG -, Scopus Q<sub>1</sub>) 20 (6).
- P3. Manetti, S., Cumetti, M., De Benedectis, A., & Lettieri, E. (2022). Adoption of novel biomarker test parameters with machine learning-based algorithms for the early detection of sepsis in hospital practice. JOURNAL OF NURSING MANAGEMENT (Silver AiIG, Scopus Q<sub>1</sub>) 30(8).
- P4. Manetti, S., Cumetti, M., Lettieri, E. (2022). Multistakeholder analysis to identify barriers and facilitators to the adoption of an innovative biomarker test for the early identification of Sepsis in hospital practice. IUPSEM WC2022. IFMBE Proceedings. Springer, Singapore. In press.
- P5. Vainieri, M., Ferré, F., <u>Manetti, S.</u> (2021). An Integrated Framework to Measure the Performance of Inter-Organizational Programme on Health Technology Assessment. SUSTAINABILITY (Copper AiIG, Scopus Q<sub>1</sub>). Vol. 13(7):3873, doi: 10.3390/su13073873.
- P6. Aimo, A., Manetti, S., Emdin, M. (2020). How much is it to mend a broken heart? Results from the US Nationwide Readmission Database. INTERNATIONAL JOURNAL OF CARDIOLOGY (- AiIG, Scopus Q<sub>1</sub>). Vol. 329:150-151, doi: 10.1016/j.ijcard.2020.12.034.
- P7. <u>Manetti, S.</u>, Vainieri, M., Guidotti, E., Zuccarino, S., Ferré, F., Morelli, M.S., Emdin, M. (2020). Research protocol for the validation of a new portable technology for real-time continuous monitoring of Early Warning Score (EWS) in hospital practice and an early-stage multi-stakeholder assessment. BMJ OPEN (Bronze AiIG, Scopus Q<sub>1</sub>). Vol. 10(12), doi: 10.1136/bmjopen-2020-040738.
- P8. <u>Manetti, S.,</u> Turchetti, G., Fusco, F. (2020). Determining the cost-effectiveness requirements of an exoskeleton preventing second hip fractures using the value of information. BMC HEALTH SERVICES RESEARCH (Silver AiIG, Scopus Q<sub>1</sub>). Vol. 20(1): 1-11, doi: 10.1186/s12913-020-05768-4.
- P9. Leal, J., Manetti, S., Buchanan, J. (2018). The impact of hospital costing methods on cost-effectiveness analysis: a case study. PHARMACOECONOMICS (Gold AiIG, Scopus Q<sub>1</sub>). Vol. 36(10): 1263-1272, doi: 10.1007/s40273-018-0673-y.
- P10. Manetti, S., Burns, R.M., Turchetti, G. (2017). Evidence-gathering across industry and academia on early Health Technology Assessment of medical devices: survey design and piloting. In: Eskola, H., Väisänen, O., Viik, J., Hyttinen, J. (eds) EMBEC & NBC 2017. IFMBE Proceedings. Vol. 65: 631-634 Springer, Singapore, doi: 10.1007/978-981-10-5122-7\_158 EMBEC & NBC 2017.

- P11. Turchetti, G., Pierotti, F., Palla, I., <u>Manetti, S.,</u> Freschi, C., Ferrari, V., Cuschieri, A. (2017). Comparative Health Technology Assessment of robotic-assisted, direct manual laparoscopic and open surgery: a prospective study. SURGICAL ENDOSCOPY (- AiIG, Scopus Q<sub>1</sub>). Vol. 31(2), 543-551, doi: 10.1007/s00464-016-4991-x.
- P12. Volandri, G., Di Puccio, F., Forte, P., <u>Manetti, S.</u> (2012). Model-oriented review and multi-body simulation of the ossicular chain of the human middle ear. MEDICAL ENGINEERING & PHYSICS (- AiIG, Scopus Q<sub>2</sub>). Vol. 34(9), 1339-1355, doi: 10.1016/j.medengphy.2012.02.011.

#### **Publication metrics**

Scopus H-index: 4; N. citations: 68

Google Scholar H-index: 6; N. citations: 123

#### Reports

- R1. Vainieri, M., Severino, M. C., Pennucci, F., Nuti, S., Novaro R., <u>Manetti, S.</u>, Gentile, F., Ferré, F., De Rosis, S., D'Orio, G., Cerasuolo, D. (2022). Indagine PROMs Patient-Reported Outcome Measures. Rilevazione sistematica dell'esperienza e degli esiti riportati dai pazienti nella sanità Toscana. Report dei risultati dell'Osservatorio permanente per l'anno 2021. Edizioni Dedalo 2022. ISBN 978-88-8250-284-3.
  - R2. De Rosis, S., D'Orio, F., Ferré, F., Lupi, E., <u>Manetti, S.,</u> Nuti, S., Severino, M. C., Vainieri, M., Cerasuolo, D., Da Ros, A., Parenti, A. (2021). Indagine PROMs Patient-Reported Outcome Measures. Rilevazione sistematica dell'esperienza e degli esiti riportati dai pazienti nella sanità Toscana. Report dei risultati dell'Osservatorio permanente per l'anno 2020. Edizioni Dedalo 2021. ISBN 978-88-95613-55-0.
  - R3. Marcellusi, A; Aragonese, A; Manetti, S; Mucherino, S; Bortolami, A; Di Laura, D; Ferrario, M; Marinozzi, A; Moreno, C; Viti, R (2021). Il ruolo delle valutazioni economiche nella negoziazione del prezzo e rimborso dei Farmaci. ISPOR Italy-Roma Chapter Report 2021.
  - R4. Vinci, B., Guidotti, E., D'Orio, G., Vola, F., <u>Manetti, S.</u> (2020). Assistenza Farmaceutica e Dispositivi Medici. Il sistema di valutazione della performance della sanità toscana. Report 2019. Il Campano. ISBN 978-88-95613-55-0.
  - R5. <u>Manetti, S., Micocci, M., Mc Lister, A. (2019)</u>. Health Technology Assessment of CoaguScan. Quarterly 7 report, Health and Life Science II consortium project.
  - R6. Manetti, S. (2019) A literature review of management and evaluation of viscoelastic point of care devices. Quarterly 6 report, Health and Life Science II consortium project.
  - R7. Manetti, S., Burns, R.M., Turchetti, G. (2016). Assessing economic evaluation techniques for conducting early Health Technology Assessment of innovative medical devices: a systematic literature review. PROSPERO Protocol NIHR November 30, 2016, CRD42017059642. https://www.crd.york.ac.uk/prospero/display\_record.php?RecordID=59642.

#### **Abstracts**

- A1. Marcellusi, A., Ragonese, A., Manetti, S., Mucherino, S., Viti, R., Ferrario, M., Moreno, C., Di Laura, D., Carletto, A., Bortolami, A., Marinozzi, A., Canonico, P. L. (2022). The role of Economic Evaluation in the P&R in Italy. VALUE IN HEALTH, 25(1):S141-S142, doi: 10.1016/j.jval.2021.11.682.
- A2. <u>Manetti, S.,</u> Guidotti, E., Vainieri, M. (2021). Using Real-World Evidence (RWE) and a multi-stakeholder approach to assess the multi-dimensional impact of a new diagnostic device for the early identification of sepsis in the Italian National Health System. VALUE IN HEALTH, 24(1):S125, doi: 10.1016/j.jval.2021.04.610.
- A3. Ferrari, A., Manetti, S., Giannini, A., Simoncini, T., Vainieri, M. (2021). Assessing Unwarranted Variation in Minimally-Invasive Surgery for Pelvic Organ Prolapse in Tuscany. VALUE IN HEALTH, 24(1):S226, doi: 10.1016/j.jval.2021.04.1133.

- A4. Guidotti, E., <u>Manetti, S.,</u> Vainieri, M., Attanasio, F., Orsini, N. (2021). Assessing the Tuscany region response to Covid-19 lockdown in the non-hospital supply of antidiabetic drugs: an interrupted time series analysis. VALUE IN HEALTH, 24(1):S94, doi: 10.1016/j.jval.2021.04.488.
- A5. Manetti, S., Orsini, N., Turchetti, G. (2017). Early health economic models of new ambient assisted living (AAL) devices for fall prevention. EUROPEAN JOURNAL OF PUBLIC HEALTH, 27(3), doi: 10.1093/eurpub/ckx186.043.
- A6. Manetti, S., Burns, R. M., Turchetti, G. (2017). Evidence Gathering Across Key Stakeholders Involved In Early Health Technology Assessment. INTERNATIONAL JOURNAL OF TECHNOLOGY ASSESSMENT IN HEALTH CARE, 33(1):12, doi: 10.1017/S026646231700126X.
- A7. Manetti, S., Leal, J. (2017). The impact of hospital costing methods on economic evaluation. INTERNATIONAL JOURNAL OF TECHNOLOGY ASSESSMENT IN HEALTH CARE, 33(1):211-212, doi: 10.1017/S0266462317003841.
- A8. Manetti, S., Cecchi, F., Sgandurra, G., Cioni, G., Laschi, C., Dario, P., Turchetti, G. (2015). Early-stage Economic Evaluation of Caretoy System for Early Intervention In Preterm Infants At Risk of Neurodevelopmental Disorders. VALUE IN HEALTH, 18(7):A358, doi: 10.1016/j.jval.2015.09.683.
- A9. Manetti, S., Freschi, C., Cuschieri, A., Turchetti, G. (2015). Health Technology Assessment Needs Information Technology: The Experience From The First Italian Study On The Da Vinci Surgical Robot. VALUE IN HEALTH, 18(7):A693, doi: 10.1016/j.jval.2015.09.2579.
- A10. <u>Manetti, S.,</u> Turchetti, G. (2015). Model-Based Techniques In The Early Phases of The Medical Device Development: A Systematic Literature Review. VALUE IN HEALTH, 18(7):A703-A704, doi: 10.1016/j.jval.2015.09.2636.
- A11. Turchetti G., Pierotti F., Palla I., <u>Manetti S.,</u> Cuschieri A. (2014). The quality of life of patients treated with robotic versus traditional surgery: results from an Italian observational multicenter study. VALUE IN HEALTH, 17(7):A538-A539, doi: 10.1016/j.jval.2014.08.1726.
- A12. Turchetti, G., Pierotti, F., Palla, I., Manetti, S., Cuschieri, A. (2014). Cost analysis of robotic surgery in Italy. VALUE IN HEALTH, 17(3):A157, doi: 10.1016/j.jval.2014.03.915.

#### **National and International Conferences**

- C1. XXXIV Annual Scientific Meeting RSA AiIG 2023, Lecco, Italy October 2023. Organizer of the track in Healthcare "Humanizing technologies for a better society. Purpose-driven innovation to empower people", with Lorella Cannavacciuolo, Emanuela Foglia, Elisabetta Benvenuto, and Elena Pessot. Track chair.
- C2. International Forum on Knowledge Asset Dynamics (IFKAD 2023), Matera, Italy June 2023. Organizer of the track on "Innovation and Sustainability as pillars for healthcare system transformation: smart solutions and future challenges", with Lorella Cannavacciuolo, Emanuela Foglia, Eleonora Gheduzzi, and Elena Pessot.
- C3. Digital Transformation Society Conference (DTS 2023), Paris, France May 2023. Member of the Scientific Committee, with Francesco Appio, Yosr Ben Tahar, Wissal Ben Arfi, Grazia Cecere, Emmanuelle Dubocage, Héger Gabteni, Ludivine Martin, Maciej Mitręga, Nessrine Omrani, Charles Perez, Alain Rallet, Giorgia Rivieccio, Francesco Schiavone, Manuel Villasalero, Donald R. Williams.
- C4. World Congress on Medical Physics & Biomedical Engineering 2022 (IUPSEM WC2022), Singapore (speaker) June 2022. Papers presented: 1) Manetti, S., Cumetti, M., & Lettieri, E., Assessing the impact of an Innovative Diagnostic Device for The Early Identification of Sepsis In Hospital Practice; 2) Manetti, S., Guidotti, E., Lettieri, E., Emdin, M. & Vainieri, M., Co-designing An innovative Digital Health platform for Real-Time monitoring of Early Warning Score (EWS): An Early-Stage Multistakeholder Assessment in Hospital Practice.

- C5. ISPOR Italy-Rome Chapter VII National Conference, Rome, Italy December 2021 as a member of the ISPOR Italy-Rome Chapter working group. Conference organiser. Paper presented: Marcellusi, A., Manetti, S., Moreno, C., Vitti, R., & Marinotti, A., Le linee guida sulla stesura dei dossier di prezzo e rimborso in Europa e ruolo della valutazione economica. Chapter of the report titled "Il ruolo delle valutazioni economiche nei processi regolatori di prezzo e rimborso del farmaco".
- C6. Italian Health Economics Association (AIES), XXVI National Conference, Milan, Italy (speaker) December 2021. Paper presented: Manetti, S., Ferrari, A., & Vainieri, M., Assessing the impact of the COVID-19 pandemic on patient-reported data in elective oncological robot-assisted surgery.
- C7. XVI Forum Risk Management in Healthcare, Arezzo, Italy (speaker) December 2021. Paper presented: Manetti, S., Cumetti, M., & Lettieri, E., Assessing the multidimensional impact of a new biomarker for the early treatment of sepsis in the Italian NHS. Thematic session titled "Sepsis: a silent pandemic" organised by Beckman Coulter Srl and coordinated by B. Innocenti and G. Toccafondi.
- C8. Attendance to the *Italian Association of Telemedicine and Medical Informatics* (@ITIM) *XI Congress*, Campobasso, Italy (**speaker**) November 2021. Paper presented: <u>Manetti, S.</u>, Vainieri, M., Passino, C., Ni, M., & Barlow, J., Digital Innovation in healthcare beyond the Covid-19 pandemic: which barriers and facilitators?
- C9. Virtual ISPOR Europe 2021 November 2021. Paper presented: Marcellusi, A., Ragonese, A., Manetti, S; Mucherino, S., Viti, R., Ferrario, M., Moreno, C., Di Laura, D., Carletto, A., Bortolami, A., Marinozzi, A., & Canonico, P. L., The role of Economic Evaluation in the P&R in Italy.
- C10. London PostDoc Summer Symposium, organised in collaboration with Imperial College London (organisation and speaker) July 2021. Paper presented: Manetti, S., Vainieri, M., Passino, C., Ni, M., & Barlow, J., Brushing-up remote care solutions. A qualitative study on changes before and during Covid-19 time.
- C11. Virtual ISPOR 2021 (speaker) May 2021. Paper presented: Manetti, S., Guidotti, E., & Vainieri, M., "Using Real-World Evidence (RWE) and a multi-stakeholder approach to assess the multi-dimensional impact of a new diagnostic device for the early identification of sepsis in the Italian National Health System".
- C12. Research Afternoon Conference 2018, Business School, South Kensington, Imperial College London December 2018. Attendance to the conference (speaker). Conference organiser. Paper presented: Manetti, S., Hanna, G., & Ni, Z.M., Field-testing of Medical Device Key Evidence Tool ('MeDKET'): an evidence-based framework to explain success in selected EU and US enterprises.
- C13. *MEMTAB Conference 2018*, Utrecht, the Netherlands August 2018. Paper presented: <u>Manetti, S., & Ni, Z.M.</u>, Development of Medical Device Key Evidence Tool ('MEDKET'): an evidence-based framework to explain device future success in selected European and US companies.
- C14. World Congress on Medical Physics & Biomedical Engineering 2018 (IUPSEM WC2018), Prague, Czech Republic (speaker) June 2018. Paper presented: Manetti, S., Trieste, L., & Ni, Z. M., Predicting the organisational impact of biomedical innovation.
- C15. Health Technology Assessment International HTAi 14<sup>th</sup> Annual Meeting, Rome, Italy (**speaker**) June 2018. Papers presented: 1) Manetti, S., Burns, R. M., & Turchetti, G., Evidence Gathering Across Key Stakeholders Involved In Early Health Technology Assessment; 2) Manetti, S., & Leal, J., The impact of hospital costing methods on economic evaluation.
- C16. 10<sup>th</sup> European Conference Public Health Conference, Stockholm, Sweden (**speaker**) November 2017. Paper presented: Manetti, S., Orsini, N., & Turchetti, G., Early health economic models of new ambient assisted living (AAL) devices for falls prevention.
- C17. European Medical and Biological Engineering Conference (EMBEC) & Nordic-Baltic Conference on Biomedical Engineering and Medical Physics (NBC), Tampere, Finland (speaker) June 2017. Paper presented: Manetti, S., Burns, R. M., & Turchetti, G., Evidence-gathering across industry and academia on early Health Technology Assessment of medical devices: survey design and piloting.

- C18. ISPOR 18th Annual European Congress, Milan, Italy (speaker) November 2015. Papers presented: 1)

  Manetti, S., Freschi, C., Cuschieri, A., Turchetti, G., Health Technology Assessment Needs Information Technology: The Experience from the Italian Study On The Da Vinci Surgical Robot; 2) Manetti, S., & Turchetti, G., Model-Based Techniques In The Early Phases of The Medical Device Development: A Systematic Literature Review; 3) Manetti, S., Cecchi, F., Sgandurra, G., Cioni, G., Laschi, C., Dario, P., & Turchetti, G., Early-stage Economic Evaluation of Caretoy System for Early Intervention In Preterm Infants At Risk of Neurodevelopmental Disorders.
- C19. Annual R&D Management Conference 2015, Scuola Superiore Sant'Anna, Pisa June 2015. Attendance to the conference (conference organiser and speaker). Paper presented: Manetti, S., & Turchetti, G., R&D and innovative health technologies: towards the definition of a methodology for an Early Assessment.
- C20. XX Congresso dell'Associazione Italiana di Meccanica Teorica e Applicata, Bologna, Italy (speaker) July 2011. Paper presented: Manetti, S., Volandri, G., Di Puccio, F., Forte, P., Modellazione multibody dell'orecchio medio umano.

## **Seminars & workshops**

- S1. "Managing technological innovation in healthcare: from methodological tools to real case studies". Lunch seminar. Department of Surgery and Cancer, Imperial College London, UK. February 2023.
- S2. "The healthcare in the patient point of view: patient-reported measures". International Workshop within the European project aimed at supporting the Croatian Ministry of Health in effectively implementing a new performance evaluation system (SRSS/C2019/082 Developing Health System Performance Assessment in Croatia). Institute of Management, Sant'Anna School of Advanced Studies, Pisa, Italy. May 2021.
- S3. "Assessing the performance of innovative Medical Devices in Real-World environments". Lunch seminar. Department of Surgery and Cancer, Imperial College London, UK. September 2020.
- S4. "Health Technology Assessment of innovative diagnostics and medical devices at different stages of their lifecycle". Lunch seminar. Department of Surgery and Cancer, Imperial College London, UK. June 2018.
- S5. "Managing Biomedical Innovation: the problems and advantages of starting early". School of Engineering, University of Warwick (Coventry, UK), ABSPIE Seminar Series. February 2017.
- S6. "Filling the gap between R&D and market access in Health Technology Assessment". Health Economics Research Center (HERC), University of Oxford. HERC Seminar Series. October 2016
- S7. "Cost analysis of the robotic surgery in Italy". International workshop within the PRIN Project "Health Technology Assessment of the da Vinci Master-Slave Manipulator in Italy", Scuola Superiore Sant'Anna, Pisa, Italy June 2013.

#### Reviewing activity

#### Journal articles

I am a regular referee for both healthcare-focused and general management Journals. They are *Health Policy*; *BMC Health Services Research*; *Plos One*; *Pharmacoeconomics*; *Health Services Management Research*; *Journal of Nursing Management*; *R&D Management*; *International Journal of Technology Assessment in Health Care*; *Expert Review of Medical Devices*; *International Journal of Cardiology*; *International Journal of Environmental Research and Public Health (IJERPH)*; *The Lancet*.

#### Conference papers and proceedings

Reviewer for IACCM 2023 Conference, RSA AiIG 2023, Digital Transformation Society Conference - DTS 2023 (since 2023), IFKAD (since 2023), ISPOR European Conference (since 2015); R&D Management Conference (2015); Health Technology Assessment International (HTAi) Meeting (2016, 2017, 2018).

#### National and international awards

May 2020 - Present	Honorary Research Associate in HTA, Department of Surgery and Cancer, Imperial College London, UK. Scientific Responsible: Prof G. Hanna; Line Manager: Dr M. Z. Ni
	Research collaboration. Seminars, writing of project grants and papers.
Apr 2022	Article taken from an interview on robotics and patient-reported data titled "Uomini e robot: efficienza e resilienza" and published in the Italian Journal "Tecnica Ospedaliera".
Aug 2019 – Jan 2020	Affiliate Researcher, Institute of Management, Scuola Superiore Sant'Anna, Pisa, Italy.
Oct 2019	Product development Award (i4i) Call 18 Stage 2 for the project entitled "Detection of metastatic axillary sentinel lymph nodes using ultrafast, super-resolution, dual-contrast enhanced ultrasound imaging in patients with breast cancer" (duration 36 months)
	Lead Applicant Prof M. X. Tang, Department of Bioengineering, Imperial College London and co-applicant Dr K. Cox, Consultant Breast and Oncoplastic Surgeon, Maidstone and Tunbridge.
Oct 2014 – July 2018	President of the International Society of Pharmacoeconomics and Outcome Research (ISPOR) Italy Student Chapter.
	Networking and coordination activities at the international level for disseminating health economics principles; support in the organisation of European conference tracks and social events targeted to undergraduate and doctoral students. Organisation of seminars and meetings at the national level. Writing of reports and outputs.
Sep 2016 – Mar 2017	Erasmus Plus Program Fellowship, Health Economics Research Center (HERC), University of Oxford, UK.
Oct 2014 – Oct 2017	Winner (first place) of the fellowship for the PhD in Management, Sustainability, and Healthcare, Scuola Superiore Sant'Anna, Pisa.
Nov 2015	Best PhD student poster presentation finalist. <i>ISPOR 18th Annual European Congress</i> , Milan, Italy. Winner of the "Methods for the Economic Evaluation of Health Care Programmes" book handed by Prof M. Drummond with his signature.

# Membership

2021 - Present	International Society of Pharmacoeconomics and Outcome Research (ISPOR)
2021 - Present	Associazione Italiana Economia Sanitaria (AIES)
2016 - Present	International Federation of Medical and Biomedical Engineering (IFMBE) - Health Technology Assessment Division (HTAD)
2016 - 2020	Health Technology Assessment international (HTAi) - Real-World Evidence Interest Group
2014 - 2018	International Society of Pharmacoeconomics and Outcome Research (ISPOR) Italy Student-Chapter

# Other education and training activities

June 2016 Summer School on Modern Methods in Biostatistics and Epidemiology, Cison di Valmarino, Treviso, Italy - Course directors: Prof M. Pagano and Prof R. Bellocco.

Apr-May 2016	Interview techniques in health and care research, doctoral course 2520 (4.5 ETCS), Karolinska Institutet, Stockholm, Sweden – Course Director: Prof Backenroth G.
Mar-Apr 2016	Methods for qualitative content analysis in health care sciences, doctoral course 1814 (4.5 ETCS), Karolinska Institutet, Stockholm, Sweden – Course Director: Prof Danielson E.
Feb-Mar 2016	Introduction to modern test theory and survey methodology, doctoral course 2664 (4 ETCS), Department of Neurobiology, Care Sciences and Society, Division of Occupational Therapy, Karolinska Institutet, Stockholm, Sweden – Course Director: Prof Kottorp A.
March 2016	Lab course: Biostatistics III, Survival Analysis for epidemiologists, Postgraduate course 1685 (4 ETCS), Karolinska Institutet, Stockholm, Sweden – Course Director: Prof Petrén.
Nov 2015	Bayesian Analysis – overview and applications. ISPOR Short Course, Milan, Italy – Course directors: Prof C. S. Hollenbeak and Prof K. R. Abrams
Nov 2015	Pharmacoeconomic modelling and applications. ISPOR Short Course, Milan (Italy) – Course directors: Dr S. Corman, Prof M. Roberts, Dr A. Munzer

# Language skills

Italian Native speaker

English Fluent

French Intermediate

# Computer skills

STATA, NVivo, SPSS, SAS, Matlab

### Notes

To account for the scientific productivity, consider two periods of maternity leave in 2019/2020 (8 months) and 2022-2023 (10 months).

Autorizzo al trattamento dei dati personali ai sensi del Regolamento UE n.679/2016 e del Dlgs 2003 n. 196 e successive modificazioni.

Milano, 30th November 2023

Somalpanotti