

1 **IMAGINE - *IM* pact Assessment of Guidelines Implementation and Education: the next frontier for**
 2 **harmonising urological practice across Europe by improving adherence to Guidelines**

3 **Total word count: 1158**

4 **Take home message:** Adherence to national and international clinical practice Guidelines is
 5 suboptimal throughout Europe. The EAU Guidelines Office “IMAGINE” project has been developed
 6 to measure baseline adherence to urological Guidelines recommendations across Europe and to
 7 identify issues which drive non-adherence.

8 Philip Cornford^{a†}, Emma Jane Smith^{b†*}, Steven MacLennan^c, Nuno Pereira-Azevedo^d, Monique J.
 9 Roobol^e, Nicolaas Lumen^f, Louise Fullwood^g, Eilidh Duncan^h, Jennifer Dunsmore^c, Karin Plass^b, Maria
 10 J. Ribalⁱ, Thomas Knoll^j, Anders Bjartell^k, Hendrick Van Poppel^l, James N’Dow^c, Alberto Briganti^m and
 11 the Pan-European National Urological Society IMAGINE Collaborativeⁿ.

12 † These authors contributed equally to this work

13 * Corresponding author: Email e.smith@uroweb.org; Tel: +31 26 3890680; Address: Mr. E.N. van
 14 Kleffensstraat 5, 6842 CV Arnhem, the Netherlands

- 15
- 16 a. Royal Liverpool and Broadgreen Hospitals NHS Trust, Liverpool, UK
 - 17 b. European Association of Urology Guidelines Office, Arnhem, the Netherlands
 - 18 c. Academic Urology Unit, University of Aberdeen, Aberdeen, UK
 - 19 d. Department of Urology, Entre o Douro e Vouga Medical Center, Santa Maria da Feira,
 20 Portugal
 - 21 e. Department of Urology, Erasmus University Medical Center, Rotterdam, the Netherlands
 - 22 f. Department of Urology, Ghent University Hospital, Ghent, Belgium
 - 23 g. Pinsent Masons, Leeds, UK
 - 24 h. Health Services Research Unit, University of Aberdeen, Aberdeen, UK
 - 25 i. Uro-Oncology Unit, Hospital Clinic, University of Barcelona, Barcelona, Spain
 - 26 j. Department of Urology, Sindelfingen-Böblingen Medical Centre, University of Tübingen,
 27 Sindelfingen, Germany
 - 28 k. Department of Urology, Skåne University Hospital Malmö, Lund University, Sweden
 - 29 l. Department of Urology, University Hospitals KU Leuven, Leuven, Belgium
 - 30 m. Department of Urology, Scientific Institute and University Vita-Salute San Raffaele Hospital,
 31 Milan, Italy

32 ⁿPan-European National Urological Society IMAGINE Collaborative (see Supplemental material for
 33 group members affiliations): Karl Dorfinger, Irene Resch; Mischinger Johannes, Isabel Heidegger,
 34 Christophe Assenmacher; Thierry Roumeguère, Karel Decaestecker, Lieven Goeman, Thomas Adams,
 35 Marincho Georgiev, Krassimir Yanev, Marincho Georgiev, Aleksandar Timev, Igor Tomašković,
 36 Tomislav Kuliš, Stavros Charalampous, Dimitris Kontaxis, Marko Babjuk, Roman Zachoval, Tomáš
 37 Pitra, Vojtěch Novák, Lars Lund, Martin Kivi, Peep Baum, Toomas Tamm, Pritt Veskimäe, Rauno
 38 Okas, Kanerva Lahdensuo, Kimmo Taari, Heikki Seikkula, Pyry Jämsä, Xavier Gamé, George Fournier,
 39 Alexandre Ingels, Gaëlle Fiard, Guillaume Ploussard, Jens Rassweiler, Stefanie Schmidt, Jennifer
 40 Kranz, Susanne Krege, Ioannis Gkialas, Anthanasios Dellis, Nikolaos Ferakis, Dionysios Mitropoulos,
 41 Peter Ryan, John Paul Sweeney, Eamonn Rogers, Derek Hennessy, Niall. F. Davis, Walter Artibani,
 42 Francesco Porpiglia, Salvatore Giuseppe Voce, Maurizio Brausi, Maria A. Cerruto, Francesco Esperto,
 43 Matteo Manfredi, Mindaugas Jievaltas, Aušvydas Patašius, Albertas Čekauskas, Stasys Auškalnis,

44 Peter Mulders, Frank Martens, Kathleen W. M. D'Hauwers, Piotr Chlosta, Anna Katarzyna Czech,
45 Katarzyna Gronostaj, Mikołaj Przydacz, Pedro Coelho Nunes, Luís Abranches-Monteiro, Ricardo
46 Pereira e Silva, Frederica Furriel, Pedro Gomes Monteiro, Ioanel Sinescu, Cristian Surcel, Catalin
47 Baston, Robert Ionut Stoica, Vlad Olaru, Boris Kollárik, Ivan Mincik, Ľuboš Rybár, Viktor Kováčik, Ivan
48 Perečinský, Boris Kosuta, Marko Zupancic, Milena Taskovska, Uros Kacjan, Andraz Miklavzina,
49 Manuel Esteban Fuertes, Mario Alvarez-Maestro, Antoni Vilaseca, Rodrigo García-Baquero, Lotta
50 Renström Koskela, Johan Styrke, Gezim Galiqi, Bilbil Hoxha, Evisa Zhapa, Rezart Xhani, Sergey
51 Fanarjyan, Ruben Hovhannisyan, Avoyan E. Armen, Rafael Badalyan, Mustafa Hiroš, Davor Tomić,
52 Damir Aganović, Archil Chkhotua, David Nikoleishvili, Zara Tchanturaia, Sigurdur Gudjónsson, Eiríkur
53 Orri Gudmundsson, Rafn Hilmarsson, Emil Ceban, Vitalii Ghicavii, Adrian Tanase, Vladislav Vasiliev,
54 Dragoljub Perovic, Marko Vukovic, Stanislavljevic Rade, Nenad Radovic, Emil Nasufovic, Yuri Alyaev,
55 Igor Korneyev, Sergei Kotov, Vigen Malkhasyan, Dragoslav Basic, Miodrag Aćimović, Saša Vojinovic,
56 Aleksandar Vuksanovic, Uroš Bumbaširević, Bojan Čegar, Branko Stanković, Hansjörg Danuser, Tullio
57 Sulser, Valentin Zumstein, Ates Kadioglu, Hakan Kilicarslan, Nusret Can Cilesiz, Erhan Demirelli,
58 Bülent Önal, Aydin Mungan, Serdar Tekgül, Levent Türkeri, Adil Esen, Oleksandr Shulyak, Sergiy
59 Vozianov, Alexandr Shulyak, Serhii Volkov, Andrii Nesterchuk

60

61 The delivery of high-quality evidence-based healthcare strongly depends on the translation of
62 scientific evidence into clinical practice guidelines (CPGs). Evidence based CPGs can improve practice
63 in terms of quality and outcomes of healthcare ¹ by encouraging interventions of proven benefit and
64 discouraging ineffective or harmful interventions ²⁻⁴. CPGs have also been shown to improve the
65 consistency of healthcare, promoting homogeneity in levels of care for similar clinical problems
66 independently of the healthcare professional, institutional setting or country ⁵. Adherence to
67 national and international CPGs is suboptimal throughout Europe. Even with the availability of
68 comprehensive urological CPGs, based on standardised and high-quality methodology, a significant
69 gap still exists in terms of CPG application in clinical practice ⁶⁻⁸, hampering the delivery of high-
70 quality urological care ⁹.

71 The issues which drive non-adherence to urological CPGs are not well understood. The EAU
72 Guidelines Office "IMAGINE" project (**IM**pac**Ass**essment of **G**uidelines **I**mplementation and
73 **E**ducation) has been developed to identify impediments and design solutions. Implementation
74 science is the appropriate framework to identify the barriers to knowledge transfer, or more
75 importantly, the optimum interventions to limit or overcome such barriers to improve CPGs
76 adherence allowing for the optimisation of healthcare resources whilst ultimately improving patient
77 outcomes ¹⁰. In order to design interventions to increase adherence to CPGs, we must first measure
78 baseline adherence to CPGs across Europe. To effectively measure baseline adherence, IMAGINE has
79 launched a European wide multi-centre retrospective observational study in collaboration with
80 European National Urological Societies endorsing the EAU Guidelines. At present, the EAU
81 Guidelines are endorsed by 86% of European countries, including all 27 EU Member States. Before
82 an audit of guideline adherence is commenced, all participating National Societies are asked to
83 complete a brief survey that assesses if they have National Guidelines covering the same
84 recommendation as the one being audited and if so, to what extent the guidance differs.

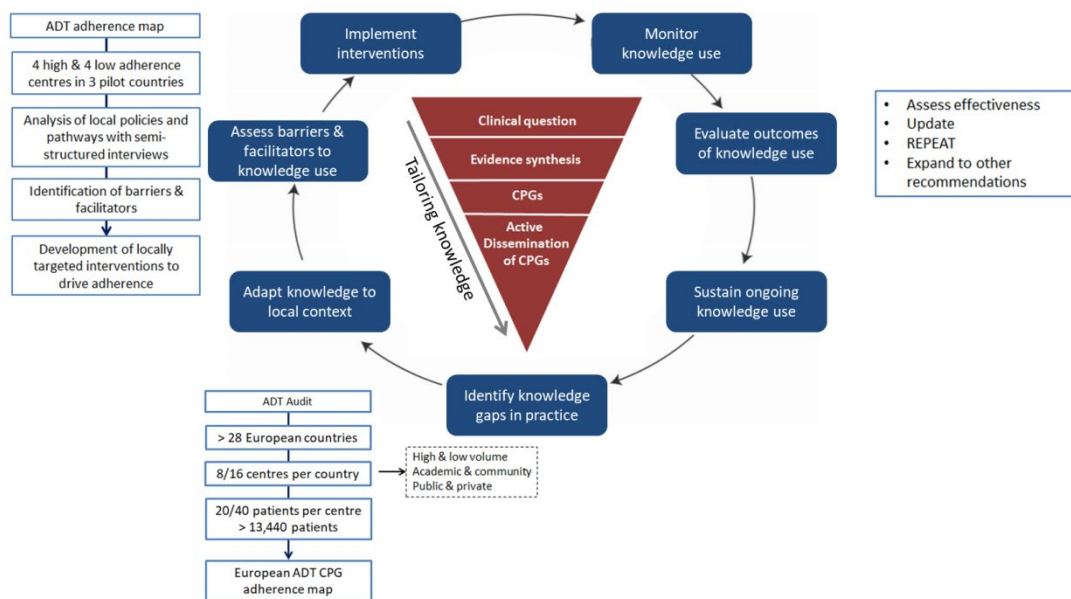
85 IMAGINE reviewed all EAU oncology guidelines for 'strong' recommendations with level 1a evidence
86 (1a: meta-analysis of randomised controlled trials). The group then surveyed oncology panels to
87 prioritise the identified level 1a recommendations for which there was known/suspected

88 heterogeneity in practice and where addressing the heterogeneity would likely have a positive
89 impact on patient outcomes and/or economic burden. Using this method, the following
90 recommendation was prioritised for the pilot study: Do not offer neoadjuvant androgen deprivation
91 therapy (ADT) before surgery in men with locally advanced or high-risk prostate cancer. In this
92 context, initial studies in Italy have estimated that a quarter of prostate cancer patients received
93 ADT contradictory to the recommendation of the EAU Prostate Cancer Guidelines, with
94 approximately 50% receiving ADT prior to surgery⁶. Misuse of ADT was associated with increased
95 costs for the healthcare system and higher rates of avoidable side effects for patients. It is unclear
96 why ADT is prescribed by some clinicians against the recommendations of the EAU Guidelines
97 especially given the high certainty of the evidence upon which the current EAU ADT Guidelines
98 recommendation is based. Whilst informative, the current studies do not give a high enough
99 resolution of practice across Europe and a more methodologically robust audit is required.

100 To map ADT practice patterns across Europe, IMAGINE has created a bespoke online data collection
101 platform. In collaboration with the European National Urological Societies, IMAGINE will identify 8 or
102 16 sites per country (nations with populations >35 million contributing more sites), covering high
103 and low volume centres (high volume defined as >50 prostatectomies/year), academic and
104 community hospitals, and public and private hospitals. Each site will have a nominated site
105 coordinator who will be responsible for retrospectively auditing 20 (low volume centre) or 40 (high
106 volume centre) eligible patients using an inbuilt random date generator to identify cases in an
107 unbiased way. No identifiable personal participant or patient information will be collected, the
108 hospitals will be reviewing data on their own patients (which they will confirm that they have the
109 right to do, as secondary medical research, subject to any variations in data privacy law
110 implemented in their country) and no personal data will be transferred to or processed by IMAGINE,
111 hence IMAGINE's collation and analysis of the audit results of each site will not include the
112 processing of personal data and so the General Data Protection Regulation (GDPR) will not apply.
113 This audit is classified as service evaluation and does not require sponsorship and ethical review.

114 The audit will provide a robust map of guideline adherence to ADT recommendations in Europe as
115 well as a validated platform to map adherence to other recommendations. The key to changing non-
116 adherent behaviours is to understand what is initiating and maintaining undesirable behaviours, and
117 what might facilitate desirable ones¹¹. The ADT adherence map will inform sampling for the second
118 phase of the project: a behavioural theory informed investigation into the barriers and facilitators to
119 adherence to the ADT recommendation. By incorporating content analysis of National and/or local
120 guidelines, local policies and pathways and semi-structured interviews organised using the
121 theoretical domains framework (TDF)^{11,12} in a sample of European countries, IMAGINE will elucidate
122 how organisational, social, environmental, and personal factors may influence how healthcare
123 professionals manage patients in a range of settings. A similar investigation of barriers to ADT de-
124 implementation in the United States is underway and we look forward to learning from their results
125¹³. Ultimately, the contextual information gathered in the qualitative studies will inform the
126 development of targeted interventions tailored to local contexts aiming to improve adherence, this is
127 critically important as interventions are more effective when designed to address local barriers¹⁴.
128 Finally IMAGINE will map the findings to the Behaviour Change Taxonomy¹⁵ to enable us to identify
129 potential behaviour change interventions, which we will aim to test using randomised or controlled
130 before and after designs.

131 Figure 1: IMAGINE framework outlining the movement of recommendations from CPGs to clinical
 132 practice based on the knowledge-to-action framework¹⁶.



133

134

135 **Funding statement:** The IMAGINE ADT audit is supported by a seeding grant from the EAU Research
 136 Foundation.

137 **Financial disclosures:** Philip Cornford certifies that all conflicts of interest, including specific financial
 138 interests and relationships and affiliations relevant to the subject matter or materials discussed in
 139 the manuscript are the following: Alberto Briganti is a company consultant for Astellas, Janssen,
 140 Opko Health, MDx Health, and Bayer; received company speaker honorarium from Astellas and
 141 Ferring; and received research support from Sandoz. Philip Cornford is a company consultant for
 142 Astellas, IPSEN, and Ferring; received company speaker honoraria from Astellas, Janssen, IPSEN, and
 143 Pfizer; participated in trials run by Ferring; and received fellowships and travel grants from Astellas
 144 and Janssen. Thomas Knoll is a company consultant for Storz Medical, Dornier, Olympus, and Boston
 145 Scientific; received company speaker honorarium from Boston scientific; received fellowship/travel
 146 grants from Cook and research support from Dornier. Nicolaas Lumen received company speaker
 147 honorarium from Bayer and Janssen; participated in trials run by Janssen, Roche, Pfizer Belgium and
 148 AstraZeneca N.V.; and received grant/research support from Bayer and Janssen. Maria J. Ribal
 149 received company speaker honorarium from IPSEN, Janssen, and Astellas; and holds a patent for
 150 'Method for non-invasive diagnosis of bladder cancer', European Patent Office (Grant number:
 151 13382030.8-1403. Entity holder: Fina Biotech, S.L.U. June 2007). Anders Bjartell is a company
 152 consultant for Astellas, Janssen and Bayer; received speaker honorarium from Astellas, Janssen,
 153 IPSEN, Bayer, and Ferring; participated in trials run by Astellas, Janssen, Pfizer, Ferring, and Myovant;
 154 received travel grants from Astellas, Bayer, Ferring, IPSEN, and Janssen; received research support
 155 from Astellas, Ferring, and Bayer; and holds stock in LIDDS Pharma AB, Glactone Pharma AB, and
 156 WntResearch AB. Thierry Roumequere is a company consultant for MSD, Pfizer, Janssen and Bayer;

157 received speaker honorarium from Astellas, Janssen, Pfizer, Ipsen, Bayer, and Ferring; participated in
 158 trials run by Astellas, Janssen, Pfizer, Ferring; received travel grants from Astellas, Ferring, and
 159 Janssen; received research support from Astellas and Bayer. Igor Tomašković received company
 160 speaker honoraria from Astellas, Janssen, Pliva, Roche and Glaxo Smith Kline. Tomislav
 161 Kuliš received company speaker honorarium from Janssen and Astellas. Marko Babjuk received
 162 company speaker honorarium from Ipsen and Astellas. Roman Zachoval is an advisory member for
 163 Astellas, Coloplast and B Braun. Martin Kivi received company speaker honorarium from Janssen;
 164 and is a company consultant for Storz Medical. Kimmo Taari received research funding from
 165 Medivation, Astellas, Pfizer, Orion and Myovant. Guillaume Ploussard is a company consultant for
 166 received company speaker honorarium from Astellas, Janssen, Takeda, Sanofi, IPSEN, Astra-Zeneca
 167 and Ferring. Francesco Porpiglia received a travel grant from Ipsen. Matteo Manfredi received travel
 168 grants from Ipsen, Konpharma, Multimed and Tecnogamma. Avoyan Armen is a lecturer for Astellas
 169 and Recordati and received travel grants from Astellas, Recordati, Menarini-Berlin Chemie and Storz
 170 Medical. Aleksander Vksanovic received company speaker honorarium from Astellas and Janssen.
 171 Emma Jane Smith, Karin Plass, Steven MacLennan, Louise Fullwood, Eilidh Duncan, Jennifer
 172 Dunsmore, Monique J. Roobol, Nuno Pereira-Azevedo, James N'Dow, Hendrik van Poppel and all
 173 members of the Pan-European National Urological Society IMAGINE Collaborative not named above
 174 have nothing to declare.

175 **References**

- 176 1. Grimshaw JM, Russell IT. Effect of clinical guidelines on medical practice: a systematic review
 177 of rigorous evaluations. *Lancet*. 1993;342(8883):1317-1322.
- 178 2. Smith TJ, Hillner BE. Ensuring quality cancer care by the use of clinical practice guidelines and
 179 critical pathways. *J Clin Oncol*. 2001;19(11):2886-2897.
- 180 3. Morgan TM, Hawken SR, Ghani KR, et al. Variation in the use of postoperative radiotherapy
 181 among high-risk patients following radical prostatectomy. *Prostate Cancer Prostatic Dis*.
 182 2016;19(2):216-221.
- 183 4. Womble PR, Linsell SM, Gao Y, et al. A Statewide Intervention to Reduce Hospitalizations
 184 after Prostate Biopsy. *J Urol*. 2015;194(2):403-409.
- 185 5. Davis DA, Taylor-Vaisey A. Translating guidelines into practice. A systematic review of
 186 theoretic concepts, practical experience and research evidence in the adoption of clinical
 187 practice guidelines. *CMAJ*. 1997;157(4):408-416.
- 188 6. Morgia G, Russo GI, Tubaro A, et al. Patterns of prescription and adherence to European
 189 Association of Urology guidelines on androgen deprivation therapy in prostate cancer: an
 190 Italian multicentre cross-sectional analysis from the Choosing Treatment for Prostate Cancer
 191 (CHOICE) study. *BJU international*. 2016;117(6):867-873.
- 192 7. Witjes JA, Palou J, Soloway M, et al. Current clinical practice gaps in the treatment of
 193 intermediate- and high-risk non-muscle-invasive bladder cancer (NMIBC) with emphasis on
 194 the use of bacillus Calmette-Guerin (BCG): results of an international individual patient data
 195 survey (IPDS). *BJU international*. 2013;112(6):742-750.
- 196 8. Cai T, Verze P, Brugnolli A, et al. Adherence to European Association of Urology Guidelines
 197 on Prophylactic Antibiotics: An Important Step in Antimicrobial Stewardship. *European*
 198 *urology*. 2015.
- 199 9. Grol R, Grimshaw J. From best evidence to best practice: effective implementation of change
 200 in patients' care. *Lancet*. 2003;362(9391):1225-1230.
- 201 10. Grimshaw JM, Eccles MP, Lavis JN, Hill SJ, Squires JE. Knowledge translation of research
 202 findings. *Implementation science : IS*. 2012;7(1):50-50.

- 203 11. Atkins L, Francis J, Islam R, et al. A guide to using the Theoretical Domains Framework of
 204 behaviour change to investigate implementation problems. *Implement Sci.* 2017;12(1):77.
 205 12. Michie S, Atkins L, West R. *The Behaviour Change Wheel: A Guide to Designing Interventions.*
 206 (1st ed.). London: Silverback Publishing; 2014.
 207 13. Skolarus TA, Hawley ST, Wittmann DA. De-implementation of low value castration for men
 208 with prostate cancer: protocol for a theory-based, mixed methods approach to minimizing
 209 low value androgen deprivation therapy (DeADT). *Implementation Sci.* 2018;13:144.
 210 14. Baker R, Camosso-Stefinovic J, Gillies C, et al. Tailored interventions to address determinants
 211 of practice. *The Cochrane database of systematic reviews.* 2015;4:CD005470-CD005470.
 212 15. Behavior Change Taxonomy website. <http://www.bct-taxonomy.com/about>. Published
 213 2017. Accessed.
 214 16. Graham ID, Logan J, Harrison MB, et al. Lost in knowledge translation: time for a map? *J*
 215 *Contin Educ Health Prof.* 2006;26(1):13-24.

216

217

218

219

220

221

222

223 Supplemental Material: Pan-European National Urological Society IMAGINE Collaborative group
 224 members and their affiliations

Pan-European National Urological Society IMAGINE Collaborative	
Group members	Affiliations
Karl Dorfinger	President Association of Austrian Urologists; Urologie, Andrologie und Labor unter einem Dach, 1230 Wien, Perfektastraße 28/1
Irene Resch	IMAGINE representative Austrian Society of urology and Andrology; Medical University of Vienna, Department of Urology
Mischinger Johannes	IMAGINE representative Austrian Society of urology and Andrology; Department of Urology, Medical University of Graz, Austria
Isabel Heidegger	IMAGINE representative Austrian Society of urology and Andrology; Medical University Innsbruck, Department of Urology
Christophe Assenmacher	President Societe Belge d'Urologie; Department Urology, Europe Hospitals, 1180 Brussel, Belgium
Thierry Roumeguère	IAMGINE representative Societe Belge d'Urologie; Department of Urology, University Clinics of Brussels, Hôpital Erasme, Université Libre de Bruxelles, Belgium
Karel Decaestecker	Vice-President Belgische Vereniging voor Urologie
Lieven Goeman	President Belgische Vereniging voor Urologie
Thomas Adams	IMAGINE representative Belgische Vereniging voor Urologie
Marincho Georgiev	Chairman and EAU Liaison Bulgarian Association of Urology
Krassimir Yanev	IMAGINE representative Bulgarian Association of Urology

Marincho Georgiev	IMAGINE representative Bulgarian Association of Urology
Aleksandar Timev	IMAGINE representative Bulgarian Association of Urology
Igor Tomašković	EAU Liaison and IMAGINE representative Croatian Society of Urology; Sestre milosrdnice University Hospital Center, Department of Urology, Zagreb, Croatia; 2. J. J. Strossmayer University of Osijek, Faculty of Medicine, Croatia
Tomislav Kuliš	IMAGINE representative Croatian Society of Urology; Department of Urology, University Hospital Centre Zagreb, University of Zagreb School of Medicine, Zagreb, Croatia
Stavros Charalampous	President and IMAGINE representative Cyprus Association of Urology
Dimitris Kontaxis	IMAGINE representative Cyprus Association of Urology
Marko Babjuk	President and EAU Liaison Czech Urological Society; Department of Urology of the Motol University Hospital and the 2nd Faculty of Medicine of Charles University
Roman Zachoval	Secretary General Czech Urological Society; Department of Urology of the 3rd Faculty of Medicine of Charles University and Thomayer Hospital
Tomáš Pitra	IMAGINE representative Czech Urological Society; Department of Urology of the University Hospital in Pilsen and Faculty of Medicine in Pilsen, Charles University
Vojtěch Novák	IMAGINE representative Czech Urological Society; Department of Urology of the Motol University Hospital and the 2nd Faculty of Medicine of Charles University
Lars Lund	President and EAU Liaison Danish Urological Association; Department of Urology L, Odense University Hospital, Sdr. Boulevard 29, DK-5000 Odense
Martin Kivi	President Estonian Society of Urology; East Tallinn Central Hospital, Urology Centre, Surgery Clinic, Ravi str. 18, Tallinn 10138, Estonia
Peep Baum	Secretary General and IMAGINE representative Estonian Society of Urology; The North Estonia Medical Centre
Toomas Tamm	IMAGINE representative Estonian Society of Urology; East Tallinn Central Hospital
Pritt Veskimäe	IMAGINE representative Estonian Society of Urology; Tartu University Hospital
Rauno Okas	IMAGINE representative Estonian Society of Urology; West Tallinn Central Hospital
Kanerva Lahdensuo	Secretary Finnish Urological Association; Helsinki University Hospital. Helsinki, Finland
Kimmo Taari	President and Director International Relations Finnish Urological Association; Helsinki University Hospital, Dept of Urology, Meilahti and Peijas Hospitals, BOX 900, FI-00029 HUS M0035, Finland
Heikki Seikkula	IMAGINE representative Finnish Urological Association; Department of Surgery, Central Finland Healthcare District, Jyväskylä, Finland
Pyry Jämsä	Tampere university Hospital, Dept of Urology, Tampere, Finland.
Xavier Gamé	Secretary General French Association of Urology
George Fournier	President French Association of Urology
Alexandre Ingels	IMAGINE representative French Association of Urology; Department of Urology, Henri Mondor Hospital, UPEC, Créteil, France
Gaelle Fiard	IMAGINE representative French Association of Urology; Department of Urology, Grenoble Alpes University Hospital, Univ. Grenoble Alpes, CNRS, Grenoble INP, TIMC-IMAG, 38000 Grenoble, France
Guillaume Ploussard	IMAGINE representative French Association of Urology; Department of Urology, La Croix du Sud Hospital, Quint-Fonsegrives, FR
Jens Rassweiler	President German Society of Urology; SLK-Kliniken Heilbronn GmbH Am Gesundbrunnen 20-26 74078 Heilbronn
Stefanie Schmidt	IMAGINE representative German Society of Urology; UroEvidence@Deutsche Gesellschaft für Urologie, Berlin

Jennifer Kranz	IMAGINE representative German Society of Urology; St. Antonius Hospital Eschweiler, Department of Urology, Eschweiler, Germany; Department of Urology and Kidney Transplantation, Martin-Luther-University, Halle (Saale), Germany; UroEvidence@Deutsche Gesellschaft für Urologie, Berlin
Susanne Krege	IMAGINE representative German Society of Urology; Department of Urology, Pediatric Urology and Uro-oncology, Ev. Kliniken Essen Mitte, Henricistr. 92, 45136 Essen
Ioannis Gkialas	President Hellenic Urological Association
Anthanasios Dellis	EAU Liaison and IMAGINE representative Hellenic Urological Association; 2nd Department of Surgery, Aretaieion Academic Hospital, National and Kapodistrian University of Athens
Nikolaos Ferakis	IMAGINE representative Hellenic Urological Association
Dionysios Mitropoulos	IMAGINE representative Hellenic Urological Association
Peter Ryan	EAU Liaison Irish Society of Urology
John Paul Sweeney	President Irish Society of Urology
Eamonn Rogers	IMAGINE representative Irish Society of Urology
Derek Hennessy	IMAGINE representative Irish Society of Urology
Niall. F. Davis	IMAGINE representative Irish Society of Urology; Department of Urology, Beaumont Hospital and Royal College of Surgeons in Ireland (RCSI), Dublin, Ireland
Walter Artibani	Secretary General Italian Society of Urology
Francesco Porpiglia	EAU Liaison Italian Society of Urology; Division of Urology, Department of Oncology - University of Turin, San Luigi Gonzaga Hospital, Turin, Italy
Salvatore Giuseppe Voce	President Italian Society of Urology
Maurizio Brausi	IMAGINE Italian Society of Urology; Dept of Urology Hesperia Hospital, Modena, Italy
Maria A. Cerruto	IMAGINE Italian Society of Urology; Department of Surgery, Dentistry, Paediatrics and Gynaecology, University of Verona
Francesco Esperto	IMAGINE Italian Society of Urology; Department of Urology, Campus Biomedico university of Rome
Matteo Manfredi	IMAGINE Italian Society of Urology; Division of Urology, Department of Oncology - University of Turin, San Luigi Gonzaga Hospital, Turin - Italy
Mindaugas Jievaltas	President Lithuanian Urological Society
Aušvydas Patašius	IMAGINE representative Lithuanian Urological Society; Laboratory of Cancer Epidemiology, National Cancer Institute, Vilnius, Lithuania
Albertas Čekauskas	IMAGINE representative Lithuanian Urological Society; Institute of Clinical Medicine, Faculty of Medicine, Vilnius University, Vilnius, Lithuania; Vilnius University Hospital Santaros Klinikos, Vilnius, Lithuania
Stasys Auškalnis	IMAGINE representative Lithuanian Urological Society
Peter Mulders	President and IMAGINE representative Dutch Association of Urology; Radboud university medical center, PO Box 9101, 6500 HB Nijmegen, Geert Grooteplein 10
Frank Martens	IMAGINE representative Dutch Association of Urology
Kathleen W. M. D'Hauwers	IMAGINE representative Dutch Association of Urology; Department of Urology, Section Andrology and Functional Urology, Radboudumc, Nijmegen, the Netherlands.
Piotr Chłosta	President and EAU Liaison Polish Urological Association; Department of Urology Jagiellonian University Medical College, Krakow, Poland

Anna Katarzyna Czech	IMAGINE representative Polish Urological Association; Department of Urology Jagiellonian University Medical College, Krakow, Poland
Katarzyna Gronostaj	IMAGINE representative Polish Urological Association; Department of Urology Jagiellonian University Medical College, Krakow, Poland
Mikołaj Przydacz	IMAGINE representative Polish Urological Association; Department of Urology Jagiellonian University Medical College, Krakow, Poland
Pedro Coelho Nunes	EAU Liaison Portuguese Association of Urology
Luís Abranches-Monteiro	President Portuguese Association of Urology; Department of Urology, Western Lisbon Hospital Center, Lisbon, Portugal
Ricardo Pereira e Silva	IMAGINE representative Portuguese Association of Urology; Department of Urology, Centro Hospitalar Universitário Lisboa Norte, Lisbon, Portugal; Faculdade de Medicina da Universidade de Lisboa
Frederica Furriel	IMAGINE representative Portuguese Association of Urology; Department of Urology, Leiria Hospital Center, Leiria, Portugal
Pedro Gomes Monteiro	IMAGINE representative Portuguese Association of Urology;
Ioanel Sinescu	President Romanian Association of Urology
Cristian Surcel	EAU Liaison Romanian Association of urology
Catalin Baston	IMAGINE representative Romanian Association of Urology
Robert Ionut Stoica	IMAGINE representative Romanian Association of Urology; Urology Consultant, Assistant Professor, Institute of Uro-Nephrology and Renal Transplantation, Sos. Fundeni, no. 258, 022328, Bucharest, Romania
Vlad Olaru	IMAGINE representative Romanian Association of Urology
Boris Kollárik	Secretary General and Director of International Relations Slovak Urological Society; Dept of Urology, University Hospital Bratislava, Slovakia
Ivan Mincik	President and EAU Liaison Slovak Urological Society
Ľuboš Rybár	IMAGINE representative Slovak Urological Society; Department of Urology, St. Cyril and Methodius Hospital, University Hospital in Bratislava, Slovakia
Viktor Kováčik	IMAGINE representative Slovak Urological Society; 2nd Urology department of Slovak Medical University, F.D. Roosevelt hospital, Banská Bystrica, Slovakia
Ivan Perečinský	IMAGINE representative Slovak Urological Society; Department of Urology, Faculty Hospital Prešov, Slovakia
Boris	Secretary General, EAU Liaison and Director of International Affairs Slovenian Urological Association
Marko	President Slovenian Urological Association
Milena	IMAGINE representative Slovenian Urological Association
Uros	IMAGINE representative Slovenian Urological Association
Andraz	IMAGINE representative Slovenian Urological Association
Manuel Esteban Fuertes	President Spanish Association of Urology
Mario Alvarez-Maestro	Director International Relations and IMAGINE representative Spanish Association of Urology; Department of Urology, Hospital Universitario La Paz, Madrid, Spain
Antoni Vilaseca	IMAGINE representative Spanish Association of Urology
Rodrigo García-Baquero	IMAGINE representative Spanish Association of Urology; Urology Department, Hospital Universitario Puerta del Mar, Avenida Ana de Viya 21, CP 11009, Cádiz, Spain
Lotta Renström Koskela	President and IMAGINE representative Swedish Urological Association; Department of Molecular Medicine and Surgery, Karolinska Institutet, and

	Department of Pelvic cancer, Karolinska University Hospital, Stockholm, Sweden
Johan Styrke	IMAGINE representative Swedish Urological Association; Kirurgiskt centrum / Urologi, Sundvalls sjukhus, 51 86 Sundsvall
Gezim Galiqi	President Albanian Society of Urology
Bilbil Hoxha	IMAGINE representative Albanian Society of Urology
Evisa Zhapa	IMAGINE representative Albanian Society of Urology
Rezart Xhani	IMAGINE representative Albanian Society of Urology; Department of Urology, University Hospital Centre "Mother Teresa", Tirana 1000, Albania.
Sergey Fanarjyan	President Armenian Association of Urology
Ruben Hovhannisyan	Vice-President and IMAGINE representative Armenian Association of Urology; Department of Laparoscopic, Oncological and Female Urology and the Centre for the Prevention and Treatment of Prostate Cancer "SLAVMED" Medical Centre, Armenia
Avoyan E. Armen	IMAGINE representative Armenian Association of Urology; Urology Department Medical Centre Astghik, Armenia
Rafael Badalyan	IMAGINE representative Armenian Association of Urology; Urology and Men's Health Service, YSMU, 13, Moskovyan str., 0001 Yerevan, Armenia
Mustafa Hiroš	President and IMAGINE representative Urological Association of Bosnia & Herzegovina
Davor Tomić	IMAGINE representative Urological Association of Bosnia & Herzegovina
Damir Aganović	IMAGINE representative Urological Association of Bosnia & Herzegovina
Archil Chkhotua	Secretary General and IMAGINE representative Georgian Urological Association; National Center of Urology, Scientific Director, 27 Tsinandali str., 0144 Tbilisi, Georgia
David Nikoleishvili	IMAGINE representative Georgian Urological Association
Zara Tchanturaia	IMAGINE representative Georgian Urological Association
Sigurdur Gudjónsson	Secretary General and IMAGIEN representative Icelandic Urological Association; Department of Urology, Landspítali University Hospital, Reykjavik, Iceland
Eiríkur Orri Gudmundsson	President Icelandic Urological Association
Rafn Hilmarsson	IMAGINE representative Icelandic Urological Association; Department of Urology, Landspítali University Hospital, 101 Reykjavik, Iceland
Emil Ceban	Secretary General and IMAGINE representative Moldovian Society of Urology
Vitalii Ghicavii	EAU Liaison and IMAGINE representative Moldovian Society of Urology
Adrian Tanase	President Moldovian Society of Urology
Vladislav Vasiliev	IMAGINE representative Moldovian Society of Urology
Dragoljub Perovic	President Association of Urology of Montenegro
Marko Vukovic	Secretary General Association of Urology of Montenegro; Urology clinic, Clinical centre of Montenegro, University of Montenegro.
Stanisavljevic Rade	IMAGINE representative Association of Urology of Montenegro; Urologist. Urology clinic, General hospital, Bar, Montenegro
Nenad Radovic	IMAGINE representative Association of Urology of Montenegro; Urology clinic, Clinical centre of Montenegro, University of Montenegro
Emil Nasufovic	IMAGINE representative Association of Urology of Montenegro; Urology clinic, General hospital Bijelo Polje, Montenegro
Yuri Alyaev	President Russian Society of Urology
Igor Korneyev	EAU Liaison and IMAGINE representative Russian Society of Urology
Sergei Kotov	IMAGINE representative Russian Society of Urology

Vigen Malkhasyan	IMAGINE representative Russian Society of Urology
Dragoslav Basic	President, EAU Liaison and IMAGINE representative Urological Section of the Serbian Medical Association; Clinic of Urology, Clinical Center Niš; Faculty of Medicine, University of Niš, Niš, Serbia
Miodrag Aćimović	IMAGINE representative Urological Section of the Serbian Medical Association
Saša Vojinovic	IMAGINE representative Urological Section of the Serbian Medical Association
Aleksandar Vuksanovic	President and EAU Liaison Urological Association of Serbia; Clinic of Urology, Clinical Center of Serbia; School of Medicine, University of Belgrade
Uroš Bumbaširević	IMAGINE representative Urological Association of Serbia; Clinic of Urology, Clinical Center of Serbia; School of Medicine, University of Belgrade
Bojan Čegar	IMAGINE representative Urological Association of Serbia; Clinic Centre of Serbia, Urology Clinic
Branko Stanković	IMAGINE representative Urological Association of Serbia; Clinic Centre of Serbia, Urology Clinic
Hansjörg Danuser	EAU Liaison Swiss Society of Urology
Tullio Sulser	President Swiss Society of Urology
Valentin Zumstein	IMAGINE representative Swiss Society of Urology; Kantonsspital St. Gallen (KSSG), Urologie, Rorschacherstrasse 95, 9007 St. Gallen
Ates Kadioglu	Vice-President and EAU Liaison Turkish Urological Association
Hakan Kilicarslan	President Turkish Urological Association
Nusret Can Cilesiz	IMAGINE representative Turkish Urological Association
Erhan Demirelli	IMAGINE representative Turkish Urological Association
Bülent Önal	Director International Relations Society for Urological Surgery Turkey; Istanbul University- Cerrahpaşa, Cerrahpaşa School of Medicine
Aydin Mungan	President Society for Urological Surgery Turkey
Serdar Tekgül	IMAGINE representative Society for Urological Surgery Turkey
Levent Türkeri	IMAGINE representative Society for Urological Surgery Turkey; M.A.Aydınlar Acıbadem University, Altunizade Hospital, Department of Urology, Istanbul, Turkey
Adil Esen	IMAGINE representative Society for Urological Surgery Turkey
Oleksandr Shulyak	EAU Liaison Ukrainian Urological Association
Sergiy Vozianov	President Ukrainian Urological Association
Alexandr Shulyak	IMAGINE representative Ukrainian Urological Association; Institute of urology under NAMS of Ukraine
Serhii Volkov	IMAGINE representative Ukrainian Urological Association; Institute of urology under NAMS of Ukraine
Andrii Nesterchuk	IMAGINE representative Ukrainian Urological Association

225

226