INNOVATION IN CANCER CLINICAL TRIALS

SWOG Fall Meeting October 2017
Dr. Larry Chu
Alicia C. Staley

WHAT IS INNOVATION?



WHAT INSPIRES INNOVATION?



WHAT CAN INSPIRE INNOVATION IN CLINICAL TRIALS?



The Model T

Yes, it might be as simple as that.

CHICAGO 1912 = INNOVATION



INNOVATION IS A CHANGE OF STATE



- Static Assembly to
- Dynamic Assembly

- Ford found inspiration
 outside his core industry,
 - developed new way

CHICAGO 2017 - #SWOGONC

Innovation in Cancer Clinical Trials? Is it really possible?

The Model T Clinical Trial

** no, not a patient assembly line **

From a static to DYNAMIC process

What happens if we encourage the 'Patient' to become dynamic?

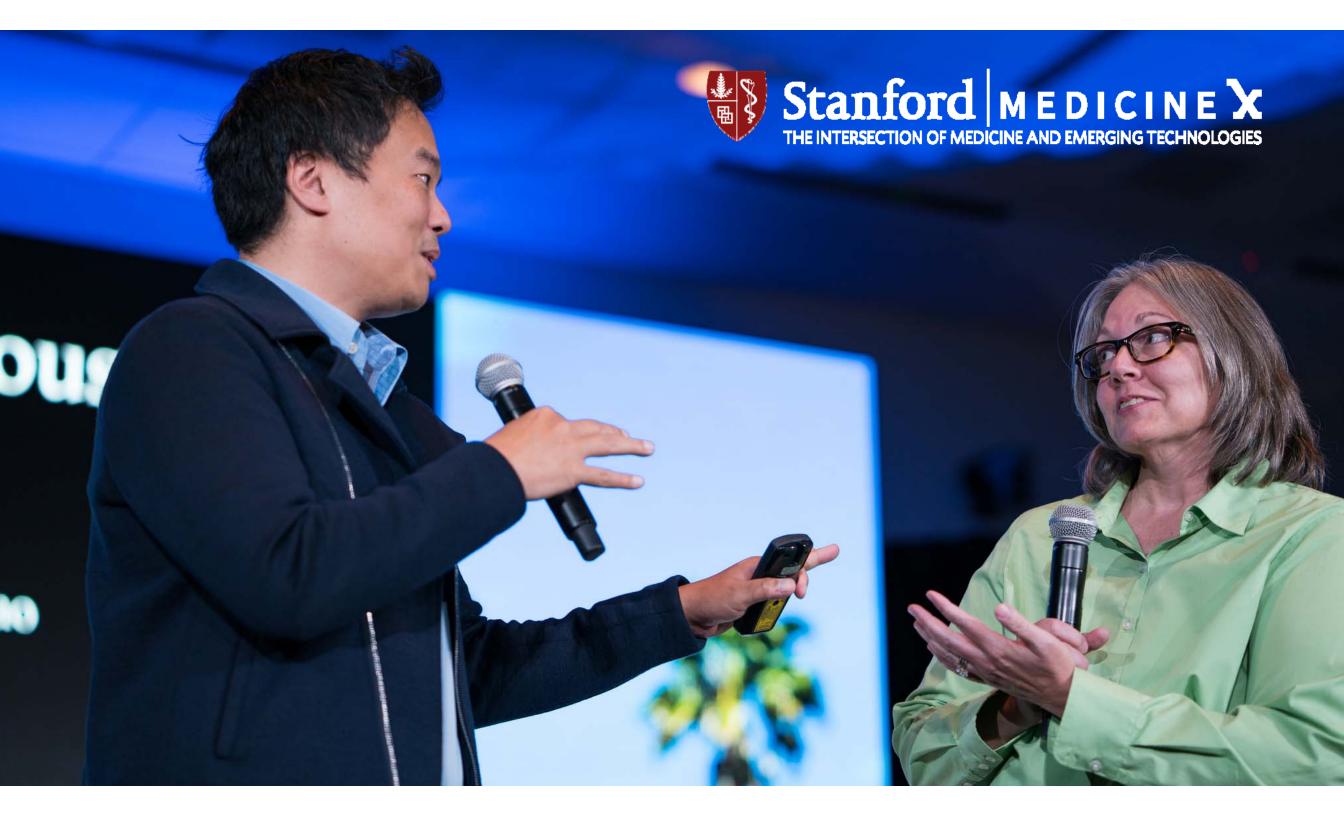
WHAT IF?

Partnering with patients speeds innovation in research

Partnering with patients will improve data sharing

Partnering with patients makes research more accessible

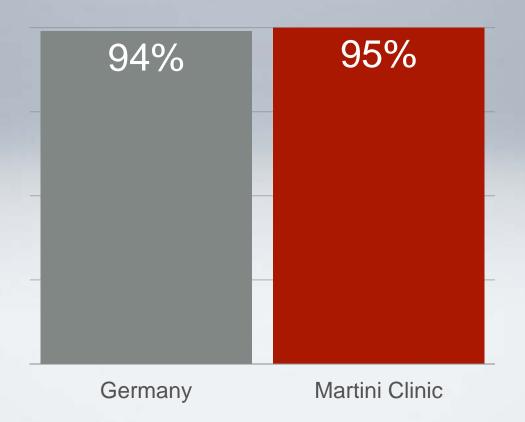
Partnering with patients in cancer clinical trials will change the culture of medicine





Partnering with patients speeds innovation in research

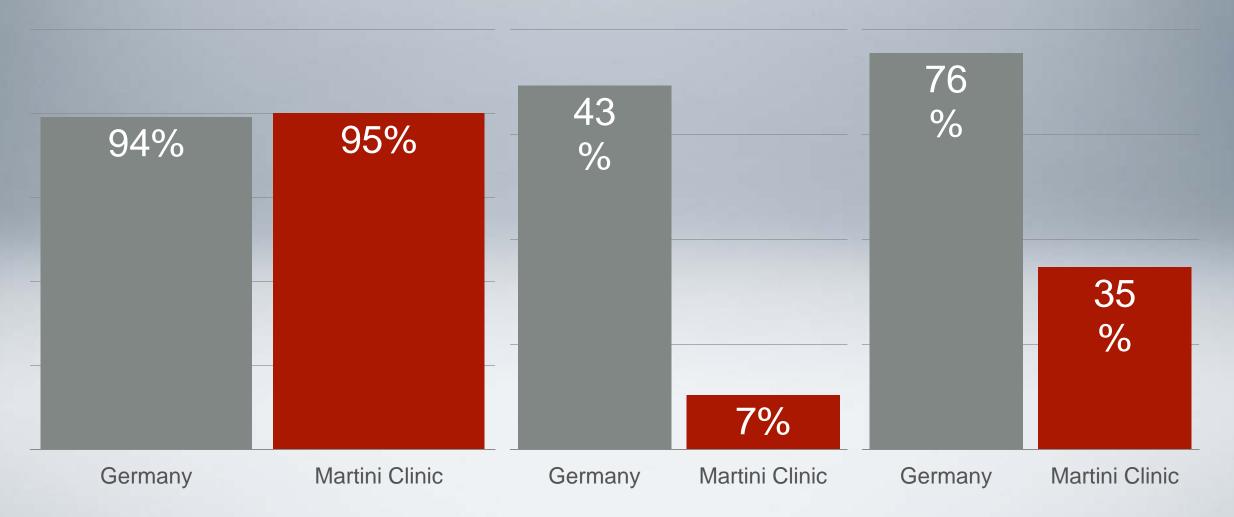
5 year Prostate Cancer Survival Rates





Partnering with patients speeds innovation in research

5 year Prostate Cancer Survival Rates 1 yr Incontinencel yr Severe Erectile Dysfunction



Source: Martini Klinik, BARMER, GEK: Report Krankenhaus 2012, Patient-reported outcomes (EORTC=PSM), 1 year after treatment, 2010



The NEW ENGLAND JOURNAL of MEDICINE



What Is Value in Health Care?

Michael E. Porter, Ph.D.

In any field, improving performance and account-Lability depends on having a shared goal that unites the interests and activities of all stakeholders. In health care, however, stakeholders have

myriad, often conflicting goals, including access to services, profitability, high quality, cost conpatient-centeredness, and satisimprovement.

Achieving high value for pa-stood. tients must become the overtients must become the over- Value should always be de- condition-specific and multidi-Achieving high value for pa- stood.

Value — neither an abstract ideal nor a code word for cost reduction - should define the tainment, safety, convenience, framework for performance improvement in health care. Rigorfaction. Lack of clarity about ous, disciplined measurement and goals has led to divergent ap- improvement of value is the best proaches, gaming of the system, way to drive system progress. Yet and slow progress in performance value in health care remains largely unmeasured and misunder-

Value should always be dearching goal of health care defined around the customer, and livery, with value defined as the in a well-functioning health care health outcomes achieved per system, the creation of value for tures the results of care. Cost, dollar spent. This goal is what patients should determine the matters for patients and unites rewards for all other actors in fers to the total costs of the full the interests of all actors in the the system. Since value depends cycle of care for the patient's system. If value improves, patients, on results, not inputs, value in medical condition, not the cost system. If value improves, patients, on results, not inputs, value in the interests of all actors in the the system. Since value depends cycle of care for the patient's matters for patients and unites rewards for all other actors in fers to the total costs of the full dollar spent. This goal is what patients should determine the equation's denominator, rehealth outcomes achieved per system, the creation of value for tures the results of care. Cost, livery, with value defined as the in a well-functioning health care dition, no single outcome caparching goal of health care de- fined around the customer, and mensional. For any medical con-

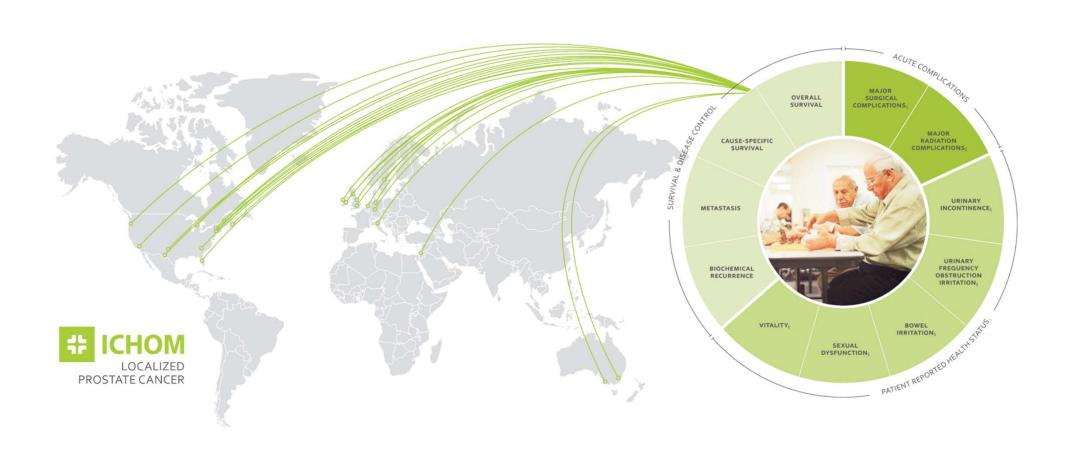
value is a central challenge. Nor is value measured by the process of care used; process measurement and improvement are important tactics but are no substitutes for measuring outcomes and costs.

Since value is defined as outcomes relative to costs, it encompasses efficiency. Cost reduction without regard to the outcomes achieved is dangerous and selfdefeating, leading to false "savings" and potentially limiting effective care.

Outcomes, the numerator of the value equation, are inherently condition-specific and multidimensional. For any medical condition, no single outcome capthe equation's denominator, remedical condition, not the cost the value equation, are inherently



THE GLOBAL STANDARD - INTERNATIONAL COLLABORATION IS IN OUR DNA





Colorectal Cancer
Malignant Neoplasms



Breast Cancer

Malignant Neoplasms



Localized Prostate Cancer

Malignant neoplasms



Advanced Prostate Cancer

Malignant neoplasms



Lung Cancer

Malignant neoplasms

Lung Cancer Malignant neoplasms



Partnering with patients speeds innovation in research

Partnering with patients, literally speeds research.



Assessing the Financial Value of Patient Engagement: A Quantitative Approach from CTTI's Patient Groups and Clinical Trials Project

Therapeutic Innovation
& Regulatory Science
I-I0
© The Author(s) 2017
Reprints and permission:
sagepub.com/journalsPermissions.nav
DOI: 10.1177/2168479017716715
tirs.sagepub.com

Bennett Levitan, MD, PhD¹, Kenneth Getz, MBA², Eric L. Eisenstein, DBA³, Michelle Goldberg, MBA⁴, Matthew Harker, MPH, MBA⁵, Sharon Hesterlee, PhD⁶, Bray Patrick-Lake, MFS⁷, Jamie N. Roberts, MPH, MA⁷, and Joseph DiMasi, PhD²

Abstract

Background: While patient groups, regulators, and sponsors are increasingly considering engaging with patients in the design and conduct of clinical development programs, sponsors are often reluctant to go beyond pilot programs because of uncertainty in the return on investment. We developed an approach to estimate the financial value of patient engagement. Methods: Expected net present value (ENPV) is a common technique that integrates the key business drivers of cost, time, revenue, and risk into a summary metric for project strategy and portfolio decisions. We assessed the impact of patient engagement on ENPV for a typical oncology development program entering phase 2 or phase 3. Results: For a pre-phase 2 project, the cumulative impact of a patient engagement activity that avoids one protocol amendment and improves enrollment, adherence, and retention is an increase in net present value (NPV) of \$62MM (\$65MM for pre-phase 3) and an increase in ENPV of \$35MM (\$75MM for pre-phase 3). Compared with an investment of \$100,000 in patient engagement, the NPV and ENPV increases can exceed 500-fold the investment. This ENPV increase is the equivalent of accelerating a pre-phase 2 product launch by 2½ years (1½ years for pre-phase 3). Conclusions: Risk-adjusted financial models can assess the impact of patient engagement. A combination of empirical data and subjective parameter estimates shows that engagement activities with the potential to avoid protocol amendments and/or improve enrollment, adherence, and retention may add considerable financial value. This approach can help sponsors assess patient engagement investment decisions.

Keywords

patient engagement, therapeutic development, expected net present value, risk-adjusted financial model

Reywords patient engagement, therapeutic development, expected net present value, risk-adjusted financial model

and subjective parameter estimates shows that engagement activities with the potential to avoid protocol amendments and/or improve enrollment, adherence, and retention may add considerable financial value. This approach can help sponsors assess patient engagement investment decisions.





The ENPV increase from the combined amendment/patient experience impact is equivalent to reducing time to launch by 30 months for the pre—phase 2 case and by 17 months for the pre—phase 3 case.

Trials Project



& Regulatory Science © The Author(s) 2017 Reprints and permission: tirs.sagepub.com





Assessing the Financial Value of Patient

Engagement: A Quantitative Approach

from CTTI's Patient Groups and Clinical

Abstract

Background: While patient groups, regulators, and sponsors are increasingly considering engaging with patients in the design and conduct of clinical development programs, sponsors are often reluctant to go beyond pilot programs because of uncertainty in the return on investment. We developed an approach to estimate the financial value of patient engagement. Methods: Expected net present value (ENPV) is a common technique that integrates the key business drivers of cost, time, revenue, and risk into a summary metric for project strategy and portfolio decisions. We assessed the impact of patient engagement on ENPV for a typical oncology development program entering phase 2 or phase 3. Results: For a pre-phase 2 project, the cumulative impact of a patient engagement activity that avoids one protocol amendment and improves enrollment, adherence, and retention is an increase in net present value (NPV) of \$62MM (\$65MM for pre-phase 3) and an increase in ENPV of \$35MM (\$75MM for pre-phase 3). Compared with an investment of \$100,000 in patient engagement, the NPV and ENPV increases can exceed 500-fold the investment. This ENPV increase is the equivalent of accelerating a pre-phase 2 product launch by 2½ years (1½ years for prephase 3). Conclusions: Risk-adjusted financial models can assess the impact of patient engagement. A combination of empirical data and subjective parameter estimates shows that engagement activities with the potential to avoid protocol amendments and/or improve enrollment, adherence, and retention may add considerable financial value. This approach can help sponsors assess patient engagement investment decisions.

patient engagement, therapeutic development, expected net present value, risk-adjusted financial model

patient engagement, therapeutic development, expected net present value, risk-adjusted financial model Keywords

patient engagement investment decisions.

improve enrollment, adherence, and retention may add considerable financial value. This approach can help sponsors assess and subjective parameter estimates snows that engagement activities with the potential to avoid protocol amendments and/o





Compared with an investment of \$100,000 in patient engagement, the NPV and ENPV increase can exceed 500-fold the investment.







WE'VE MAPPED THE WORLD. NOW LET'S MAP HUMAN HEALTH.





Partnering with patients will improve data sharing







Partnering with patients makes research more accessible

Patients are powerful at spreading information at medical meetings and engaging in meaningful conversations.

JOURNAL OF MEDICAL INTERNET RESEARCH

Utengen et al

Original Paper

Patient Participation at Health Care Conferences: Engaged Patients Increase Information Flow, Expand Propagation, and Deepen Engagement in the Conversation of Tweets Compared to Physicians or Researchers

Audun Utengen^{1*}, MBA; Dara Rouholiman^{2*}, BS; Jamison G Gamble^{2*}, MPH; Francisco Jose Grajales III^{3*}, MS, CD, R Kin; Nisha Pradhan^{4*}, BA; Alicia C Staley^{2*}, MBA, MS; Liza Bernstein^{2*}; Sean D Young^{5*}, MS, PhD; Kevin A Clauson^{6*}, PharmD; Larry F Chu^{2*}, MS, MD

Corresponding Author:

Larry F Chu, MS, MD Stanford Medicine X Stanford University School of Medicine 300 Pasteur Drive Stanford, CA, 94305 United States

Phone: 1 (650) 723 6632 Fax: 1 (650) 497 9335 Email: lchu@stanford.edu

Abstract

Background: Health care conferences present a unique opportunity to network, spark innovation, and disseminate novel information to a large audience, but the dissemination of information typically stays within very specific networks. Social network analysis can be adopted to understand the flow of information between virtual social communities and the role of patients within the network.

Objective: The purpose of this study is to examine the impact engaged patients bring to health care conference social media information flow and how they expand dissemination and distribution of tweets compared to other health care conference stakeholders such as physicians and researchers.

stakeholders such as physicians and researchers.

Objective: The purpose of this study is to examine the impact engaged patients bring to health care conference social media information flow and how they expand dissemination and distribution of tweets compared to other health care conference

miorination to a targe authence, but the dissemination of information hyperany stays within very specific networks, social network analysis can be adopted to understand the flow of information between virtual social communities and the role of patients within





Health care conferences that fail to engage patients in their proceedings may risk limiting their engagement with the public, disseminating scientific information to a narrow community and slowing flow of information across social media channels.

¹Symplur, Los Angeles, CA, United States

²Stanford Medicine X, Stanford University School of Medicine, Stanford, CA, United States

³Center for Social Innovation and Impact Investing, Sauder School of Business, University of British Columbia, Vancouver, BC, Canada

⁴Clinical Genetics Service, Memorial Sloan Kettering Cancer Center, New York, NY, United States

⁵University of California Institute for Prediction Technology, Department of Family Medicine, University of California, Los Angeles, Los Angeles, CA, United States

⁶College of Pharmacy, Lipscomb University, Nashville, TN, United States

^{*}all authors contributed equally



Partnering with patients makes research more accessible

	Patients HCP		Researchers	
Tweet Volume	309	118	138	
Engagement (replies)	25	5	6	
Composition	1.5%	6.6%	21.1%	

Search Journal

urnal

Stanford MEDICINE THE INTERSECTION OF MEDICINE AND EMERGING TECHNOLOGY

Home

Content

Info For

About Us

Meetings

More

Research Article | OMERACT 11

What Has Been the Effect on Trial Outcome Assessments of a Decade of Patient Participation in OMERACT?

Maarten P.T. de Wit, Tineke A. Abma, Marije S. Koelewijn-van Loon, Sarah Collins and John Kirwan The Journal of Rheumatology January 2014, 41 (1) 177-184; DOI: https://doi.org/10.3899/jrheum.130816

Article Figures & Data References Info & Metrics PDF eLetters



Next 😜

This article requires a subscription to view the full text. If you have a subscription you may use the login form below to view the article. Access to this article can also be purchased.

Abstract

Objective. Since 2002, 58 patients have participated as collaborating partners in 6 Outcome Measures in Rheumatology (OMERACT) conferences. Little is known about how they engage with researchers and how they have influenced conference outcomes.

Methods. A responsive evaluation was carried out, including a thematic document analysis of conference proceedings and gray literature, participant observation, and 38 interviews with patients and professionals representing research, industry, and regulators. Interview transcripts were subjected to an inductive content analysis.

parts of the conference in 2012. Longterm engagement has made a significant change in the scope and conduct of rheumatology research. It has enriched the research agenda by identifying backjohs/k bedjected ontcome domains such as fatigue sleep distribusces and flates and it has and conduct of thermatology research. It has enriched the research agenda by identifying and conduct of thermatology research. It has enriched the research agenda by identifying bars of the conference in 5015. Foundation a single tocal action in 5005 to full integration in all

Results. The role of patients has evolved from a single focus group in 2002 to full integration in all



In this issue



Here The Control of t

Vol. 41, Issue 1 1 Jan 2014 Table of Contents Table of Contents (PDF) Index by Author Table of Contents (issue Editorial Board (PDF)

The Journal of Rheu





It has enriched the research agenda by identifying previously neglected outcome domains such as fatigue, sleep disturbances, and flares, and it has contributed to more patient-relevant outcomes in clinical trials.

subjected to an inductive content analysis.

Open Access Research



Involving patient research partners OPEN has a significant impact on outcomes research: a responsive evaluation of the international OMERACT conferences

Maarten de Wit, ¹ Tineke Abma, ¹ Marije Koelewijn-van Loon, ² Sarah Collins, ³ John Kirwan⁴

To cite: de Wit M. Abma T. Koelewijn-van Loon M, et al. Involving patient research partners has a significant impact on outcomes research: a responsive evaluation of the international OMERACT conferences. BMJ Open 2013:3:e002241. doi:10.1136/bmjopen-2012-002241

Prepublication history for this paper are available online. To view these files please visit the journal online (http://dx.doi.org/10.1136/ bmjopen-2012-002241).

Received 20 October 2012 Revised 2 April 2013 Accepted 3 April 2013

This final article is available for use under the terms of the Creative Commons Attribution Non-Commercial 2.0 Licence: see http://bmjopen.bmj.com

http://bmjopen.bmj.com 2.0 Licence; see Attribution Non-Commercial the Creative Commons for use under the terms of This final article is available

ABSTRACT

Objective: To assess the inclusion of patients as international research partners in Outcome Measures in Rheumatology (OMERACT) conferences and how this has influenced the scope and conduct of outcomes research in rheumatology.

Design: A thematic content analysis of OMERACT internal documents, publications and conference proceedings, followed by a responsive evaluation including 32 qualitative semistructured interviews. Setting: The international, biannual research conference OMERACT 10 (Malaysia, 2010). Participants: Senior researchers (n=10), junior

researchers (n=2), representatives of the pharmaceutical industry and regulators (n=2), conference staff (n=2), new patient delegates (n=8) and experienced patient delegates (n=8).

Results: The role of patients evolved over 10 years from a single patient focus group to full participation in all areas of the meeting and inclusion in research group meetings between conferences. Five main categories of impact emerged: widening the research agenda; including patient relevant outcomes in core sets; enhancing patient reported instruments; changing the culture of OMERACT and consequences outside OMERACT. Patient participants identified previously neglected outcome domains such as fatique, sleep ontcome domains such as fatique, sleep

Patient participants identified previously neglected OMERACT and consequences outside OMERACT. patient reported instruments; changing the culture of patient relevant outcomes in core sets; enhancing emerged: widening the research agenda; including conferences. Five main categories of impact inclusion in research group meetings between

ARTICLE SUMMARY

Article focus

- Since 2002, patients have participated as collaborative partners in the biannual conference on Outcome Measures in Rheumatology (OMERACT).
- Although the contribution of patients has been praised and there is a widespread call for scientific publications on the impact of engaging with patients, no systematically obtained evidence has been published to support the idea that the structural involvement of patients in research conferences is beneficial.
- Our qualitative study reports the combined results of a thematic document analysis and 32 semistructured interviews with all stakeholders including researchers, patient participants and representatives from the pharmaceutical industry and international regulators.

Key messages

- Long-term engagement with arthritis patients in OMERACT conferences has significantly influenced outcome research in the field of rheumatology.
- Patients have successfully contributed to the research agenda of OMERACT by identifying new domains that are important for patients, and prodomains that are important for patients, and proresearch agenda of OMERACT by identifying new
- Patients have successfully contributed to the
- enced outcome research in the field of UMERACI conferences has significantly influ-Long-term engagement with arthritis patients in





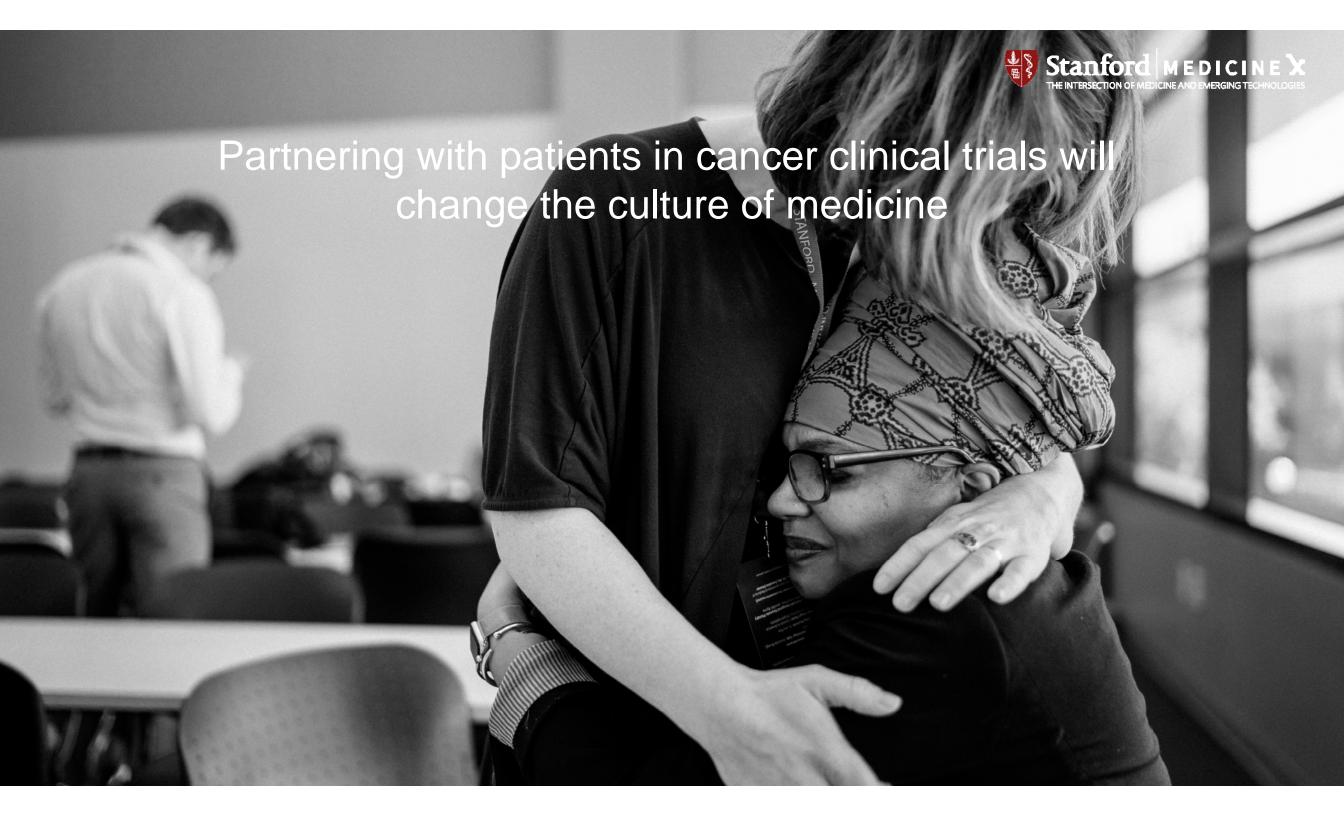
Including patients as partners in OMERACT conferences has widened its focus and adjusted the way of working. It has resulted in new developments in the research agenda and the use of more patientrelevant outcomes in clinical trials. These collaborations have influenced perceptions and beliefs among many patients and researchers, and led to wider patient involvement as partners in 77 research.



Partnering with patients in cancer clinical trials will change the culture of medicine

Everyone Included M is a framework for healthcare innovation, implementation and transformation based on principles of mutual respect and inclusivity. It is the culmination of six years of cocreation with patients, caregivers, providers, technologists, and researchers at Stanford Medicine X that has resulted in a series of design and leadership principles intended to drive collaborative healthcare innovation efforts. It helps bring groups of diverse stakeholders together on equal footing work together to collaboratively co-produce the future of health care

http://www.everyoneincluded.org/





Partnering with patients in cancer clinical trials will change the culture of medicine







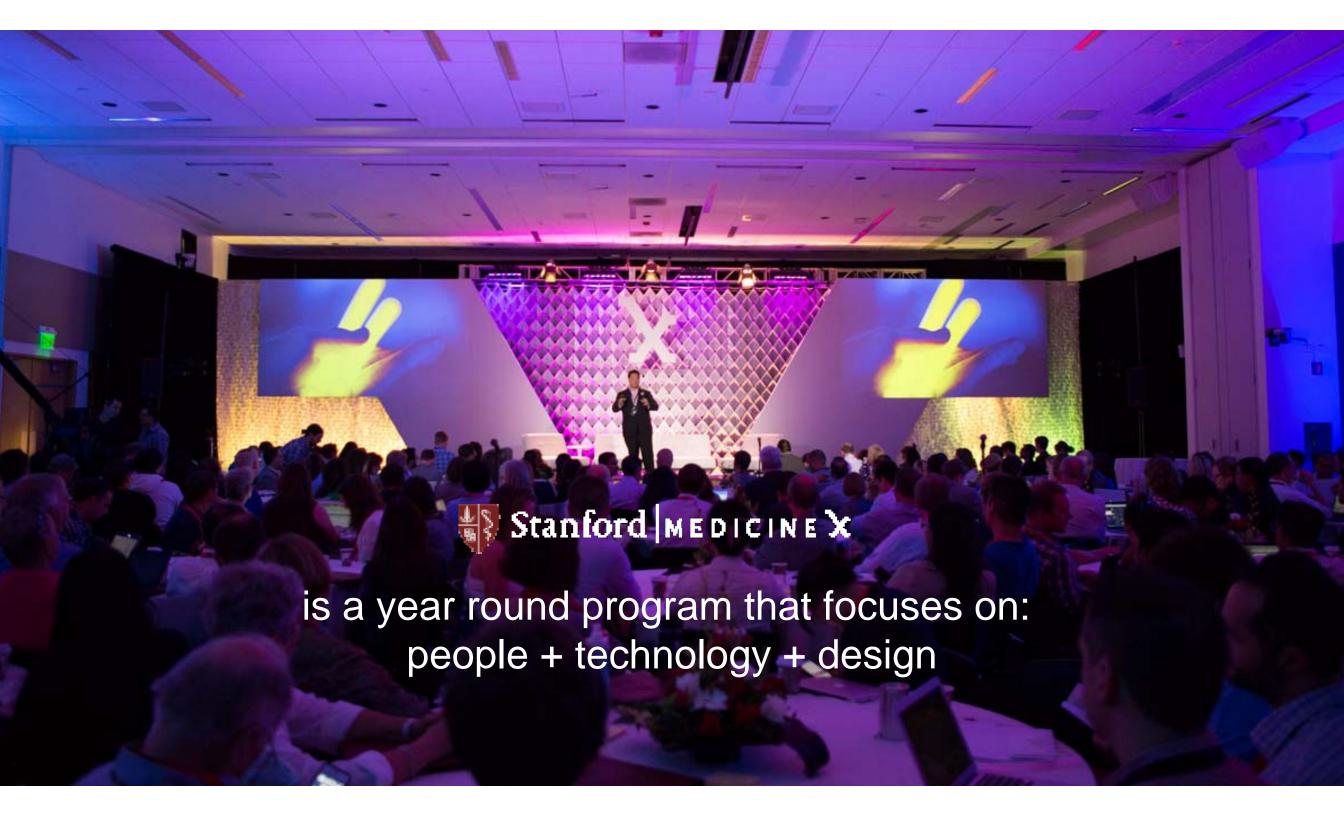












LESSONS LEARNED

Partnering with patients speeds innovation in research

Partnering with patients will improve data sharing

Partnering with patients makes research more accessible

Partnering with patients in cancer clinical trials will change the culture of medicine

INNOVATION IN CANCER CLINICAL TRIALS

- Clinical Research as a Care Option
- Simplified Consent Process
- Inclusion/Exclusion Criteria is more attainable
- Value exchange for all involved
- Patients don't look for trials, trials come to the Patient

Clinical Research delivered to the right patient, at the right time,

at the right place, in the right dose.

THANK YOU