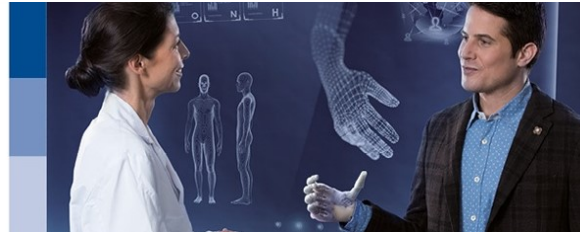



Kongress
Congrès
2017



Mensch und Technologie:
Digitale Dynamik ohne Grenzen?

8. November / 8 novembre 2017
Kursaal Bern

Homme et technologie:
la marche irrésistible du numérique?

Sélection de documents / Dokumentenauswahl

Références dès 2012 / Referenzen seit 2012
Français, English, Deutsch

Réalisée par

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Lausanne, le 13 juillet 2017

Moteurs/bases de données explorées

- Google
- PubMed
- Sources spécifiques (HTA, Cochrane, confédération...)

Avant-propos

Nous avons pris en compte la thématique au spectre large et le public potentiellement diversifié prenant part au congrès pour proposer les références ci-dessous à savoir un panachage de sujets, langues, genre et origine des documents, disciplines scientifiques et préoccupations. Dans la majorité des cas, les références sont accessibles online et gratuitement (sinon, le signe (\$) le mentionne).

Suisse

- Samochowiec J, Schmidt A, **Robotics and disabilities: How assistive technologies will improve life**. Zürich: Gottlieb Duttweiler Institute; 2017.
Abstract: The imminent robotisation of our lives will also affect disabled people. Household robots, prostheses made by 3D printers and nanobots integrated into the body - all these will profoundly alter life for disabled people. Technology will play an increasingly important role - and raise new questions. The GDI study 'Robotics and Disabilities - How machines will help people tomorrow' was commissioned by the Cerebral foundation. It develops new ideas about how future technologies might shape the lives of disabled people and indicates what social, technical and ethical problems arise as a result of increased use of robotics. The study consists of three parts: part 1: presents an overview of current technologies which support the individual in compensating for weaknesses of a physical or psychological nature part 2: discusses how environmental barriers can be broken down by technology part 3: examines the question of how technological innovations affect social demands and expectations.
Direct download:
www.cerebral.ch/uploads/media/GDI_Studie_Robotik_und_Behinderungen_2017EN.pdf
- Eckhardt A, Navarini A, Recher A, Rippe KP, Rüttsche B, Telser H et al. **Personalisierte Medizin. Studie des Zentrums für Technologiefolgen-Abschätzung**. Zürich: vdf Hochschulverlag AG; 2014.
Direct download: <https://vdf.ch/personalisierte-medizin-1606371467.html>
Résumés en quatre langues:
 - Vorausschauende Heilkunde. Kurzfassung der Studie. Zentrum für Technologiefolgen-Abschätzung (hrsg.), Bern, 2014 [www.ta-swiss.ch/?redirect=getfile.php&cmd\[getfile\]\[uid\]=2622](http://www.ta-swiss.ch/?redirect=getfile.php&cmd[getfile][uid]=2622)
 - La médecine prédictive. Résumé de l'étude. Centre d'évaluation des choix technologiques (éd.), Berne, 2014 [www.ta-swiss.ch/?redirect=getfile.php&cmd\[getfile\]\[uid\]=2616](http://www.ta-swiss.ch/?redirect=getfile.php&cmd[getfile][uid]=2616)
 - Scienza medica previdente. Riassunto dello studio. Centro per la valutazione delle scelte tecnologiche (ed.), Berna, 2014 [www.ta-swiss.ch/?redirect=getfile.php&cmd\[getfile\]\[uid\]=2618](http://www.ta-swiss.ch/?redirect=getfile.php&cmd[getfile][uid]=2618)
 - Predictive Medicine. Abridged version of the study. Centre for Technology Assessment (ed.), Bern, 2014 [www.ta-swiss.ch/?redirect=getfile.php&cmd\[getfile\]\[uid\]=2617](http://www.ta-swiss.ch/?redirect=getfile.php&cmd[getfile][uid]=2617)

- Conseil fédéral. **Planification de la médecine hautement spécialisée: mise en œuvre par les cantons et compétence subsidiaire du Conseil fédéral: Rapport du Conseil fédéral en réponse au postulat 13.4012**, Commission de la sécurité sociale et de la santé publique du Conseil national, 8 novembre 2013 [Internet]. Berne, 2016.
Direct download:
www.parlament.ch/centers/eparl/curia/2013/20134012/Bericht%20BR%20F.pdf
Communiqué du 25 mai 2016 y relatif:
www.admin.ch/gov/fr/accueil/documentation/communiques.msg-id-61817.html
 - German version: Planung der hochspezialisierten Medizin: Umsetzung durch die Kantone und subsidiäre Kompetenz des Bundesrates. Bericht des Bundesrates in Erfüllung des Postulates 13.4012, Kommission für soziale Sicherheit und Gesundheit des Nationalrates, 8. November 2013
Direct download:
www.parlament.ch/centers/eparl/curia/2013/20134012/Bericht%20BR%20D.pdf
- eHealth Suisse (Centre de compétences et de coordination de la Confédération et des cantons), **mobile Health (mHealth). Recommandations I: Contexte et premières étapes**. [Internet]. Berne, 2017.
www.e-health-suisse.ch/fr/mise-en-oeuvre-communautaires/activites-ehealth/mhealth.html
Direct download: <http://bit.ly/2sU8dce>
 - German version: www.e-health-suisse.ch/de/gemeinschaften-umsetzung/ehealth-aktivitaeten/mhealth.html
- Schneider M-P, Gertsch A, Bugnon O. **Cyberhealth serving to support individual intake of medication**. Swiss Med Wkly. 2013 Aug 7;143:w13827.
Abstract: The Internet and new communication technologies are deeply affecting healthcare systems and the provision of care. The purpose of this article is to evaluate the possibility that cyberhealth, via the development of widespread easy access to wireless personal computers, tablets and smartphones, can effectively influence intake of medication and long-term medication adherence, which is a complex, difficult and dynamic behaviour to adopt and to sustain over time. Because of its novelty, the impact of cyberhealth on drug intake has not yet been well explored. Initial results have provided some evidence, but more research is needed to determine the impact of cyberhealth resources on long-term adherence and health outcomes, its user-friendliness and its adequacy in meeting e-patient needs. The purpose of such Internet-based interventions, which provide different levels of customisation, is not to take over the roles of healthcare providers; on the contrary, cyberhealth platforms should reinforce the alliance between healthcare providers and patients by filling time-gaps between visits and allowing patients to upload and/or share feedback material to be used during the visits. This shift, however, is not easily endorsed by healthcare providers, who must master new eHealth skills, but healthcare systems have a unique opportunity to invest in the Internet and to use this powerful tool to design the future of integrated care. Before this can occur, however, important issues must be addressed and resolved, for example ethical considerations, the scientific quality of programmes, reimbursement of activity, data security and the ownership of uploaded data.
<https://doi.emh.ch/10.4414/smw.2013.13827>
Direct download: <http://bit.ly/2thQGdw>
- Sigrist S, Bornstein N, Lesmono K, Dür AS, Folkers G. **Hacking healthcare: Understanding and rethinking health in the 21st century** [Internet]. Zürich: W.I.R.E.

(Think Tank for Business, Society and Life Sciences) / Neue Zürcher Zeitung
Publishing; 2015.

Short version of the original German book "Hacking Healthcare - Das
Gesundheitssystem verstehen und weiterdenken"

www.thewire.ch/de/publications/hacking-healthcare

www.thewire.ch/en/publications/hacking-healthcare

Direct download: <http://bit.ly/2uhsfkJ> (English version only)

- Seitz S. **Health Technology Assessment in der Schweiz: Heute und wie weiter ?**
Bern: Schweizerische Gesellschaft für Gesundheitspolitik (SGGP); 2013. 170 p.
Abstract: Eine Herausforderung für viele Gesundheitssysteme ist dessen nachhaltige
Finanzierung. Gerade die Einführung von Innovationen wird kritisch verfolgt.
Verschiedene OECD-Länder verwenden deshalb für die Beurteilung neuer
medizinischer Leistungen "Health Technology Assessments" (HTA), eine Methode zur
evidenzbasierten Bewertung aus medizinischer, ökonomischer, gesellschaftlicher,
ethischer und juristischer Sicht. Auch in der Schweiz wird die Einführung eines
umfassenden, formalen HTA-Systems diskutiert. Verschiedene Akteure wurden
diesbezüglich bereits aktiv. Dieses Buch will die aktuelle Situation von HTA in der
Schweiz beleuchten und mit dem Ausland vergleichen.
Am Beispiel des Vergütungsentscheids für Medikamente wird die Erstellung eines
Frameworks beschrieben, welches für den Vergleich von 10 westlichen HTA-Systemen
mit der Schweiz verwendet wurde. Handlungsbedarf für die Schweiz zeigte sich primär
hinsichtlich Erhöhung der Transparenz, klarer Kriterien für Assessment (Beurteilung der
Evidenz) und Appraisal (Bewertung der Leistung), einem verstärkten Einbezug von
Experten sowie einer besseren Trennung der einzelnen HTA-Schritte. Eine Befragung
von verschiedenen Akteuren im Schweizer Gesundheitswesen kam zum selben
Schluss. Zudem wurde der Einbezug der breiten Bevölkerung in den politischen
Prozess gefordert, um Werthaltungen und Präferenzen abzubilden, aber auch um
Ängste und Missverständnisse abzubauen. Das Buch schliesst mit 13 Thesen für die
Weiterentwicklung von HTA in der Schweiz, einer Beschreibung der Entwicklung bis
Ende 2012 sowie einem Ausblick.
www.sggp.ch/index-de.php?frameset=3&page=202 (\$)
- Joye C, éditeur. **De l'être humain réparé à l'être humain augmenté**. Genève:
Médecine & Hygiène; 2016.
Abstract: Aussi loin que nous pouvons remonter dans l'histoire du handicap et des
personnes handicapées, nous constatons le souci de corriger l'individu différent,
présentant une altération physique ou sensorielle... Actuellement, les avancées en
génétique, robotique et nanotechnologie placent le couplage "être humain - machine -
handicap" dans une position où le débat éthique devient incontournable. Soucieux
d'ouvrir le débat sur des questions de société où la personne handicapée joue un rôle
central, Pro Infirmis Vaud a organisé fin 2014 un colloque sur ce thème et plus
précisément sur les questions suivantes: Y-a-t-il des limites aux nouvelles fonctions
technologiques ? Quels sont les moyens mis à disposition des personnes handicapées
par les assurances sociales pour les acquérir ? Enfin, il ne s'agit plus parfois de réparer
les fonctions lésées d'un individu handicapé, mais de renforcer des fonctions moyennes
d'un individu valide. La réalité est-elle en train de rejoindre la science-fiction ? Quels en
seraient les domaines d'application ? Sont-elles acceptables ?
www.medhyg.ch/index.php/de-l-etre-humain-repare-a-l-etre-humain-augmente.html (\$)

International

- Topol E. **The Patient Will See You Now: The Future of Medicine is in Your Hands.** New York: Basic Books; 2015. 384 p.
Abstract: [...Topol...] shows why medicine does not have to be that way. Instead, you could use your smartphone to get rapid test results from one drop of blood, monitor your vital signs both day and night, and use an artificially intelligent algorithm to receive a diagnosis without having to see a doctor, all at a small fraction of the cost imposed by our modern healthcare system. [...] The change is powered by what Topol calls medicine's "Gutenberg moment". Much as the printing press took learning out of the hands of a priestly class, the mobile internet is doing the same for medicine, giving us unprecedented control over our healthcare. With smartphones in hand, we are no longer beholden to an impersonal and paternalistic system in which "doctor knows best". Medicine has been digitized, Topol argues; now it will be democratized. [...] www.basicbooks.com/full-details?isbn=9780465040025 (\$)
- World Economic Forum (in collaboration with Accenture). **Digital Transformation of Industries: Healthcare Industry.** [Internet]. Geneva; 2016.
Description: World Economic Forum white paper in the Digital Transformation Initiative (DTI) collection, launched in 2015. "Today's model of healthcare provision is increasingly unsustainable. To deliver continued improvements to the world's health, healthcare will need to be transformed, with digital playing a central role".
<http://reports.weforum.org/digital-transformation/healthcare-building-a-digital-healthcare-system>
Direct download: <http://bit.ly/2sTnwBY>
- Roland Berger GmbH Consulting, **What will the future look like under Industry 4.0 and digital transformation in the healthcare space ?** [Internet]. Munich; 2015.
Abstract: On one end, digital transformation is a technological revolution: mobile internet is more widely available than ever before, smartphones have been democratized, clouds have revealed the potential for almost infinite storage, and the cost of these services is constantly decreasing. On the other end of the spectrum, it's sociological: faster and more successful market penetrations have left consumers expecting both continuous and immediate service availability. As the industrial application of these digital transformations, Industry 4.0 is radically changing value creation in every market. In this study, we examine the impact it is making on the healthcare industry.
www.rolandberger.com/en/Publications/pub_digital_transformation_in_the_healthcare_space.html
Direct download: <http://bit.ly/2sTleTF>
- Thuemmler C, Bai C, editors. **Health 4.0: How Virtualization and Big Data are Revolutionizing Healthcare** Heidelberg: Springer; 2017.
Abstract: This book describes how the creation of new digital services - through vertical and horizontal integration of data coming from sensors on top of existing legacy systems - that has already had a major impact on industry is now extending to healthcare. The book describes the fourth industrial revolution (i.e. Health 4.0), which is based on virtualization and service aggregation. It shows how sensors, embedded systems, and cyber-physical systems are fundamentally changing the way industrial processes work, their business models, and how we consume, while also affecting the

health and care domains. Chapters describe the technology behind the shift of point of care to point of need and away from hospitals and institutions; how care will be delivered virtually outside hospitals; that services will be tailored to individuals rather than being designed as statistical averages; that data analytics will be used to help patients to manage their chronic conditions with help of smart devices; and that pharmaceuticals will be interactive to help prevent adverse reactions. The topics presented will have an impact on a variety of healthcare stakeholders in a continuously global and hyper-connected world.

www.springer.com/de/book/9783319476162 (\$)

Direct download: chapter 2: Health 4.0: Application of Industry 4.0 Design Principles in Future Asthma Management (<http://bit.ly/2ti3a4R>) (free example)

- Elenko E, Underwood L, Zohar D. **Defining digital medicine**. Nat Biotech. 2015 May;33(5):456-61.
First paragraph: Technology has already transformed the social fabric of life in the twenty-first century. It is now poised to profoundly influence disease management and healthcare. Beyond the hype of the 'mobile health' and 'wearable technology' movement, the ability to monitor our bodies and continuously gather data about human biology suggests new possibilities for both biomedical research and clinical practice. Just as the Human Genome Project ushered in the age of high-throughput genotyping, the ability to automate, continuously record, analyze and share standardized physiological and biological data augurs the beginning of a new era—that of high-throughput human phenotyping. [...]
<https://doi.org/10.1038/nbt.3222>
Direct download: <http://go.nature.com/1ctRZOc> (\$)
- Blasimme A, Vayena E. **Becoming partners, retaining autonomy: ethical considerations on the development of precision medicine**. BMC Medical Ethics. 2016 Nov 4;17(1):67
Abstract: Precision medicine promises to develop diagnoses and treatments that take individual variability into account. According to most specialists, turning this promise into reality will require adapting the established framework of clinical research ethics, and paying more attention to participants' attitudes towards sharing genotypic, phenotypic, lifestyle data and health records, and ultimately to their desire to be engaged as active partners in medical research.
Notions such as participation, engagement and partnership have been introduced in bioethics debates concerning genetics and large-scale biobanking to broaden the focus of discussion beyond individual choice and individuals' moral interests. The uptake of those concepts in precision medicine is to be welcomed. However, as data and medical information from research participants in precision medicine cohorts will be collected on an individual basis, translating a participatory approach in this emerging area may prove cumbersome. Therefore, drawing on Joseph Raz's perfectionism, we propose a principle of respect for autonomous agents that, we reckon, can address many of the concerns driving recent scholarship on partnership and public participation, while avoiding some of the limitations these concept have in the context of precision medicine. Our approach offers a normative clarification to how becoming partners in precision is compatible with retaining autonomy.
Realigning the value of autonomy with ideals of direct engagement, we show, can provide adequate normative orientation to precision medicine; it can do justice to the idea of moral pluralism by stressing the value of moral self-determination: and, finally, it

can reconcile the notion of autonomy with other more communitarian values such as participation and solidarity.

<https://doi.org/10.1186/s12910-016-0149-6>

Direct download: <https://bmcomedethics.biomedcentral.com/track/pdf/10.1186/s12910-016-0149-6?site=bmcomedethics.biomedcentral.com> (cut & paste url)

- Mayer P, Panek P. [**Should assistive robots have a "personality" ? : Potential of simplified robot personalities**]. Z Gerontol Geriatr. 2016 Jun;49(4):298-302.
Article in German: **Sollten Assistenzroboter eine "Persönlichkeit" haben ?**
Abstract: Das Forschungsprojekt "HOBbit" der Europäischen Union (EU) hat Prototypen von assistiven Robotern zur Unterstützung eines sicheren und selbstständigen Lebens entwickelt und bei älteren Personen in der häuslichen Umgebung Hause getestet.
Im Projekt „personAAL“ wurde untersucht, ob verschiedene Verhaltensweisen eines solchen Roboterprototyps („Persönlichkeiten“) bei ansonsten gleicher Funktion (Überbringen einer Nachricht) von Testpersonen (TP) als unterschiedliche „Persönlichkeiten“ wahrgenommen werden.
Der Roboter wurde mit 2 Verhaltensweisen ausgestattet: einmal introvertiert (rein funktionsorientiert, nüchtern sachlich) und das andere Mal extrovertiert (lebendig, angereichert) und 13 Testpersonen (größtenteils älteren Personen bzw. Experten und Expertinnen aus dem Pflegebereich) vorgeführt.
Zwölf der 13 TP nahmen den Unterschied im Verhalten wahr. Eine TP präferierte den introvertierten Roboter, 9 den extrovertierten, und 3 hatten keine Präferenz oder machten diese von der konkreten Situation abhängig. Die Auswertung ergab bei den Teilfragen „Anthropomorphismus“ und „Belebtheit“ sowie in der Gesamtbewertung signifikante Wahrnehmungsunterschiede. Bemerkenswert ist, dass für die Teilfragen „Sympathie“ und „Sicherheit“ keine signifikanten Unterschiede festgestellt wurden. Es gab keinerlei signifikante Korrelation zwischen dem bevorzugten Verhalten des Roboters und der Selbsteinschätzung der TP als intro- oder extrovertiert.
Aus dem Ergebnis kann vermutet werden, dass die Akzeptanz eines Roboters nicht rein von der nüchternen Funktion, die natürlich Voraussetzung ist, abhängt. Daher wird es sinnvoll sein, für eine höhere Akzeptanz verschiedene Verhaltensweisen zur Wahl zu stellen.
English abstract: available on the HTML version
<https://doi.org/10.1007/s00391-016-1068-3>
Direct download: <http://bit.ly/2ulPhro>
- Bischoff A. **Nutzen und Risiken der Telemedizin**. MMW - Fortschritte der Medizin. 2016 May 1;158(10):18-9.
Abstract: Viele Hoffnungen verbinden sich mit der Telemedizin. So können Patienten z. B. engmaschiger überwacht werden, die medizinische Versorgung wird besser zugänglich und Patienten können im diagnostischen und therapeutischen Prozess eine aktivere Rolle spielen. Andererseits bleibt der Schutz der Patientendaten ein heikles Thema, wie Dr. Johannes Schenkel auf dem diesjährigen Kongress der Deutschen Gesellschaft für Innere Medizin berichtete
<https://doi.org/10.1007/s15006-016-8250-9>
Direct download: <http://bit.ly/2uc1NcA> (\$)
- Simon P. **Télé médecine: enjeux et pratiques**. Brignais, France: Le Coudrier; 2015.
Abstract: En médecine comme dans d'autres secteurs, les technologies modernes de communication ont ouvert de nouvelles possibilités. Grâce à elles, de nombreuses

pratiques à distance ont vu le jour depuis les années 1990. Quelles sont ces pratiques ? Ont-elles fait leurs preuves ? Qu'apportent-elles aux patients, aux soignants et à la santé publique ? Feront-elles bientôt partie de notre quotidien ? Ce livre offre un point complet sur le sujet. Après avoir défini le champ et précisé les termes et les enjeux de la télémédecine, l'auteur raconte l'histoire des pays pionniers, dont fait partie la France. Il présente ensuite ce qu'il faut savoir des pratiques de télémédecine: la politique nationale, les cinq actes reconnus depuis 2010, les responsabilités engagées et la façon de mettre en œuvre un projet. Il termine l'ouvrage en détaillant les applications développées dans chaque spécialité et en présentant une sélection d'articles scientifiques pour chacune d'entre elles. [...]

www.edition-lecoudrier.fr/produit/7/9782919374069/Telemedecine%20-%20Enjeux%20et%20pratiques (\$)

- Flodgren G, Rachas A, Farmer AJ, Inzitari M, Shepperd S. **Interactive telemedicine: effects on professional practice and health care outcomes.** Cochrane Database of Systematic Reviews 2015, Issue 9. Art. No.: CD002098.
Abstract: Background: Telemedicine (TM) is the use of telecommunication systems to deliver health care at a distance. It has the potential to improve patient health outcomes, access to health care and reduce healthcare costs. As TM applications continue to evolve it is important to understand the impact TM might have on patients, healthcare professionals and the organisation of care. [...Authors' conclusions:] The findings in our review indicate that the use of TM in the management of heart failure appears to lead to similar health outcomes as face-to-face or telephone delivery of care; there is evidence that TM can improve the control of blood glucose in those with diabetes. The cost to a health service, and acceptability by patients and healthcare professionals, is not clear due to limited data reported for these outcomes. The effectiveness of TM may depend on a number of different factors, including those related to the study population e.g. the severity of the condition and the disease trajectory of the participants, the function of the intervention e.g., if it is used for monitoring a chronic condition, or to provide access to diagnostic services, as well as the healthcare provider and healthcare system involved in delivering the intervention.
<https://doi.org/10.1002/14651858.CD002098.pub2>
Direct download: <http://bit.ly/2thtWu1> (version full report)
Résumé en français:
http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD002098.pub2/full#fr_main_abstr act
Deutsch Zusammenfassung:
http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD002098.pub2/full#de_main_abstr act
- Kunz Westerhoff D, Atallah M, éditeurs. **L'homme-machine et ses avatars: Entre science, philosophie et littérature XVIIe-XXIe siècles.** Paris: Vrin; 2012.
Abstract: Dans le contexte de la révolution galiléenne, Descartes a fondé une anthropologie mécaniste qui n'a cessé de se redéfinir au fil des découvertes scientifiques et des controverses qu'elle a suscitées: après l'Homme-Machine, est venu l'Homme Électrique, puis l'Homme Cybernétique. Ces avatars signalent la constante réévaluation, la mesure toujours reprise d'une métaphore originaire, à la fois féconde et insuffisante, heuristique et limitée. Au carrefour des sciences humaines, des sciences et de l'ingénierie, il s'agit d'historiciser cette construction culturelle au long cours, jusqu'à la robotique bio-inspirée et à l'hybridation contemporaine du corps et de la technologie. L'approche littéraire en éclaire, elle, toute la dimension imaginaire: de

l'automate parleur au cyborg, l'innovation scientifique est indissociable, sinon indiscernable, d'une saillance de la fiction. Fable philosophique, poésie scientifique, roman libertin, conte fantastique, théâtre satirique, roman social ou science-fiction: ces différents genres font ainsi valoir la compétence de la littérature pour penser la culture de l'homme-machine, et pour faire émerger le mécanique, le non-mécanique, ou l'anti-mécanique, comme autant de procès d'humanisation opérés par la pratique symbolique.

www.vrin.fr/book.php?code=9782711623495 (\$)

- Chen Y, Elenee Argentinis JD, Weber G. **IBM Watson: How Cognitive Computing Can Be Applied to Big Data Challenges in Life Sciences Research**. Clin Ther. 2016 Apr;38(4):688-701.
Abstract: Life sciences researchers are under pressure to innovate faster than ever. Big data offer the promise of unlocking novel insights and accelerating breakthroughs. Ironically, although more data are available than ever, only a fraction is being integrated, understood, and analyzed. The challenge lies in harnessing volumes of data, integrating the data from hundreds of sources, and understanding their various formats. New technologies such as cognitive computing offer promise for addressing this challenge because cognitive solutions are specifically designed to integrate and analyze big datasets. Cognitive solutions can understand different types of data such as lab values in a structured database or the text of a scientific publication. Cognitive solutions are trained to understand technical, industry-specific content and use advanced reasoning, predictive modeling, and machine learning techniques to advance research faster. Watson, a cognitive computing technology, has been configured to support life sciences research. This version of Watson includes medical literature, patents, genomics, and chemical and pharmacological data that researchers would typically use in their work. Watson has also been developed with specific comprehension of scientific terminology so it can make novel connections in millions of pages of text. Watson has been applied to a few pilot studies in the areas of drug target identification and drug repurposing. The pilot results suggest that Watson can accelerate identification of novel drug candidates and novel drug targets by harnessing the potential of big data.
<https://doi.org/10.1016/j.clinthera.2015.12.001>
Direct download: <http://bit.ly/2ulXMTp>
- Haim M, Arendt F, Scherr S. **Abyss or Shelter? On the Relevance of Web Search Engines' Search Results When People Google for Suicide**. Health Commun. 2017 Feb;32(2):253-8.
Abstract: Despite evidence that suicide rates can increase after suicides are widely reported in the media, appropriate depictions of suicide in the media can help people to overcome suicidal crises and can thus elicit preventive effects. We argue on the level of individual media users that a similar ambivalence can be postulated for search results on online suicide-related search queries. Importantly, the filter bubble hypothesis (Pariser, 2011) states that search results are biased by algorithms based on a person's previous search behavior. In this study, we investigated whether suicide-related search queries, including either potentially suicide-preventive or -facilitative terms, influence subsequent search results. This might thus protect or harm suicidal Internet users. We utilized a 3 (search history: suicide-related harmful, suicide-related helpful, and suicide-unrelated) × 2 (reactive: clicking the top-most result link and no clicking) experimental design applying agent-based testing. While findings show no influences either of search histories or of reactivity on search results in a subsequent situation, the presentation of

a helpline offer raises concerns about possible detrimental algorithmic decision-making: Algorithms "decided" whether or not to present a helpline, and this automated decision, then, followed the agent throughout the rest of the observation period. Implications for policy-making and search providers are discussed.

<https://doi.org/10.1080/10410236.2015.1113484>

Direct download: <http://bit.ly/2tPqGlg> (\$)

- Onose G, Cârdei V, Crăciunoiu ȘT, Avramescu V, Opreș I, Lebedev MA, et al.
Mechatronic Wearable Exoskeletons for Bionic Bipedal Standing and Walking: A New Synthetic Approach. Front Neurosci. 2016;10:343.
Abstract: During the last few years, interest has been growing to mechatronic and robotic technologies utilized in wearable powered exoskeletons that assist standing and walking. The available literature includes single-case reports, clinical studies conducted in small groups of subjects, and several recent systematic reviews. These publications have fulfilled promotional and marketing objectives but have not yet resulted in a fully optimized, practical wearable exoskeleton. Here we evaluate the progress and future directions in this field from a joint perspective of health professionals, manufacturers, and consumers. We describe the taxonomy of existing technologies and highlight the main improvements needed for the development and functional optimization of the practical exoskeletons.
<https://doi.org/10.3389/fnins.2016.00343>
Direct download: <http://bit.ly/2vfUJZo>
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Tuberculosis control, and the where and why of artificial intelligence. ERJ Open Res. 2017 Apr;3(2).
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Abstract: Benefits from mental health early interventions may not be sustained over time, and longer-term intervention programs may be required to maintain early clinical gains. However, due to the high intensity of face-to-face early intervention treatments, this may not be feasible. Adjunctive Internet-based interventions specifically designed for youth may provide a cost-effective and engaging alternative to prevent loss of

intervention benefits. However, until now online interventions have relied on human moderators to deliver therapeutic content. More sophisticated models responsive to user data are critical to inform tailored online therapy. Thus, integration of user experience with a sophisticated and cutting-edge technology to deliver content is necessary to redefine online interventions in youth mental health. This paper discusses the development of the moderated online social therapy (MOST) web application, which provides an interactive social media-based platform for recovery in mental health. We provide an overview of the system's main features and discuss our current work regarding the incorporation of advanced computational and artificial intelligence methods to enhance user engagement and improve the discovery and delivery of therapy content. [...Conclusions:] To date, the innovative MOST system has demonstrated viability in a series of clinical research trials. Given the data-driven opportunities afforded by the software system, observed usage patterns, and the aim to deploy it on a greater scale, an important next step in its evolution is the incorporation of advanced and automated content delivery mechanisms.

<https://doi.org/10.3389/fpsyg.2017.00796>

Direct download: <http://bit.ly/2tPeM10>

Pour aller plus loin... (liste non exhaustive)

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