CNR "Le tecnologie per la salute all'epoca del COVID-19"



Neuropsichiatria infantile nell'era COVID19: il ruolo della telemedicina

Child Neurology and Psychiatry in COVID19 Era: The Role of Telemedicine

Eugenia Conti, MD, PhD

23.05.2022









Mental Health Care in the frame of COVID19

COVID-19 pandemic has exposed crucial gaps in mental health care systems

- Increased fears of contracting COVID19
- the burden of quarantine requirements
- social distancing
- social isolation
- rising economic inequities
- unemployment
- new workplace requirements

Towards Telemedicine Shift

additional stressors brought on by the pandemic, which can exacerbate the symptoms of mental health conditions

Interest in web-based health service delivery has been growing in recent years: synchronous and asynchronous therapist contact via messaging, phone call, and videoconferencing; computer, web-based, and mobile delivery of therapy programs; virtual or augmented reality—based programs; computerized or web-based cognitive training, and web-based peer and social support groups

Philippe TJ et al. Digital Health Interventions for Delivery of Mental Health Care: Systematic and Comprehensive Meta-Review. JMIR Ment Health. 2022 May 12;9(5):e35159

Pre-Covid Exhisting telemedicine in Neurodevelopmental Disorders

Tele-practice is defined by the World Health Organization (WHO) as the delivery of services where 'a health care provider and a patient are separated by distance' (WHO 2016).

In many areas of healthcare, tele-practice emerged in the 1990s to address physical barriers of access to interventions.

(Cochrane et al. 2018, Glueckauf et al. 2002)

3 levels.

The Case of Autism

- •Surveillance of at risk population
- Assessment/Diagnosis
- Treatment/Rehabilitation

Pre-Covid Exhisting telemedicine. The case of Autism

Surveillance for at risk population.

Pablo Juárez et al. (2018), Early Identification of ASD through Telemedicine: Potential Value for Underserved Populations J Autism Dev Disord.

ASD cases identified via telemedicine were confirmed by in person evaluation. However, 20% of children diagnosed with ASD in-person were not diagnosed (20-34 mesi). Families indicated high levels of satisfaction.

Assessment/Diagnosis

Alfuraydan M et al (2020) Use of telehealth for facilitating the diagnostic assessment of Autism Spectrum Disorder (ASD): A scoping review. PLoS ONE

Real-Time method/ Store-and-Forward method as Naturalistic Observation Diagnostic Assessment (NODA) system to upload videos resulted in high agreement in terms of the diagnosis between remote methods and face to face methods

Treatment/Rehabilitation

Parsons D et al (2017). Parent-Mediated Intervention Training Delivered Remotely for Children With Autism Spectrum Disorder Living Outside of Urban Areas: Systematic Review. J Med Internet Res. There is preliminary evidence that parent-mediated intervention training delivered remotely may improve parent knowledge and outcome, though caution is needed in generalization of results due to low n. of RCT studies.

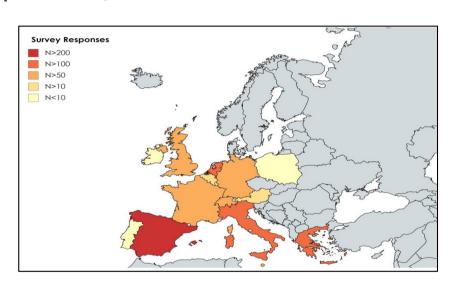
Oakley et al.2021

COVID19 Era: online platforms to investigate critical issues

Towards turning a tragedy into an opportunity

COVID-19 health and social care access for autistic people and individuals with intellectual disability: A European policy review.

Oakley, Bethany¹**., Tillmann, Julian^{2,3}*., Ruigrok, Amber N V⁴*., Baranger, Aurélie⁵., Takow, Christian⁵., Charman, Tony^{2,6}., Jones, Emily⁷., Cusack, James⁸., Doherty, Mary⁹., Violland, Pierre⁵, Agnieszka Wroczyńska¹⁰., Simonoff, Emily^{6,11}., Buitelaar, Jan^{12,13}., Gallagher, Louise¹⁴., Murphy, Declan^{1,6,15}., AIMS-2-TRIALS ECRAN & the AIMS-2-TRIALS Consortium



AIM2 Trials Consortium and ECRAN Network (Early Career Researchers in Autism Network)

The COVID-19 pandemic has emphasised healthcare inequalities for autistic people/ those with ID, likely contributing to disproportionate increases in morbidity and mortality in these groups. Current policies and guidelines regarding the accessibility of COVID-19 services require urgent revision to prevent exclusion of autistic people and those with ID from services

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Álvarez, Ruth C

Italian Contribution
Researchers in Autism Network and Early Career
Researchers in Autism Network and Support for this project. We shall be support for

Blazquez and Dominika Zofia Wojcik, Kathrin Hippler, Sonja Metzler.

COVID19 Era: Online Platform to keep in touch



Aims: Support families and health professionals in the field of Autism during pandemic; share diagnostic and treatment tools to be used, including remote tools. (Basecamp Platform)

Two meeting a week involving professionals; one meeting a week devoted to families/caregivers

Every meeting started with an artist opening the session, to integrate autism in everyday life and enlarge sensitivity in the general population

Zoom platform

Facebook group

UCLA Center for Autism Research &

Treatment

Association

Almost 6000 followers

au/how-can-we-help/covid-19-

https://www.semel.ucla.edu/

autism/covid-19-resources

information

COVID related online sources

Autism-specific resources	
US Department of Health & Human Services, Interagency Autism Coordinating Committee (IACC)	https://iacc.hhs.gov/resources/ coronavirus/
Autism Speaks	https://www.autismspeaks.org/ covid-19-information-and- resources
Autism Science Foundation	https://autismsciencefoundation. org/covid-19-resources/
Autism Society of America	https://www.autism-society.org/ covid-19/
UK National Autistic Society	https://www.autism.org.uk/ services/helplines/coronavirus.aspx
Canadian Autism Spectrum Disorders Alliance	https://www.casda.ca/resources/covid-19-navigation-guide/
Autism Spectrum Australia	https://www.autismspectrum.org.

COVID19 Era:

Online platforms for research data

COVID-19 and Autism Research: Perspectives from Around the Globe

David G. Amaral and Petrus J. de Vries (Co-Editors)

Contributors

David G. Amaral, Evdokia Anagnostou, Vanessa H. Bal, Josephine Barbaro, Angela B. Barber, Ricardo Canal-Bedia, Nola Chambers, Stephen R. Dager, Geraldine Dawson, John-Joe Dawson-Squibb, Petrus J. de Vries, Gabriel Dichter, Cheryl Dissanayake, Gauri Divan, Annette Estes, Dani Fallin, Lauren Franz, Naoufel Gaddour, Alan H. Gerber, Melissa Gilbert, Rebecca M. Girard, Ofer Golan, Johathan Green, Michal Harty, Jill Howard, Darren Hedley, Caitlin M. Hudac, Susan M. Hayward, Lisa V. Ibanez, Hiroshi Ishiguro, Angelina Kakooza Mwesige, Yoko Kamio, Rajesh K. Kana, Jennifer L. Keluskar, Daniel P. Kennedy, Connor M. Kerns, Jessica Kinard, Genevieve Konopka, Frank Kooy, Hirokazu Kumazaki, Janet E. Lainhart, Lauren P. Lawson, Kathy Leadbitter, Matthew D. Lerner, Katherine A. Loveland, Maria Magan-Maganto, Masaru Mimura, Peter Mundy, Taro Muramatsu, Declan Murphy, Bethany Oakley, Sarah O'Kelley, Kally C. O'Reilly, Seon-Hye E. Park, Alexia Rattazzi, Melanie Ring, Reetabrata Roy, Amber Ruigrok, Nancy Sadka, Diana Schendel, Liezl Schlebusch, Alison Singer, Tanya St. John, Wendy L. Stone, Helen Tager-Flusberg, Carol Taylor, Julian Tillmann and the AIMS-2-TRIALS Consortium, Theodore S. Tomeny, Danielle Toth, Katy Unwin, Vivek Vajaratkar, Jeremy Veenstra-VanderWeele, Marisa Viljoen, Heather Volk, Susan W. White, Andrew J. O. Whitehouse, Christine Wu Nordahl, Yuichiro Yoshikawa

Introduction

David G. Amaral and Petrus J. de Vries²

¹Department of Psychiatry and Behavioral Sciences, The MIND Institute, UC Davis, Sacramento, California, USA ²Centre for Autism Research in Africa, Division of Child and Adolescent Psychiatry, University of Cape Town, South Africa

Last year around this time, in preparation for the INSAR2019 meeting in Montreal, we asked members of the Autism Research editorial board as well as the Associate Editors to write short comments on what they

considered to be the major gaps in autism research. The resulting Commentary was well received with nearly 3000 downloads. The INSAR meeting scheduled for Seattle in 2020 was, of course, cancelled due to the coronavirus pandemic. The pandemic has forced the reorganization and rethinking of all science, including autism research. To get a sense of how autism researchers are dealing with this unprecedented situation around the world, we asked for short comments about the situation from editorial board members, Associate Editors and from the INSAR Global Senior Leaders in Autism Research Committee, a relatively new INSAR initiative chaired by Petrus de Vries (South Africa) and Declan Murphy (UK). We will present perspectives by World Health Organization (WHO) Region.

Before going further, we must acknowledge that over and above the hardships for autism researchers across the globe, the pandemic has cost so much more to the more than 400,000 families worldwide that have suffered the death of a loved one. We offer our condolences to those families and to those who will befall a similar fate in the future. We also acknowledge the global economic burden of the pandemic, both as a result of COVID-19 and as a consequence of lockdown. This too will have a major impact on everyone, and perhaps disproportionately so on families who live with disabilities and those in low-

The contributions that make up the remainder of this and middle-income countries. commentary are in equal parts frightening and inspiring. On the down side, they talk about the difficulties in conducting autism research when social distancing is in place and when participants must wear masks. How does one recruit young subjects if the ADOS cannot be done with masked individuals? There is also the concern that, given the overall frightening environment of the current situation, it may be difficult to interpret behavioural research results. For example, are measures of anxiety now reflecting a trait of an individual or the state of heightened angst resulting from dealing with the virus? Others worry that the enormous costs of dealing with

From the Department of Psychiatry and Behavioral Sciences, The MIND Institute, UC Davis, Sacramento, California, USA (D.G.A.); Centre for Autism Research in Africa. Division of Child and Adolescent Psychiatry. University of Cape Town. South Africa (P.I.d.V.) Research in Africa, Division of Child and Adolescent Psychiatry, University of Cape Town, South Africa (P.J.d.V.)

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Childhood Disability in the Era of COVID-19 (20 May 2021) Thematic Day

Site closures and physical distancing measures have impacted the running of projects and forced to re-think research design.

- What does social-skills training look like at a time of social distancing?
- How could an early intervention program be implemented without its trained team?
- How could treatments requiring clinic-based equipment be implemented?

COVID19 Era: Italian Experiences

Online platforms for research data







Article

Behavioural and Emotional Changes during COVID-19 Lockdown in an Italian Paediatric Population with Neurologic and Psychiatric Disorders

Eugenia Conti ¹, Giuseppina Sgandurra ^{1,2}, Giacomo De Nicola ³, Tommaso Biagioni ^{2,†}, Silvia Boldrini ^{2,†}, Eleonora Bonaventura ^{2,†}, Bianca Buchignani ^{2,†}, Stefania Della Vecchia ^{2,†}, Francesca Falcone ^{2,†}, Caterina Fedi ^{2,†}, Marisa Gazzillo ^{2,†}, Gemma Marinella ^{2,†}, Cristina Mazzullo ^{2,†}, Jessica Micomonaco ^{2,†}, Gloria Pantalone ^{2,†}, Andrea Salvati ^{2,†}, Gianluca Sesso ^{2,†}, Valerio Simonelli ^{2,†}, Greta Tolomei ^{2,†}, Irene Troiano ^{2,†}, Giovanni Cioni ^{1,2}, Gabriele Masi ¹, Filippo Muratori ^{1,2}, Annarita Milone ^{1,*} and Roberta Battini ^{1,2,*}

Developmental
age
neuropsychiatric
population
including
neurodevelopmen
tal disorders and
pscyhopatologies



Study conducted by IRCCS Stella Maris Residents during the first Lockdown. Demographic infos were collected through EACD survey https://edu.eacd.org/covid19-survey 700 families contacted



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Conference paper

DEVELOPMENTAL PSYCHOPATHOLOGY IN THE COVID-19 PERIOD. COVID-19 PANDEMIC IMPACT ON CHILDREN AND ADOLESCENTS' MENTAL HEALTH

Stefano Vicari^{1,2}, & Maria Pontillo¹

¹Child and Adolescent Neuropsychiatry Unit, Department of Neuroscience, Bambino Gesù Children's Hospital, IRCSS, Rome, Italy

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SUMMARY

Over the past year, the novel coronavirus (COVID-19) pandemic has forced many world countries, including Italy, to take strict restrictive measures as lockdown and social distancing. Children and adolescents exposed to the COVID-19 pandemic and social distancing would appear to be at greater risk of developing psychiatric disorders. In the last year, the Child and Adolescence Neuropsychiatry service at the Children's Hospital Bambino Gesù in Rome has recorded a significant increase in cases of mood disorders, self-injurious behaviors and suicidal ideation. These data underlined the need to define tailor-made intervention strategies for children and adolescents during this time of social and health emergency.

Obsessive-Compulsive Problems Post-traumatic Stress Problems Thought Problems

■ Pre-Lockdown ■ During-Lockdown

Financial hardship was related to **psychiatric symptoms increasing** in the **6–18 years** subpopulation.

COVID19 Era: Italian Experiences

Online platforms for research data





Article

Parental Distress in the Time of COVID-19: A Cross-Sectional Study on Pediatric Patients with Neuropsychiatric Conditions during Lockdown

Gianluca Sesso ^{1,2,†}, Eleonora Bonaventura ^{1,2,†}, Bianca Buchignani ^{1,2,†}, Stefania Della Vecchia ^{1,2,†}, Caterina Fedi ^{1,2,†}, Marisa Gazzillo ^{1,2,†}, Jessica Micomonaco ^{1,2,†}, Andrea Salvati ^{1,2,†}, Eugenia Conti ², Giovanni Cioni ^{1,2}, Filippo Muratori ^{1,2}, Gabriele Masi ², Annarita Milone ² and Roberta Battini ^{1,2,*}

PSI = parental stress index questionnaire.

Internalizing problems were among the strongest predictors of parental stress during lockdown

Their detection is mandatory during emergency situations to prevent parent pressure

COVID19 Era: Italian Experiences. ASD surveillance-research data



community case study published: 26 November 2020 doi: 10.3389/fpsyt.2020.565999



Moving Toward Telehealth Surveillance Services for Toddlers at Risk for Autism During the COVID-19 Pandemic

Eugenia Conti¹, Natasha Chericoni¹, Valeria Costanzo¹, Roberta Lasala¹, Alice Mancini¹, Margherita Prosperi^{1,2}, Raffaella Tancredi¹, Filippo Muratori^{1,2}, Sara Calderoni^{1,2*} and Fabio Apicella¹

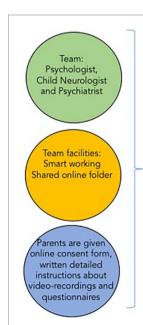
Surveillance protocol for toddlers at risk for autism (EARLY BIRD 02355263-3 project NET-2013) has been readapted to be delivered from remote.

Aims:

- maintain regular contact and support families
- evaluate the feasibility of an online surveillance protocol for toddlers at risk for autism and obtain evaluations at the timepoints established by the project;
- assess family feedback

Conti et al.

Telehealth Surveillance for Toddlers at Risk for Autism



Remote Surveillance Protocol (RSP)

1st online session: 15 minutes online recording parent-child play



Team meeting: team discussion about ASD risk according to ADOS toddler



2nd online session: Hystory, clinical data and Vineland2 administration



3rd online session: Socio-Emotional Bayley III Interview and ASD behavioural risk assessment



Team meeting: discussion about ASD risk on the data collection; decision point about necessity to switch to live visit according to risk rate

4th online session: parents feedback about online protocol and discussion about developmental concerns (if present).

FIGURE 1 | Schematic representation of the remote surveillance protocol (RSP).

COVID19 Era: Italian Experiences. ASD Remote Treatment

Parents involvement in early intervention in Autism Field: efficacy evidences and clinical experience in COVID 19 Era. Colombi C, Contaldo A. Prospettive in Pediatria.

gennaio-marzo 2021 · Vol. 51 · N. 201 · P. 1-8 Prospettive in Pediatria Neuropsichiatria infantile Il coinvolgimento dei genitori nel trattamento precoce dell'autismo: Costanza Colombi^{1,2} Annarita Contaldo³ evidenze di efficacia Department of Psychiatry. University of Michigan, Ann Arbor MI, USA: 2IRCCS ed esperienze nell'epoca Fondazione Stella Maria Calambrone (Pisa): 3 Istituto di Riabilitazione di Calambrone, del COVID-19

IRCCS Fondazione Stella Maris,

Long distance therapy experiences implemented during COVID-19 health emergency are discussed.

Parents reported to feel empowered in their coping strategies

Individual QI projects from single institutions



Standardized Neurodevelopmental Surveillance of High-risk Infants Using Telehealth: Implementation Study during COVID-19

Nathalie L. Maitre, MD, PhD*†‡; Kristen L. Benninger, MD*; Mary Lauren Neel, MD*; Jennifer A. Haase, MD†; Lindsay Pietruszewski, DPT*; Katelyn Levengood, DPT*; Kathleen Adderley, MM, MT-BC*; Nancy Batterson, OT/L, SCFES, CLC*; Kaleigh Hague, MA, MT-BC, CCRC*; Megan Lightfoot, MT-BC*; Sarah Weiss, RN, BSN‡; Dennis J. Lewandowski, PhD*; Heather Larson, BS§

Standardized Neurodevelopmental Surveillance of High-risk Infants Using Telehealth **Pediatric Quality and Safety** Other (interim) visits 9-12 month visit 3-4 month visit HINE HINE ITSP, ITSP, **CBCL** CBCL. HINE HINE HINE HINE PLS or DAYC **GMA GMA** Bayley or **PDMS** DAYC **TIMP** DAYC Telehealth In person

Fig. 2. Schedule of standardized high-risk infant follow-up visits with assessments. Bayley, Bayley Scales of Infant and Toddler Development; CBCL, Child Behavior Checklist; ITSP, Infant Toddler Sensory Profile; PLS, Preschool Language Scales; PDMS, Peabody Developmental Motor Scales; TIMP, Test of Infant Motor Performance.

Implementation of telehealth for neurodevelopmental surveillance in a tertiary high-risk infant follow-up clinic successfully provided standardized and timely care during stay-at-home orders

COVID 19 Era: Beyond Autism

JMIR MHEALTH AND UHEALTH

Original Paper



Denis et al

2022

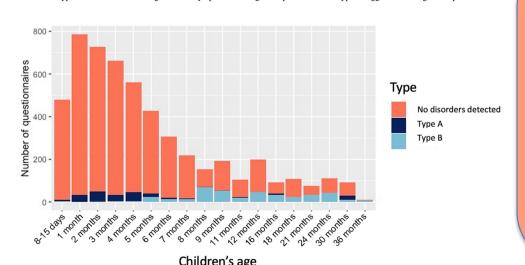
Early Detection of Neurodevelopmental Disorders of Toddlers and Postnatal Depression by Mobile Health App: Observational Cross-sectional Study

Fabrice Denis¹, MD, PhD; Laura Maurier¹, MD; Kevin Carillo², PhD; Roxana Ologeanu-Taddei², PhD; Anne-Lise Septans¹, PhD; Agnes Gepner³, MD; Florian Le Goff³, ING; Madhu Desbois³, MSc; Baptiste Demurger³, ING; Denise Silber^{4,5}, MBA; Jean-David Zeitoun⁶, MD, PhD; Guedalia Peretz Assuied⁷, MD; Olivier Bonnot⁸, MD, PhD

JMIR MHEALTH AND UHEALTH

Denis et a

Figure 2. Distribution of the notifications of possible neurodevelopmental disorders and their type according to the toddler's age. There were 2 types of notifications: type A recommended talking about the symptoms with a general practitioner and type B suggested meeting with a pediatrician.



The algorithm-based alert suggesting NDD was highly sensitive with good specificity as assessed by real-life practitioners. The app was also efficient in the early detection of post natal depression

COVID 19 Era: Beyond Autism







Article

Caregivers' Difficulty in Managing Smartphone Use of Children with Attention-Deficit/Hyperactivity Disorder during

the C Chilc Kliesener et al. BMC Psychiatry (2022) 22:195 https://doi.org/10.1186/s12888-022-03815-4

BMC Psychiatry

Jia-In Lee

RESEARCH

Open Access

45% of the smartph A short overprosignifical

Associations between problematic smartphone use and behavioural difficulties, quality of life, and school performance among children and adolescents

Tobias Kliesener^{1,2*}, Christof Meigen^{1,2}, Wieland Kiess^{1,2} and Tanja Poulain^{1,2}

Intensive smartphone use for entertainment may increase the risk of developing problematic smartphone use (PSU) symptoms. associated with more behavioural difficulties and poorer QoL.

COVID 19 Era: Motor Tele-rehabilitation



CASE REPORT

published: 14 October 2021 doi: 10.3389/fpsyg.2021.720677



Tele-Rehabilitation for Postural Control by Means of Virtual Reality Rehabilitation System in an Adolescent With Motor Disorder: A Case Study

Valentina Menici^{1†}, Veronica Barzacchi^{1†}, Silvia Filogna¹, Elena Beani¹, Francesca Tinelli¹, Giovanni Cioni^{1,2} and Giuseppina Sgandurra^{1,2*}



FIGURE 1 Timeline of the study. BBS, berg balance scale; FR, functional reach test; TUG, timed up and go; 6MWT, six-minute walk test; T0, baseline; T1, in the week after the end of the training; T2, 2 months after the end of the training.

COVID19 Era: Motor TeleRehabilitation-

VRRS: Virtual Reality Rehabilitation System

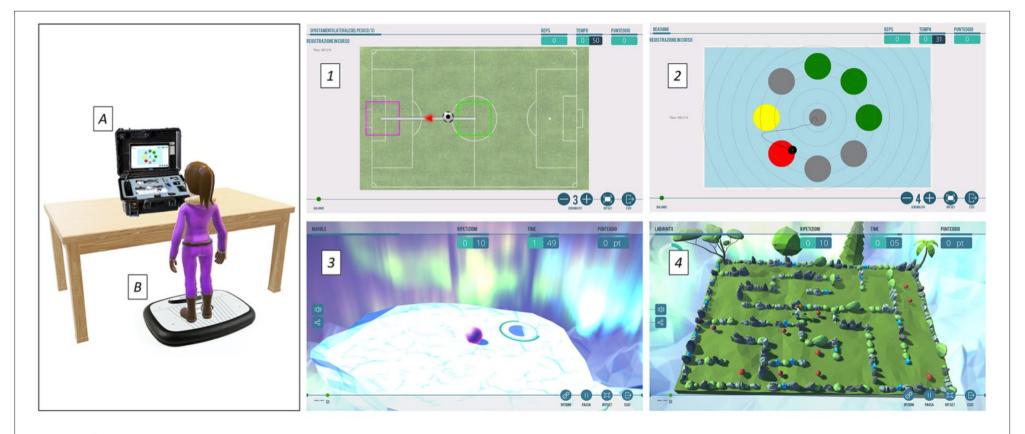


FIGURE 2 | On the (left), the setting of the home training with the VRRS HomeKit (A) and the stabilometric balance (B). On the (right), some examples of the proposed exercises: (1) Reaching points (R), (2) Reaching and (3), (4) two exercises of 3D environment. The figures of exercises are shown by permission of Khymeia.

VRRS HomeKit

Requirements: the need to have the line connection and free space at home, the presence of technical issues, and the education of parents and patients to understand the instructions. This study provides the basis for continuing the experience of tele-rehabilitation on patients with a motor disorder also by customizing the exercises to their characteristics

Post (?) COVID19 Era

Is "turning a tragedy into an opportunity" possible?

COVID 19 has highly impacted dayly life of children and adolescents, especially fragile categories

Use of telepratice has represented an important pathway towards "turning a tragedy into an opportunity"

Preliminary evidence of the last two years about efficacy of telemedine are starting to be available

it would be essential to provide appropriate tools for all families thus minimizing inequalities beyond guarantee adequate E-education within professionals in the field

and international research partnerships are critical to ensure best practices

While not forgetting the importance of live contacts, be ready to KEEP in wireless TOUCH!











