

A Big Opportunity for Healthcare Based on Portuguese Healthcare Experience

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ABSTRACT

Healthcare systems were surprised by a viral disease named COVID19. In all countries, worse or better all governments and health systems had to rapidly focus on saving the lives of the infected ones and screen and diagnose many suspected patients. As fast as possible, hospitals tried to improve their intensive care response, make beds available for COVID19 patients, and stop non-urgent activity to decrease COVID19 patient exposure and also free resources.

Keywords: COVID19; Pandemic; Healthcare innovation

INTRODUCTION

United around COVID19 management, government, healthcare administrators, healthcare professionals, professional associations, patients, pharmaceutical companies, and all sorts of businesses contributed to the combat of the pandemic, but also to suppress other patient needs. What all these stakeholders did and are doing together is overtaking barriers to patient-centered healthcare innovation. The pandemic had the advantage of focusing all stakeholders in increasing value to the patient through the unique way that value can be generated - collaboration and patient centricity. All of the following cases are relevant to increase value for the patients and value for the overall system even after the COVID19 pandemic.

MEDICATIONS DELIVERED AT PATIENTS HOME

Community pharmacies around the country in a more or less organized way started to deliver medicines at home. Additionally, patients started to use e-mails, websites, and apps to order medications. All these initiatives were set up to decrease patient exposure to COVID19, but can also in the future be in place to increase efficiency for pharmacies as well as for patients. In some cases, those initiatives were already in place at least as pilots.

Hospital pharmacies also started to deliver medications directly to patients home or through the community pharmacies. There is a need for a pharmacist to evaluate if the patients reveal any change in his/her disease condition, adverse events, or drug-drug interactions. Also, a pharmacist helpline guarantees the

coordination between hospital and community pharmacies. Apart from decreasing patient exposure to hospital infections, there is also the advantage to the patient not having to go to the hospital, sometimes once a month to collect the medication. In both cases, there is the need to guarantee patient support in case of any doubt regarding medication use and the need to report adverse events. Pharmacist video calls, phone calls, or periodic direct interaction at the pharmacy need to be possible.

HOME HOSPITALIZATION

Portugal had already started the movement for home hospitalization as a strategy to decrease the duration of patient stays at the hospital. This practice was being considered relevant to turn in-hospital beds more efficient and at the same time decrease the risk of hospital infections as well as increase patient comfort. Specific teams were formed and trained to care for patients at home, monitoring devices were put in place and frequent phone and video calls allow patients to stay at the comfort of their homes, improving recovery and decreasing exposure to hospital infections. The movement continued throughout the COVID19 pandemic and it was even used for recovery of a large percentage of COVID19 patients themselves. It was very relevant to decrease the risk of in-hospital transmission, and have beds free for the most serious patients.

ADOPTION OF TELEMEDICINE

Thus, this study supports one of the methods to reducing noises and efficiently capturing the interactions. Precisely capturing valid interactions can support more accurate data used for

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reconstructing 3D chromatin conformation and acquiring exact interaction information between functional genes and transcription regulation elements. Therefore, more efficient and precise 3D genomic technologies are needed in the future.

PATIENT REMOTE TRIAGE

SNS24 phone line was already used by an increasing number of patients before the pandemic. It was avoiding emergency department use in some cases and, when it was needed, it made it more efficient for patients that can skip triage at the hospital and more efficient for the hospital because it guarantees an increased match between hospital supply and demand. During the pandemic, SNS24 was elected by the government as the priority channel to contact the health system. SNS24 operators used algorithms to decide if a patient was or not suspected of COVID19 and decided if the patient should be referred to a test center.

Despite some initial overload, an entire population was aware of the phone line and was somehow directed to use it in the first place. Dip-C [12]. However, single-cell Hi-C is far lower than bulk Hi-C in valid data (removing duplication) (20 K-1.9 M valid pairs), coverage and resolution (~100 kb) [13-17]. Currently, single-cell Hi-C technique still requires high skill operation. Operating on a single cell in a single well is low through-put and time-consuming. It is not easy to keep stable while output data is quite different, which is difficult to obtain relatively consistent data and results like bulk Hi-C. And in these single-cell Hi-C technologies, a single cell DNA needs 25-cycle PCR to yield enough DNA, which results in affecting influence the ratio of valid data and often produce abnormal fragments.

By adding unique label to the single cell in the population cells, and then mixing the labelled cells to operate, this can help to achieve high-efficient and high-throughput. High-fidelity genome-wide amplification prior to PCR can also increase the amount of DNA templates. Both are important improved directions of single-cell Hi-C need attention in the future.

STAKEHOLDER'S COLLABORATION

COVID19 pandemic turns the attention of everyone into the national health system. Under the threat of failure, especially at the level of intensive care units, everybody realized the importance of having an efficient and high-quality health system as well as the dedication and effort of healthcare professionals. As such, everybody united in spirit and actions trying to contribute with money, protection material, etc.

Additionally, many stakeholders found a way to collaborate. In some cases, it has to be said that, it was the national health system that opened the door to collaborate. All these moves were very important in the combat to the pandemic. It is important for the future, even without pandemic that the National Health System maintains the modesty to allow the stakeholders to collaborate. Due to a lack of trust, collaboration with pharmaceutical companies and other providers was very difficult to be established. Maybe this experience will allow the National Health Service and the other stakeholders to establish trust and replicate and generalize for the future the exercise of increasing value to the patients.

CONCLUSION

Moved by the pandemic experience of strong collaboration among internal and external stakeholders, it is the right time to accelerate the improvement of value creation for patients and the systems overall. This means improving quality and outcomes at an affordable cost for society.

REFERENCES

- Bernstein E, Caudy AA, Hammond SM, Hannon GJ. Role for a bidentate ribonuclease in the initiation step of RNA interference. *Nature*. 2001;409(6818):363-366.
- Girard A, Sachidanandam R, Hannon GJ, Carmell MA. A germline-specific class of smallRNAs binds mammalian Piwi proteins. *Nature*. 2006;442(7099):199-202.
- Ruby JG, Jan C, Player C, Axtell MJ, Lee W, Nusbaum C, et al. Large-scale sequencing reveals 21U-RNAs and additional microRNAs and endogenous siRNAs in *C. elegans*. *Cell*. 2006;127(6):1193-1207.
- Vagin VV, Sigova A, Li C, Seitz H, Gvozdev V, Zamore PD. A distinct small RNA pathway silences selfish genetic elements in the germline. *Science*. 2006;313(5785):320-324.
- Houwing S, Kamminga LM, Berezikov E, Cronembold D, Girard A, Elst HD, et al. A role for Piwi and piRNAs in germ cell maintenance and transposon silencing in Zebrafish. *Cell*. 2007;129(1):69-82.
- Aravin A, Gaidatzis D, Pfeffer S, Lagos-Quintana M, Landgraf P, Iovina N, et al. A novel class of smallRNAs bind to MILI protein in mouse testes. *Nature*. 2006;442(7099):203-207.
- Gu W, Lee HC, Chaves D, Youngman EM, Pazour GJ, Conte D, et al. CapSeq and CIP-TAP identify Pol II start sites and reveal capped small RNAs as *C. elegans* piRNA precursors. *Cell*. 2012;151(7):1488-1500.
- Gu W, Gallagher GR, Dai W, Liu P, Li R, Trombly MI, et al. Influenza A virus preferentially snatches noncoding RNA caps. *RNA*. 2015;21(12):2067-2075.
- Kapranov P, Cheng J, Dike S, Nix DA, Dutttagupta R, Willingham AT, et al. RNA Maps Reveal New RNAClasses and a Possible Function for Pervasive Transcription. *Science*. 2007;316(5830):1484-1488.
- Affymetrix ENCODE Transcriptome Project, Cold Spring Harbor Laboratory ENCODE Transcriptome Project. Post-transcriptional processing generates a diversity of 5'-modified long and short RNAs. *Nature*. 2009;457:1028-1032.
- Yu B, Yang Z, Li J, Minakhina S, Yang M, Padgett RW, et al. Methylation as a Crucial Step in Plant microRNA Biogenesis. *Science*. 2005;307(5711):932-935.
- Kirino Y, Mourelatos Z. Mouse Piwi-interacting RNAs are 2'-O-methylated at their 3' termini. *Nat Struct Mol Biol*. 2007;14(4):347-348.
- Gu W, Shirayama M, Conte D, Vasale J, Batista PJ, et al. Distinct argonaute-mediated 22G-RNA pathways direct genome surveillance in the *C. elegans* germline. *Mol Cell*. 2009;36(2):231-244.
- Pak J, Fire A. Distinct populations of primary and secondary effectors during RNAi in *C. elegans*. *Science*. 2007;315(5809):241-244.
- Gu W, Claycomb JM, Batista PJ, Mello CC, Conte D. Cloning Argonaute-associated smallRNAs from *Caenorhabditis elegans*. *Methods Mol Biol*. 2011;725:251-280.
- Kwon Y-S. Small RNA library preparation for next-generation sequencing by single ligation, extension and circularization technology. *Biotechnol Lett*. 2011;33(8):1633-1641.

17. Munafó DB, Robb GB. Optimization of enzymatic reaction conditions for generating representative pools of cDNA from small RNA. *RNA*. 2010;16(12):2537-2552.