

## CORONASYS INNOVATION SHEET 6

### ASIC- APP

#### Background

Covid-19 patients in intensive care units often develop Acute Respiratory Distress Syndrome (ARDS)<sup>12</sup>. Despite all the advances in intensive care medicine, the mortality rate of ARDS and resulting complications is still estimated at 25-50% depending on the severity<sup>34</sup>. Effective therapy is based on the timely detection of impending lung failure, early and appropriate treatment of the underlying disease, and adequate ventilation therapy to prevent further ventilation-associated lung damage<sup>567</sup>. The ASIC- App aims at assisting clinicians in early diagnosis of ARDS and therapeutic decision making in order to improve patients outcomes.

#### Features

The App screens the routine data of ICU patients (e.g. PEEP and oxygen settings of the ventilator, oxygenation, Horovitz- index, and other variables) for signs of early stages of ARDS. If it detects hints for ARDS it alerts the doctors via smartphone- before the patient's clinical condition deteriorates. It then suggests diagnostic pathways and therapeutic measures based on current guidelines<sup>8</sup>.

#### Potentials

The App can be a valuable addition to regular monitoring and diagnostic measures since it can help to detect changes in huge amounts of data. Particularly in times of overburdened health systems and staff shortages, its step by step guidance might be helpful in the early detection of ARDS. The App is free of charge<sup>9</sup>.

#### Points to consider

As of now, the app only operates on Apple- devices and requires iOS 8 or newer<sup>10</sup>. The App is currently only used in Germany and therefore certainly has to be adapted to other countries in terms of software compatibility. Although the developers<sup>11</sup> applied high standards for data protection, the local user has to check for potential security breaches and compliance with the data protection laws of the respective country. The app is relatively new, so some optimization potentials will only become apparent over time.

#### Conclusion

The App might be an addition to other monitoring and diagnosis tools if it is compatible with local technologies and data protection laws.

**State of information:** 01/09/2020

**Launch:** July 2020

**Country:** Germany

**Focus area:** Treatment

**Developers:**

- RWTH Aachen University clinic
- Healthcare IT solutions GmbH
- Federal Ministry for Education and Research

**Beneficiaries:**

- Clinicians
- Critically ill patients

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- <sup>9</sup> Apple Store (2020). ASIC App. Online: <https://apps.apple.com/de/app/asic-app/id1505315549> (09/01/2020)
- <sup>10</sup> Apple Store (2020). ASIC App. Online: <https://apps.apple.com/de/app/asic-app/id1505315549> (09/01/2020)
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- Healthcare IT solutions GmbH (2020): <https://www.hit-solutions.de/> [09/02/2020]
- Federal Ministry of Education and Research (2020): <https://www.bmbf.de/en/index.html> [09/02/2020]

### **Background on Innovation Sheet Series**

As part of a real-time evaluation of the SARS CoV 2 pandemic (with focus on epidemiological, medical, economical, societal, technical, and cultural developments in Germany and Armenia) the CoronaSys research team, under the leadership of Prof. Dr. Martin Voss, is conducting a continuous monitoring of developments and medical, technical, and social innovations concerning Covid-19.

Multiple national and international media outlets, research platforms, and scientific and organizational guidelines, briefs, and updates are screened to feed into this outlet. The rationale behind this is to support the projects' network partners in Armenia and Germany with short summaries of key developments and promising innovations that are shaping the global, German, and Armenian outbreak response and recovery.

The aim of these short briefs is to give condensed and structured information on selected innovations emerging out of the conducted horizon scanning. This could be mainstream big-ticket items or fringe subjects that are easily overlooked in the global flood of information. Some innovations will be followed through their evolution in time while others may only appear once. While subjectively selected, the briefs are descriptive in nature and leave analysis and critical interpretation to the reader. Network partners in both countries are invited to provide feedback on their interest areas and suggest particularly relevant topics for the CoronaSys Workshop series.

The CoronaSys Innovation Sheet Series is published by the [Academy of the Disaster Research Unit](#), which is, as a non-profit limited liability company, a spin-off of the [Disaster Research Unit](#) at the Free University of Berlin. The series is part of the research project "[CoronaSys](#): Addressing the corona pandemic in Armenia through systemic risk management", sponsored by the German Federal Ministry of Education and Research.

*If you have any questions, suggestions, or if you wish to be taken on (or off) the project mailing list for CoronaSys updates, innovation sheets, and workshop invitations, please send a message to Janina Schäfer ([schaefer@a-kfs.de](mailto:schaefer@a-kfs.de)). For general project inquiries, you may contact the team lead Sara Merkes ([merkes@a-kfs.de](mailto:merkes@a-kfs.de)) or the project lead Martin Voss ([voss@a-kfs.de](mailto:voss@a-kfs.de)).*

### Previous CoronaSys Innovation Sheets

- 1 "New" Antiviral Face Masks
- 2 "Dyphox" Surface Coating
- 3 MOVES SLC Portable ICU
- 4 Portable TRI- KLEEN 500UV
- 5 Convalescent plasma therapy

All previous CoronaSys Innovation Sheets are available online:

<http://coronasys.a-kfs.de/category/innovation-stream/>

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