

CORONASYS INNOVATION SHEET 22

IKKA SCORE

Background

Covid-19 diagnostics have been developed and improved with unprecedented speed. In addition to diagnostic tests, several scores have also been developed. But so far most of them focused on hospitalized patients or emergency room- patients and aimed at identifying those likely to develop complications or to guide clinical decision making¹²³⁴. The IKKA- score, developed by researchers at the University of Erlangen-Nuremberg⁵ and Ludwigs-Maximilians-University Munich⁶, aims at detecting those most at risk in everyday workplace settings.

Features

Most previously developed scores take into account comorbidities and sociodemographic information but also rely on clinical parameters such as O₂- saturation and laboratory tests to assess the patient's risk for severe Covid-19. Those data are not accessible in a primary prevention setting⁷. The IKKA- score, however, was specially developed for those settings. It consists of 4 categories: **I**mmunosuppression, **K**nown severity of any pre-existing condition, **K**nown risk factors as defined by the Robert Koch Institute (RKI)⁸, and **A**ge. Those categories are evaluated according to a point system. In a second step, the employee can then be allocated to one of four occupational groups which determine the possible fields of activity depending on his*her risk⁹.

Potentials

The score might be a practical tool in risk assessment for non-clinical settings and can provide helpful and time-efficient guidance for decision-making. Occupational physicians can thus work together with the company to look for risk-adapted fields of work for particularly vulnerable workers. The score could also contribute to a more unified decision-making basis in German companies. The score might be adopted in other countries or areas as well.

Points to consider

The numerical classification and assignment of the point values are mostly based on the authors' assessment due to the very limited evidence on COVID-19 so far. The score considers purely medical information and does not take into account socio-political or ethical considerations that might emerge¹⁰.

Conclusion

The score might provide guidance in alignment with the guidelines of the Federal Ministry of Labour and Social Affairs¹¹ and might be applicable to other settings as well.

State of information: 10/29/2020

Launch: October 2020

Country: Germany

Focus area: Diagnostics, Occupational medicine

Developers:

- Ludwigs-Maximilians-University Munich
- University of Erlangen-Nuremberg

Beneficiaries:

- (Occupational) physicians

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- ¹ ISRCTN Registry. "ISRCTN - ISRCTN66726260: Clinical Characterisation Protocol for Severe Emerging Infection." Accessed September 25, 2020. <https://doi.org/10.1186/ISRCTN66726260>.
- ² University of Liverpool News. "Discovery of Four COVID-19 Risk Groups Helps Guide Treatment - University of Liverpool News." News (blog), September 10, 2020. <https://news.liverpool.ac.uk/2020/09/10/discovery-of-four-covid-19-risk-groups-helps-guide-treatment/>.
- ³ Deutsches Ärzteblatt. "COVID-19: Einfacher Score kann schwere Verläufe vorhersagen." Deutsches Ärzteblatt, September 10, 2020. <https://www.aerzteblatt.de/nachrichten/116420/COVID-19-Einfacher-Score-kann-schwere-Verlaeufe-vorhersagen>.
- ⁴ mddionline.com. "Investigators Use AI to Develop Risk Score for COVID-19 Patients." mddionline.com, October 26, 2020. <https://www.mddionline.com/>.
- ⁵ fau.eu. "Friedrich-Alexander-Universität Erlangen-Nürnberg." Accessed October 29, 2020. <https://www.fau.eu/>.
- ⁶ "LMU Munich." Accessed October 29, 2020. <https://www.en.uni-muenchen.de/index.html>.
- ⁷ Ärzteblatt, Deutscher Ärzteverlag GmbH, Redaktion Deutsches. "Primärprävention: Score-System zur COVID-19-Risiko-Einschätzung." Deutsches Ärzteblatt, October 27, 2020. <https://www.aerzteblatt.de/nachrichten/117753/Primaerpraevention-Score-System-zur-COVID-19-Risiko-Einschaetzung>.
- ⁸ Robert Koch Institut. "SARS-CoV-2 Steckbrief zur Coronavirus-Krankheit-2019 (COVID-19) Stand: 30.10.2020" Accessed October 30, 2020. https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/Steckbrief.html#doc13776792bodyText15
- ⁹ Wolfschmidt, Anna, Uta Ochmann, Dennis Nowak, and Hans Drexler. "IKKA-Score zur Vereinheitlichung der Beurteilung des individuellen Risikos durch SARS-CoV-2 | ASU," October 20, 2020. <https://www.asu-arbeitsmedizin.com/praxis/zur-diskussion-gestellt-ikka-score-zur-vereinheitlichung-der-beurteilung-des-individuellen>.
- ¹⁰ Wolfschmidt, Anna, Uta Ochmann, Dennis Nowak, and Hans Drexler. "IKKA-Score zur Vereinheitlichung der Beurteilung des individuellen Risikos durch SARS-CoV-2 | ASU," October 20, 2020. <https://www.asu-arbeitsmedizin.com/praxis/zur-diskussion-gestellt-ikka-score-zur-vereinheitlichung-der-beurteilung-des-individuellen>.
- ¹¹ www.bmas.de. "BMAS - Homepage." Accessed October 29, 2020. <https://www.bmas.de/EN/Home/home.html>.

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). For general project inquiries, you may contact the team lead Sara Merkes (merkes@a-kfs.de) or the project lead Martin Voss (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
- 6 ASIC- App
- 7 BinaxNOW Antigen Test
- 8 Corona Traffic Light
- 9 Aproof at Home Antibody Test
- 10 IVAT Hygiene Tower
- 11 LY-CoV555 Antibody Treatment
- 12 4C Mortality Score
- 13 Regional Corona Prediction Model
- 14 Computer-designed Mini- Proteins
- 15 Covid-19 Simulator
- 16 Trimodulin
- 17 BNT162b2-Vaccine
- 18 SARS-COV-2 Rapidplex
- 19 European Corona- Map
- 20 FELUDA Paper Strip Test
- 21 Humanitarian Action Mapping Tool

All previous CoronaSys Innovation Sheets are available online:

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

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