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Nota di contenuto	Chapter 1Introduction -- Chapter 2 Literature and Media Based Review of Personal Protective Equipment 3D Printing Efforts during COVID-19 -- Chapter 3 3D Printing and other Manufacturing during COVID-19: Success Stories and Lessons Learned by Makers at the University of Cincinnati -- Chapter 4 The role of National Institutes of Health (NIH) 3D Print Exchange in supporting leadership and collaboration for frontline 3D printed personal protective equipment (PPE) efforts -- Chapter 5 Crisis Response 3D Printing: Developing and Producing a 3D-Printed Nasopharyngeal Swab for COVID-19 Diagnostic Testing -- Chapter 6 Rapid 3D Printing Response for Respiratory Support Apparatus Needs: Ventilators, Connectors, and Other Respiratory Support Devices -- Chapter 7 Practical Frontline 3D Printing in COVID Response at the Intensive Care Unit: Laryngoscopes and Beyond -- Chapter 8 Production of Protective Face Shields in Cincinnati, Ohio USA from the 1819 Innovation Hub at the University of Cincinnati -- Chapter 9 3D printing of Face Shields and Ear Tension relief devices during COVID-19 at the Touro College of Osteopathic Medicine -- Chapter 10 3D Printing in New York City during the Height of COVID-

	19: Realities and Success Stories from the Front Line -- Chapter 11 3D Printing of Open Source N95, Surgical and Community Mask Designs to Address COVID-19 Shortages -- Chapter 12 Sterilization 3D Printed Parts used as Medical Devices and in the COVID-19 Pandemic -- Chapter 13 3D Printing of Non-medical Devices during the COVID-19 pandemic -- Chapter 14 The Next Pandemic and Resilience through Strategic Manufacturing Reserves: Applying the Lessons of COVID-19 and Medical 3D Printing and other Manufacturing.
Sommario/riassunto	This book describes how “makers” with no medical experience became and remain clinically important because they utilized 3D printing to produce supplies for healthcare, including medical and non-medical devices, and to improve the quality of life for patients with COVID-19 and those who care for them. It shows how 3D printing became vital during the pandemic due to its broad availability and the inherently digital nature of the work that enables thriving digital exchanges and work in isolation. Subsequent chapters highlight some of the “maker” communities' efforts that made a difference in their part of North America. Each contribution describes the unique experiences, challenges, and successes. While this book is written and edited mostly from a medical perspective, additional input from medical engineers, administrators, attorneys, and public safety officials enables a broad perspective to highlight some of the ingenuity from the North American 3D printing community who responded to the initial case volumes of COVID-19. .