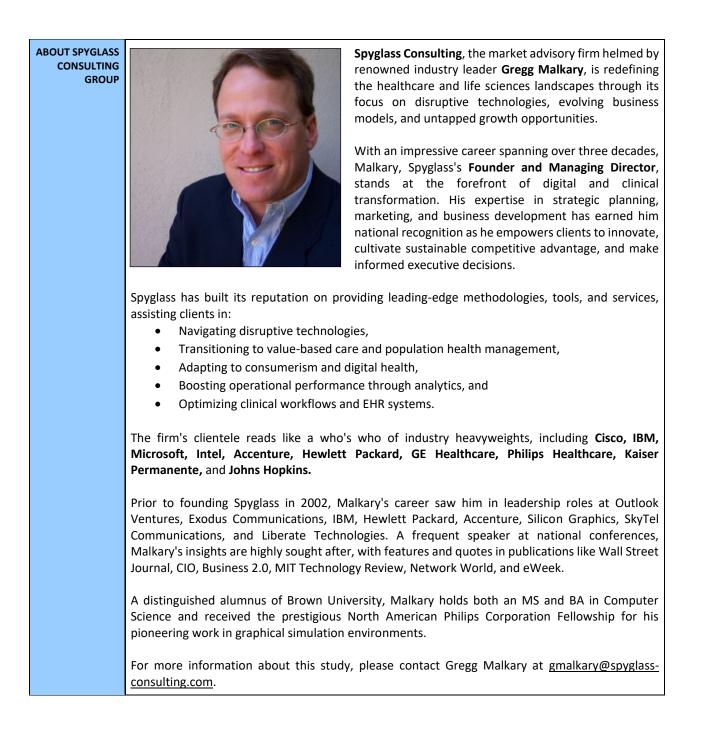
Healthcare without Bounds: Disruptions in Digital Patient Engagement 2023				
TITLE:	Disruptions in Digital Patient Engagement 2023			
AUTHOR:	Spyglass Consulting Group Gregg Malkary, Managing Director gmalkary@spyglass-consulting.com www.spyglass-consulting.com			
LENGTH:	117 Pages 52 Figures			
TYPE:	Study - Customer Needs and Strategies			
PUBLISHED:	April 2023			
PRICE	\$3,995 (US) Enterprise pricing available upon request			
STUDY OVERVIEW:	 Digital Patient Engagement solutions are poised to transform 21st century healthcare delivery and help healthcare provider organizations (HCOs) achieve the Quadruple AIM framework of reducing costs, improving care quality & outcomes, and increasing provider/patient satisfaction. Digital engagement solutions enable patients to take an active role in their own care, communicate with healthcare providers, access health information, and manage their health and wellness. These solutions include mobile apps, Telehealth, remote patient monitoring, patient portals, and consumer/medical-grade wearables. COVID-19 was a tipping point that resulted in HCOs accelerating their investments in digital patient engagement solutions and associated infrastructure to keep patients connected, safe, and productive while remaining physically and socially separated. These investments helped Support the transition toward emerging hybrid patient care models Reveal opportunities for clinical and technological innovation Stress test digital infrastructure for large-scale deployments Deliver equitable community-based care 			
	 While digital engagement solutions addressed short-term provider/patient needs during the height of the pandemic, many HCOs surveyed encountered significant change management and operational challenges when they attempted to deploy these solutions at-scale to support emerging hybrid care models. These challenges included: Lack of standardization Limited patient adoption Inadequate provider incentives, training, and support Inadequate support for underserved/low-income patients Underfunded digital health infrastructure investments 			

CTUDY/	
METHODOLOGY	 Disruptions in Digital Patient Engagement 2023 is an end-user market study focused on the current state of digital patient engagement solutions adoption by US-based healthcare provider organizations. The Spyglass report: Reveals important underlying market trends driving investments and usage of digital engagement solutions, Identifies insights into the opportunities, challenges, and best practices to support large-scale enterprise-wide deployments, and
	• Suggests how healthcare providers can make the necessary investments in digital tools and infrastructure to prepare their organizations for 21st century healthcare delivery.
	Methodology. The content for Disruptions in Digital Patient Engagement 2023 was derived from one hundred (100) in-depth interviews with clinical informatics and health IT thought leaders nationwide who are technically competent and knowledgeable about digital patient engagement technologies and emerging hybrid care models. Many were affiliated with leading health systems, academic medical centers, community hospitals, and ambulatory environments. The telephonic interviews were conducted over a six-month period between June and November 2022.
	 Key learning topics covered during the interviews included: Patient adoption. Are patients ready to adopt digital engagement solutions to take a more active role in managing their health?
	 Digital engagement solutions. Which digital solutions were successfully deployed during COVID-19? Digital health infrastructure. What new/incremental infrastructure investments did HCOs make to support hybrid care models during the pandemic?
	• Hybrid care models. Are providers embracing digital engagement solutions within their clinical workflows to support patient care?
	 Return on investment. Do digital engagement solutions provide a compelling ROI? Clinical efficacy. Have digital engagement solutions been demonstrated to improve care quality and outcomes?
	• Health equity. Are HCOs enhancing digital engagement solutions to address health inequities?
	Spyglass also evaluated key vendor product offerings and identified early adopter organizations that have successfully deployed these solutions.
TARGET AUDIENCE	• Software and hardware vendors, systems integrators and management consulting groups who are selling hardware, applications, and services into the healthcare industry
	• Healthcare administrators and IT executives who are making strategic decisions to fund clinical information technology solutions
	 Clinicians who are involved in informatics and clinical system evaluation and selection Investment banking and private equity investors



Disruptions in Digital Patient Engagement April 2023

Spyglass Consulting Group Gregg Malkary, Managing Director Menlo Park, CA

IN THIS STUDY	6
Methodology	6
Target Audience	7
INTRODUCTION	8
DEMOGRAPHICS	9
Acknowledgements1	4
MARKET STUDY RESULTS	6
INVESTMENT	6
Strategy. Have HCOs developed an enterprise-wide strategy for digital patient engagement?1	.6
Market Drivers. Which market factors are influencing HCO investments in digital engagement	
solutions?1	9
Solutions2	
Telehealth Video Conferencing2	1
Investment. Have HCOs invested or plan to invest in Telehealth video solutions?	
Vendor. Which Telehealth video solutions have been deployed?	
ROI. Does Telehealth provide a compelling return on investment?	9
Clinical Effectiveness. Is Telehealth clinically effective to support patient care?	1
Patient adoption. How has Telehealth adoption evolved pre-, during-, and post-COVID?3	3
Remote Patient Monitoring (RPM)3	6
Definition. What are RPM solutions?	6
Investment. Have HCOs invested or planned to invest in RPM solutions?	8
Market Drivers. Which market factors are influencing RPM investments?4	1
Vendor. Which RPM solution(s) have been deployed?4	2
ROI. Do RPM solutions provide a compelling return on investment?4	4
Conditions. Which patient conditions/disease states are targeted for RPM usage?4	7
Deployment Scope. How many RPM devices were deployed?	2
Clinical Effectiveness. Are RPM solutions clinically effective to support patient care?5	3
EHR-Based Patient Portal5	5
Investment. Have HCOs invested or planned to invest in EHR-based patient portals?5	5
ROI. Do patient portals provide a compelling return on investment?	8
Vendor. Which patient portal solutions have been deployed?	9
Clinical Effectiveness. Are patient portals clinically effective to support patient care?6	0
Patient Adoption. How has portal adoption evolved pre-, during-, and post-COVID?6	1
WEARABLES6	4

April 2023	Disruptions in Digital Patient Engagement	Page 4 of 73
ROI Clir	estment. Have HCOs invested or planned to invest in consumer wearables? I. Do consumer wearables provide HCOs with a compelling ROI? nical Effectiveness. Are consumer wearables clinically effective to support patien	67 t care? 69
Medic	cal Grade Wearables	71
ROI	estment. Have HCOs invested or planned to invest in medical-grade wearables? I. Do medical grade wearables investments provide a compelling ROI? nical Effectiveness. Are medical grade wearables clinically effective to support pa	75
POPULAT	ION HEALTH	78
Strate	gy. Have HCOs defined a population health vision, strategy, and plan?	78
	Adoption. Are patients with social determinants of health (SDOH) using digital t ss their healthcare needs?	
	ty. Are digital tools targeted at SDOH patients an investment priority over the ne	
HCO PAR	RTNERSHIPS/COLLABORATION	86
Retail	Health. Are HCOs collaborating with retail health to support patient care?	86
Payers	s. Are HCOs collaborating with payers to support hybrid care models?	89
STAFF EN	IGAGEMENT	92
Hybrid	d care models. Are clinicians embracing hybrid care models and digital engagem	ent tools?92
DIGITAL I	NFRASTRUCTURE	96
Cyber	security	96
Pric	estment. Do existing security tools adequately protect patient data and corpora prity. Is cybersecurity an investment priority over the next 12 to 18 months?	97
	tics	
	estment. Have HCOs invested or planned to invest in analytics to support patien gagement?	
	mer Relationship Management (CRM)	
	estment. Have HCOs invested or planned to invest in CRM Solutions?	
	ategy. Have HCOs developed a multi- or omni-channel communications strategy	
Cloud		110
	estment. Are HCOs committed to migrating their technology infrastructure and the cloud?	
S PYGLASS	s Outlook	113
ABOUT SP	PYGLASS CONSULTING GROUP	114
APPENDIX	(A: LIST OF FIGURES	115
	S	

April 2023

Disruptions in Digital Patient Engagement

Page 115 of 117

APPENDIX A: LIST OF FIGURES

FIGURE 1: HEALTHCARE PROFESSIONALS SURVEYED DISTRIBUTED BY WORKER TYPE?
FIGURE 2: HEALTHCARE PROFESSIONALS SURVEYED DISTRIBUTED BY SAMPLE JOB TITLES
FIGURE 3: HEALTHCARE PROFESSIONALS SURVEYED DISTRIBUTED BY GEOGRAPHIC LOCATION
FIGURE 4: HEALTHCARE PROFESSIONALS SURVEYED DISTRIBUTED BY HOSPITAL TYPE
FIGURE 5: HOSPITALS SURVEYED THAT ARE PART OF A LARGER HEALTH SYSTEM
FIGURE 6: HEALTHCARE PROFESSIONALS SURVEYED DISTRIBUTED BY HOSPITAL SIZE (# LICENSED BEDS)
FIGURE 7: HAVE HCOS DEVELOPED AN ENTERPRISE-WIDE STRATEGY FOR DIGITAL PATIENT ENGAGEMENT?
FIGURE 8: HAVE HCOS INVESTED OR PLAN TO INVEST IN TELEHEALTH VIDEO SOLUTIONS?
FIGURE 9: ARE TELEHEALTH VIDEO SOLUTIONS AN INVESTMENT PRIORITY OVER THE NEXT 12 TO 18 MONTHS?24
FIGURE 10: WHICH TELEHEALTH VIDEO SOLUTIONS HAVE BEEN DEPLOYED?
FIGURE 11: HOW MANY TELEHEALTH VIDEO SOLUTIONS HAVE BEEN DEPLOYED?
FIGURE 12: ARE HCOS PLANNING TO CONSOLIDATE THEIR TELEHEALTH VIDEO SOLUTIONS OVER THE NEXT 12 TO
18 MONTHS?
FIGURE 13: DO TELEHEALTH VIDEO SOLUTIONS PROVIDE A COMPELLING RETURN ON INVESTMENT?
FIGURE 14: IS THERE ADEQUATE REIMBURSEMENT TO JUSTIFY NEW/INCREMENTAL TELEHEALTH VIDEO
INVESTMENTS?
FIGURE 15: IS TELEHEALTH VIDEO CLINICALLY EFFECTIVE TO SUPPORT PATIENT CARE?
FIGURE 16: HOW HAS PATIENT TELEHEALTH VIDEO ADOPTION EVOLVED PRE-, DURING-, AND POST-COVID?35
FIGURE 17: HAVE HCOS INVESTED OR PLANNED TO INVEST IN RPM SOLUTIONS?
FIGURE 18: IS RPM AN INVESTMENT PRIORITY OVER THE NEXT 12 TO 18 MONTHS?
FIGURE 19: WHICH RPM SOLUTION(S) HAVE BEEN DEPLOYED?
FIGURE 20: DO RPM SOLUTIONS PROVIDE A COMPELLING RETURN ON INVESTMENT?
FIGURE 21: IS THERE ADEQUATE REIMBURSEMENT TO JUSTIFY NEW/INCREMENTAL RPM INVESTMENTS?46
FIGURE 22: WHICH PATIENT CONDITIONS/DISEASE STATES WERE TARGETED FOR RPM USAGE?
FIGURE 23: HOW MANY RPM DEVICES WERE DEPLOYED?
FIGURE 24: ARE RPM SOLUTIONS CLINICALLY EFFECTIVE TO SUPPORT CHRONICALLY ILL PATIENTS?
FIGURE 25: HAVE HCOS INVESTED OR PLANNED TO INVEST IN EHR-BASED PATIENT PORTALS?
FIGURE 26: ARE PATIENT PORTALS AN INVESTMENT PRIORITY OVER THE NEXT 12 TO 18 MONTHS?
FIGURE 27: DO PATIENT PORTALS PROVIDE A COMPELLING RETURN ON INVESTMENT?
FIGURE 28: WHICH EHR-BASED PATIENT PORTAL SOLUTIONS HAVE BEEN DEPLOYED?
FIGURE 29: ARE EHR-BASED PORTALS CLINICALLY EFFECTIVE TO SUPPORT PATIENT CARE?60
FIGURE 30: HOW HAS PATIENT PORTAL ADOPTION EVOLVED PRE-, DURING-, AND POST-COVID?63
FIGURE 31: HAVE HCOS INVESTED OR PLANNED TO INVEST IN CONSUMER WEARABLES TO SUPPORT PATIENT
CARE?
FIGURE 32: ARE CONSUMER WEARABLES AN INVESTMENT PRIORITY OVER THE NEXT 12 TO 18 MONTHS?
FIGURE 33: DO CONSUMER WEARABLES PROVIDE HCOS WITH A COMPELLING ROI?
FIGURE 34: IS THERE ADEQUATE PAYER REIMBURSEMENT FOR CONSUMER WEARABLES AND MONITORING TO
SUPPORT PATIENT CARE?
FIGURE 35: ARE CONSUMER WEARABLES CLINICALLY EFFECTIVE TO SUPPORT PATIENT CARE?
FIGURE 36: HAVE HCOS INVESTED OR PLANNED TO INVEST IN MEDICAL-GRADE WEARABLES TO SUPPORT PATIENT
CARE?

April 2023	Disruptions in Digital Patient Eng	gagement Page 116 of 117
FIGURE 37: ARE MEE	DICAL GRADE WEARABLES AN INVESTMENT PRIOF	RITY OVER THE NEXT 12 TO 18 MONTHS?74
FIGURE 38: DO MED	ICAL WEARABLES INVESTMENTS PROVIDE HCOS	WITH A COMPELLING ROI?76
FIGURE 39: IS THERE	ADEQUATE PAYER REIMBURSEMENT FOR MEDIC	AL WEARABLES AND MONITORING TO
SUPPORT PATIE	NT CARE?	
FIGURE 40: ARE MED	DICAL GRADE WEARABLES CLINICALLY EFFECTIVE	TO SUPPORT PATIENT CARE?77
FIGURE 41: HAVE HO	COS DEFINED A POPULATION HEALTH VISION, ST	RATEGY, AND PLAN?80
FIGURE 42: ARE PAT	IENTS WITH SOCIAL DETERMINANTS OF HEALTH ((SDOH) USING DIGITAL TOOLS TO ADDRESS
THEIR HEALTHC	ARE NEEDS?	
	ITAL ENGAGEMENT TOOLS TARGETED AT SDOH MONTHS?	
	OS COLLABORATING WITH RETAIL HEALTH ORGA	
FIGURE 45: ARE HCC	OS COLLABORATING WITH CMS AND 3 [№] PARTY	PAYERS TO SUPPORT DIGITAL ENGAGEMENT?
	NICIANS EMBRACING HYBRID CARE MODELS TO SU	
ENCOUNTERS?		95
	OS PROVIDING CLINICIANS WITH ADEQUATE TRA	
	TAL ENGAGEMENT TOOLS AND COMMUNICATION PORATE ASSETS?	
FIGURE 49: IS CYBER	SECURITY AN INVESTMENT PRIORITY OVER THE N	EXT 12 TO 18 MONTHS?99
	COS INVESTED IN ANALYTICS TO SUPPORT PATIE	
	EALTH?	
FIGURE 51: HAVE HO	COS INVESTED OR PLANNED TO INVEST IN CRM	TO SUPPORT PATIENT ENGAGEMENT? 104
	OS COMMITTED TO MIGRATING THEIR TECHNOL	