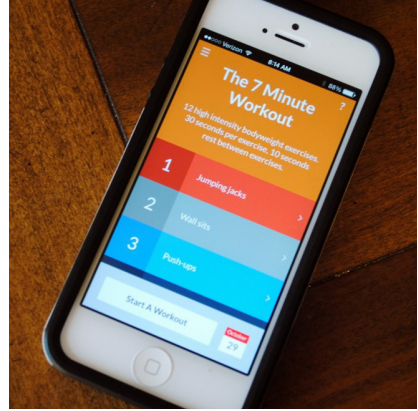


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U.S. HEALTH CARE TECHNOLOGIES

Quianta Moore, M.D.
Ashleigh Johnson, M.P.H.

U.S. HEALTH CARE TECHNOLOGIES

Technology has permeated every sector of the market, making services and goods faster, cheaper and mobile. Not surprisingly, advancements in technology have also increased access to health information and self-monitoring for individual consumers, as well as increased health care providers' ability to diagnose, monitor or treat their patients remotely. A plethora of health-related technology is available on the market. This brief summary provides a snapshot of the scope of what has been developed, which may also provide insight into the current needs or demands of patients and providers.

Methods: We performed a search for health technology available to consumers and health care providers. The terms health or technology, equipment, consumer, portable, top and available were entered into the Google search engine. Inclusion criteria for search results were: 1) technology was available for purchase by consumers or health care providers, and 2) technology was used to monitor, prevent, diagnose or treat health issues or to increase access to health care treatment or information. The equipment category was then further divided into: 1) equipment for health care providers, 2) equipment for consumers, 3) equipment for consumers focused on physical fitness, and 4) equipment for consumers that has yet to be publicly released.

We also performed a search for health technology mobile apps that are currently available for mobile use. The terms "health apps," "health mobile apps," "fitness apps," "health apps physicians," "health apps consult physicians," and "top mobile health apps," were entered into the Google, Apple store and Google Play search engines. Inclusion criteria for search results were: 1) the app was available for purchase by consumers or health care providers, and 2) the app was used to monitor, prevent, diagnose, or treat health issues or to increase access to health care treatment or information. The apps category was further divided into 1) consumer self-help apps, 2) consumer self-help apps focused on physical fitness, 3) apps connecting patients directly with health care providers, and 4) apps for health care providers.

Our search results presented numerous options for consumers, patients and health care providers to address a variety of health concerns and increase access to health care. The results also demonstrated a particular demand for health technology focused on physical fitness.

Costs listed are estimated based on information available on company websites. Exact costs may vary depending on retailer.

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Figure 1. Consumer Health Technology Equipment

Purpose	Name	Description	Cost	Company
Anemia Diagnosis	HemoGlobe	Worn on finger to measure blood oxygen level. Ability to sync with smartphone.	\$20.00	John Hopkins University
Blood Pressure Monitor	Blood Pressure Monitor	Worn on upper arm. Measures blood pressure and pulse rate. Ability to sync with smartphone, store data and share results with health care provider.	\$99.95	iHealth Lab
Blood Pressure Monitor	Blood Pressure Wrist Monitor	Worn on wrist. Measures blood pressure and pulse rate. Ability to sync with smartphone, store data and share results with health care provider.	\$79.95	iHealth Lab
Blood Pressure Monitor	PressureTel	Measures blood pressure. Ability to sync with smartphone and online BodyTel portal to store and analyze data. Used together with GlucoTel and WeightTel.	Undisclosed	BodyTel
Blood Pressure Monitor	Wireless Blood Pressure Monitor	Worn on arm. Measures blood pressure and provides appropriate feedback. Ability to sync with smartphone and share results with health care provider.	\$129.95	Withings
Body Analysis	Body Analysis Scale	Scale that measures body fat percentage, muscle mass, body water percentage, bone mass and daily caloric intake. Ability to sync with smartphone and option to share results with health care provider.	\$99.95	iHealth Lab
Body Analysis	FitBit Aria Scale	Scale measures and tracks weight, body mass index, lean mass and body fat percentage. Ability to recognize eight different users. Ability to sync with smartphone and Fitbit trackers and app.	\$129.95	FitBit
Body Analysis	Smart Body Analyzer	Scale measures weight, heart rate, indoor air quality and body fat percentage. Provides information about daily weather forecast. Ability to sync with smartphone.	\$149.95	Withings
Body Analysis	Wireless Scale	Scale measure weight and BMI. Ability to sync with smartphone.	\$99.95	Withings
Defibrillator	LifeVest	Wearable defibrillator that continuously monitor heart to detect abnormal heart rhythms. Upon detection of a life-threatening rhythm, an alert is given and if patient becomes unconscious an electric shock is given to restore normal rhythm.	Undisclosed	ZOLL

Figure 1. Consumer Health Technology Equipment

Purpose	Name	Description	Cost	Company
Electrocardiograph	AliveCor Heart Monitor	Handheld device, measures electrocardiogram (ECG) rhythm and heart rate (bpm). Ability to log and track symptoms, activities and medications. Ability to sync with smartphone and share information with health care provider.	\$74.99	AliveCor
Foot Dynamics Analysis	Sensor Insole	Insole is placed inside shoe to measure pressure, weight, balance and motion. Ability to sync with computer software to analyze results such as gait, running characteristics, balance training, jump power, muscle endurance, fatigue, takeoff and landing points.	Undisclosed	Moticon
Glucometer	GlucoTel	Measure blood glucose levels for diabetes patients. Ability to sync with smartphone and online BodyTel portal to store and analyze data. Used together with PressureTel and WeightTel.	Undisclosed	BodyTel
Glucometer	iHealth Align	Attached to smartphone's headphone jack to instantly display results of blood glucose levels. Ability to share results with health care provider.	\$16.95	iHealth Lab
Glucometer	Smart Gluco Monitoring System	Used on finger to measure blood glucose levels. Ability to sync with smartphone to log and manage glucose readings and record meals/medications, and to share results with health care provider.	\$29.95	iHealth Lab
Heart Rate Monitor	Rhythm+	Worn on wrist. Measures heart rate and has the ability to sync with smartphones, tablets, fitness equipment and watches.	\$79.99	Scosche
Heart Rate Monitor	Sensoria® Sports Bra and HRM	Heart rate monitor attaches to sports bra to track heart rate. Ability to sync with smartphone and other fitness apps.	\$149.00	Sensoria
Heart Rate Monitor	Sensoria® T-Shirt and HRM	Heart rate monitor attaches to t-shirt to track heart rate. Ability to sync with smartphone and other fitness apps.	\$149.00	Sensoria
Measure Head Impact Severity	CHECKLIGHT™	Sensor attached to helmet to log and record number of impacts. Sensors help reflect direct accelerations that the head experiences.	\$99.99	Reebok
Measure Head Impact Severity	Shockbox Helmet Sensor	Worn on helmet during sporting event. Provides feedback on number of hits and when hit could result in a concussion. Ability to sync with smartphone and share information with health care provider.	\$179.99	Shockbox

Figure 1. Consumer Health Technology Equipment

Purpose	Name	Description	Cost	Company
Otoscope	CellScope Otoscope	Digital otoscope attaches to phone to view ears and send video to CellScope doctors for an evaluation within two hours. Doctors able to write appropriate prescriptions for ear infections.	\$79.00	CellScope
Oximeter	Pulse Oximeter	Worn on finger. Measures blood oxygen level and pulse rate. Ability to sync with smartphone and share results with health care provider.	\$69.95	iHealth Lab
Scale	iHealth Lite	Scale measures and records weight. Ability to sync with smartphone.	\$79.95	iHealth Lab
Scale	WeightTel	Scale measures weight. Ability to sync with smartphone and online BodyTel portal to store and analyze data. Used together with PressureTel and WeightTel.	Undisclosed	BodyTel
Sleep Tracker	Beddit	Paper-thin band placed directly on the mattress. Measures sleep quality, duration, sleep cycles, time to fall asleep, heart rate, respiration rate and snoring. Ability to sync with smartphone.	\$149.99	Misfit
Toothbrush	Kolibree	Toothbrush that syncs with smartphone to track duration and frequency of brushing in order to provide feedback. Can choose from multiple brushing programs. Ability to incorporate multiple users within a family to provide feedback for children. Option to share information with a dentist.	\$199.00	Kolibree
UVA/UVB Detection	June	Worn on wrist to measure UVA/UVB to provide UV index in real time. Ability to sync with smartphone to provide phone alerts as to when user should apply sunscreen.	\$129.00	Netatmo

Figure 2. Consumer Health Technology Equipment – Physical Fitness

Purpose	Name	Description	Cost	Company
Activity Tracker	BioHarness 3	Worn on chest. Measures heart rate, breathing rate, posture, activity level, peak acceleration, speed and distance. Features GPS and the ability to sync to a smartphone.	Undisclosed	Zephyr Technology
Activity Tracker	Forerunner® 15	Worn on wrist. Measures distance, pace, heart rate, and calories. Ability to sync with smartphone and other apps.	\$139.99	Garmin
Activity Tracker	HxM™ Smart	Worn around chest. Measures heart rate, heart rate variability, stress level, activity level, peak acceleration and calories. Ability to sync to a smartphone.	Undisclosed	Zephyr Technology
Activity Tracker	Lifeband Touch	Worn on wrist. Features accelerometer, altimeter, pedometer, heart rate monitor and GPS. Ability to track calories and sync with smartphone.	\$149.99	LG
Activity Tracker	The Little Black Box	Placed in OMsignal Biometric Smartwear. Measures heart rate, breathing, calories and steps. Ability to sync with smartphone and analyze/plan fitness and activity levels.	\$129.00	OMsignal
Activity Tracker	Mio Fuse	Worn on wrist. Measures EKG-accurate heart rate data, steps, pace, distance, and calories. Displays heart rate zones. Ability to sync with smartphone and computer.	\$149.00	Mio Global
Activity Tracker	PEAR Mobile Training	Includes earphones, app and heart rate monitor. Measures heart rate to provide real time audio coaching via earphones. Ability to sync to smartphone.	\$99.95	PEAR Sports
Activity Tracker	Pebble+	Worn on person. Measures steps, distance, calories and time. Ability to sync with smartphone.	\$99.00	Fitlinxx
Activity Tracker	Nike+ Fuelband	Worn on wrist. Measures pace, calories, steps and time. Ability to sync with smartphone to track progress.	\$149.00	Nike
Activity Tracker	Nike+ Sportwatch GPS	Worn on wrist. Monitors pace, calories, heart rate and laps and intervals. Includes GPS and timer. Ability to sync with computer and smartphone.	\$199.00	Nike
Activity Tracker	Tinké	Thumb sensor attaches to smartphone. Measures heart rate, respiratory rate, blood oxygen saturation and heart rate variability. Ability to sync with smartphone.	\$119.00	Zensorium

Figure 2. Consumer Health Technology Equipment – Physical Fitness

Purpose	Name	Description	Cost	Company
Activity Tracker	Wellograph	Worn on wrist as a heart rate monitor to provide analysis of pulse readings and recommendations for exercise readiness. Includes pedometer with week-by-week comparison. Sleep analysis, including sleep time, wake time and duration. Ability to sync with smartphone and compare stats.	\$300.00	Wellograph
Activity Tracker	W/Me Wristband	Worn on wrist. Monitors autonomic nervous system, including breathing patterns and heart rate. Provides feedback on mood and stress levels. Ability to sync with smartphone.	\$224.99	Phyode
Activity and Sleep Tracker	Airo Wristband	Worn on wrist. Measures motion, steps, heart rate, calories and sleep. Provides feedback about stress levels based on heart rate and activity levels. Vibration serves as an alarm to wake user up at optimal time during sleep cycle. Ability to sync with smartphone.	\$149.00	Airo Health
Activity and Sleep Tracker	Fitbit Charge HR	Worn on wrist. Measures heart rate, logs workouts, monitors sleep, sets silent alarm and logs food intake. Ability to sync with smartphone to share progress with others and provide notifications.	\$149.95	Fitbit
Activity and Sleep Tracker	FitBit One	Worn on wrist. Measures steps, floors climbed, distance, calories burned, sleep and number of minutes active. Features clock, silent alarm and the ability to sync with smartphone.	\$99.95	FitBit
Activity and Sleep Tracker	Flash	Small disc, can be clipped anywhere on the person. Measures steps, calories burned, distance, and sleep quality and duration. Ability to sync with smartphone.	\$49.99	Misfit
Activity and Sleep Tracker	iHealth Edge	Worn on wrist. Measures steps, distance, calories and sleep efficiency. Features silent alarm and reminder to increase activity levels. Ability to sync with smartphone and share results with health care provider.	\$69.95	iHealth Lab
Activity and Sleep Tracker	Metria™IH1	Lifestyle assessment tool applied directly to skin that measures calories burned, activity level, steps taken, and sleep duration and quality. Ability to sync with computer and smartphone to compare stats.	Undisclosed	Vancive Medical Technologies™

Figure 2. Consumer Health Technology Equipment – Physical Fitness

Purpose	Name	Description	Cost	Company
Activity and Sleep Tracker	Microsoft Band	Worn on wrist. Measures heart rate, tracks sleep and provides GPS-run mapping and guided workouts. Ability to sync with apps and smartphone to provide call, text, weather and calendar notifications.	\$199.99	Microsoft
Activity and Sleep Tracker	Orbit	Worn on wrist. Measures steps, distance, calories, sleep duration and sleep cycles. Features vibration alarm, goal progress and notifications. Ability to set goals and sync with smartphones and apps.	\$99.99	Runtastic
Activity and Sleep Tracker	Peak™	Worn on wrist. Measures heart rate while detecting running, biking, walking and sleeping. Advanced sleep analysis detects REM sleep, deep sleep, light sleep, toss-and-turn, interruptions and delay. Ability to sync with smartphone and provide notifications and alerts.	\$199.99	Basis
Activity and Sleep Tracker	Pivotal Living Band	Worn on wrist. Measures steps, distance walked, goal progress percentage, sleep and calories. Features natural awake alarm, stop watch and activity reminder. Ability to sync with smartphone.	\$12/year membership	Pivotal Living
Activity and Sleep Tracker	Pulse O _x	Worn on wrist or attached to person. Measures steps, distance, elevation, sleep cycles, heart rate and blood oxygen level. Ability to sync with smartphone.	\$119.95	Withings
Activity and Sleep Tracker	Shine	Small disc attached anywhere on the person to measure steps, calories burned, distance, and sleep quality and duration. Watch capabilities and has the ability to sync with smartphone.	\$99.99	Misfit
Activity and Sleep Tracker	UP24™ band	Worn on wrist. Measures steps and calories. Tracks activity, sleep, and food intake. Features a smart coach, goal setting, smart alarm, and a prompt to be active. Ability to sync with smartphones and connect with other users.	\$129.99	Jawbone
Activity and Sleep Tracker	vívoactive®	Worn on wrist. Measures steps, distance, calories, sleep, and heart rate. Provides time, notifications, timer, music player controls, GPS and prompts to move. Ability to develop personalized goals, sync with smartphone and sync with sports apps.	\$249.99	Garmin

Figure 2. Consumer Health Technology Equipment – Physical Fitness

Purpose	Name	Description	Cost	Company
Activity and Sleep Tracker	vívofit®	Worn on wrist. Learns activity level and assigns personalized daily goal. Monitors steps, calories, distance and sleep. Pairs with heart rate monitor. Ability to sync with computer and smartphone.	\$129.99	Garmin
Activity and Sleep Tracker	vívosmart®	Worn on wrist. Measures steps, calories, heart rate, and sleep. Provides notifications and time, and prompts to move. Ability to develop personalized goals and sync with smartphone.	\$149.99	Garmin
Pedometer and Calorie Counter	Calorism Smart	Attaches to person. Measures estimated calorie burn-off, exercise, walking time, distance and steps.	\$88.00	Tanita
Posture-Enhancer, Activity and Sleep Tracker	Lumo Back	Worn around lower back and core. Vibrates when user is in a poor posture as a reminder to sit or stand up straight. Tracks steps and sleep positions. Ability to sync with smartphone.	\$79.99	Lumo
Posture-Enhancer, Activity and Sleep Tracker	Lumo Lift	Worn around shoulders. Measures posture, steps, calories and distance. Ability to sync with smartphone and track progress.	\$79.99	Lumo
Running Style Feedback and Activity Tracker	Sensoria® Fitness Bundle	Smart socks and anklet feature textile sensors that monitor step counts, speed, calories, altitude, distance tracking, cadence and foot landing technique. Information used to provide feedback and set goals. Ability to sync with smartphone.	\$199.00	Sensoria

Figure 3. Consumer Health Technology Equipment – Upcoming

Purpose	Name	Description	Cost	Company
Activity and Sleep Tracker	BodyMedia Patch	Disposable peel-and-stick patch attached back of the left tricep for up to seven days. Measures calories burned, steps taken, activity levels and sleep patterns. Ability to sync with smartphone or computer to provide personalized feedback and analysis.	Upcoming	BodyMedia and Avery Dennison
Blood Pressure	Hi.lo Blood Pressure Band	Worn on wrist. Measures blood pressure and has the ability to sync to smartphone.	Upcoming	Diana Dumitrescu
Electrocardiograph	nECG TEXTILE and MINDER	nECG TEXTILE is a garment worn to measure user's ECG. nECG MINDER registers ECG signal captured by nECG TEXTILE, and also measures body position and activity level. Ability to sync with software to facilitate report generation, diagnosis and heart rate variability analysis.	Upcoming	Nuubo
Food Analyzer	TellSpec Food Sensor	Handheld scanner features an infrared spectrometer that analyzes food content, including calories, carbs, fats, protein and ingredients. Syncs with smartphone and company database to provide feedback about food content.	\$349.00	Fitbit

Figure 4. Provider Telemedicine and Health Technology Equipment

Purpose	Name	Description	Cost	Company
Camera	TotalExam HD Exam Camera	Used for telemedicine applications to provide live video and still imagery. Ability to make image adjustments and freeze video. Features two HDMI outputs.	\$1,600	GlobalMed
Camera/Light Source	Camera & Illumination System* (AMD-500)	Used for telemedicine applications to ensure quality digital images with medical scopes during examination.	\$6,400	AMD Telemedicine
Dental Exam	Dental Examination Camera* (AMD-7115)	Used to capture images of intraoral structures and teeth during a clinical telemedicine exam.	\$5,795	AMD Telemedicine
Diagnosis	Functional Muscle Strain Diagnostics	Electronic stimulator, digital sensor, electrodes and “manipulating hand” monitor muscle fatigue by measuring individual muscle heads in isolation.	Undisclosed	TmG-BMC
Diagnosis	mChip	Credit card-sized plastic chip is described as a “lab-in-a-chip.” Ability to detect HIV and syphilis in less than 20 minutes by simplifying the ELISA process typically used in diagnostics.	\$1.00	Columbia University
Ear Exam	Digital Otoscope* (AMD-2013)	Otoscope used to exam ear in telemedicine applications, ability to capture and share digital images and video with remote providers.	\$1,185	AMD Telemedicine
Ear/Nose/Throat Exam	ENT Otoscope* (AMD-2015)	Ear/nose/throat otoscope combines otoscope, sinus scope and an oral exam scope used in telemedicine applications. Pairs with Camera & Illumination System1	\$2,470	AMD Telemedicine
Electrocardiograph	12-Lead Digital ECG I* (AMD-3400)	Used for telemedicine applications to obtain ECG measurements.	\$4,000	AMD Telemedicine
Electrocardiograph	Digital Holter Monitoring System II* (AMD-3900)	Compact digital recorder used to capture ECG rhythm abnormalities, results can be sent to remote provider.	\$10,145	AMD Telemedicine
Evaluate Respiratory Issues	Digital Spirometer I* (AMD-3450)	Used for telemedicine applications to evaluate respiratory issues such as asthma, chronic obstructive pulmonary disease, pneumonia, etc.	\$2,300	AMD Telemedicine
Evaluate Respiratory Issues	Digital Peak Flow and FEV1 Meter	Used for telemedicine applications to evaluate respiratory issues. Works with Microsoft HealthVault, which enables collection and storage of health information.	\$39.99	Microlife
Evaluate Respiratory Issues	Spirobank USB	Used for telemedicine applications to evaluate respiratory issues. Works with Winspiro Express PC Software through USB/BT connectivity.	\$525	Medical International Research

Figure 4. Provider Telemedicine and Health Technology Equipment

Purpose	Name	Description	Cost	Company
Eye Exam	Ophthalmoscope* (AMD-2070)	Used for telemedicine applications requiring eye examination, provides video and digital photos of eye.	\$3,450	AMD Telemedicine
Eye Exam	Non-Mydriatic Retinal Camera* (AMD-950)	Ophthalmic tool used for telemedicine applications to capture images of retina and anterior segment of the eye.	\$24,995	AMD Telemedicine
General Exam	General Examination Camera* (AMD-2500)	Multipurpose examination camera used to capture and display video and images of patient encounter.	\$5,490	AMD Telemedicine
Medication	Sensor-Enabled Pill and Patch	Pill acts as an ingestible sensor that sends a signal to the Patch when it reaches the stomach. Patch is worn on body to record medication as well as rest and activity patterns. Ability to provide feedback to patient and health care provider.	Undisclosed	Proteus
Medication	SonoBandage	Bandage-like device that uses ultrasound to facilitate transdermal drug delivery without the use of needles. Able to recharge device.	Undisclosed	ZetrOZ, Inc.
Monitoring	Biostamp	Bandage-like device that is applied to the skin to monitor vitals such as temperature, movement and heart rate. Ability to transmit information to patients and health care providers.	Undisclosed	MC10
Monitoring	BodyGuardian® Remote Monitoring System	Mobile system including a wearable body sensor used to monitor patient vitals and transmit data to health care providers.	Undisclosed	Preventice
Monitoring	Ingestion Event Marker (IEM)	Ingestible sensor that has the ability to report medication adherence and vital signs back to health care providers.	Undisclosed	Proteus Digital Health, Inc.
Nasal/Sinus Passage Exam	Sinuscope* (AMD-2006)	Used for telemedicine applications requiring nasal and sinus passages examination, provides clear images and pairs with Camera & Illumination System. ¹	\$2,198	AMD Telemedicine
Otoscope	OtoClinic	A more powerful digital otoscop designed to engage patients in their treatment plan. Stores and reviews patient exam history on HIPAA-compliant Web server. Takes high-quality magnified images of the tympanic membrane anywhere.	\$299	CellScope

Figure 4. Provider Telemedicine and Health Technology Equipment

Purpose	Name	Description	Cost	Company
Skin Exam	Dermascope* (AMD-2030)	Used for telemedicine applications requiring epidermis observation. High resolution images can be shared with remote provider. Pairs with Camera & Illumination System. ¹	\$1,150	AMD Telemedicine
Stethoscope	Littmann® Electronic Stethoscope* (AMD-3150)	Used in telemedicine applications, uses Bluetooth to transfer auscultation sounds and heart and lung sounds to designated computer.	\$400	AMD Telemedicine
Stethoscope	Telephonic Stethoscope* (AMD-3700)	Used in telemedicine applications to capture auscultation sounds. Allows local and remote user to hear heart/lung sounds at the same time.	\$1,650	AMD Telemedicine
Throat Exam	Naso-Pharyngoscope* (AMD-2040)	Used for telemedicine applications requiring upper airway examination, including nasal passage and vocal cords. Pairs with Camera & Illumination System. ¹	\$6,695	AMD Telemedicine
Ultrasound	Abdominal USB Ultrasound Probe* (AMD-5650)	Used to obtain high quality ultrasound images for telemedicine applications.	\$4,800	AMD Telemedicine
Ultrasound	Vascular USB Ultrasound Probe* (AMD-5655)	Used for telemedicine applications to obtain images of superficial areas of soft tissues, such as arteries and veins.	\$4,800	AMD Telemedicine
Vital Signs	Spot Monitor* (AMD-8221)	Used in telemedicine applications to measure patient's physiological statistics such as blood pressure, body temperature, pulse rate and respiratory rate	\$3,192	AMD Telemedicine

* Integrates with AGNES Interactive™ to simultaneously capture and share medical device data, exchange documents and medical images, and participate in a live video conference with the remote consulting physician.

Figure 5. Consumer Self-Help Apps

Purpose	Name	Description	Cost	Company
Allergies	Allergy FT	Ability to track food allergies and make suggestions for things to avoid.	\$2.99	GreenBurg ¹
Allergies	Cook It Allergy Free	Provides food recipes specific to one's food allergies.	Free	Cook It Allergy Free ¹
Blood Pressure and Weight	Blood Pressure Monitor	Allows patients to monitor their blood pressure and weight. Features lifetime data visualization, statistics reporting and medication correlations.	Free	Walgreens ¹
Blood Pressure and Weight	Heartwise	Logs blood pressure and body weight, with the ability to generate charts and calculate BMI and mean arterial pressure. Ability to export data for personal and professional monitoring.	\$0.99	Heartwise ¹
Dermatology	UMSkinCheck	Uses iPhone camera to track suspicious moles, provides self-exam reminders, and offers preventative videos.	Free	University of Michigan ¹
Disease Management	Ginger.io	Ability to track daily movement, present questions via smartphone to gauge current mood, and uses this information to connect with friends and health care providers when treatment is likely needed.	Free	Ginger.io ^{1,2}
Disease Management	HealthClips Rx	An interactive patient education platform that helps patients follow treatment protocols, avoid complications, and practice positive health behaviors.	Free	Preventice ^{1,2}
Disease Management	Symple	Ability to track up to 20 symptoms at once, keep daily notes and photos, and record medications, exercise and other influential factors.	\$2.99	Symple ID ¹
Disease Management – Diabetes	Glooko	Syncs food, blood glucose, medication, etc., to assist in risk monitoring.	Free	Glooko ^{1,2}
Disease Management – Diabetes	Glucose Buddy	Allows diabetic users to monitor blood glucose levels, record medications, and track food intake and activity.	Free	SkyHealth ¹
Disease Management – Diabetes	Glucose Companion	Ability to track blood sugar levels and weight.	Free	Maxwell Software ^{1,2}
Disease Management – Irritable Bowel Syndrome	Tummy Trends	Ability to track IBS symptoms, exercise habits, water intake, fiber intake and stress levels.	Free	Takeda Pharmaceuticals ¹
Food Analysis	Fooducate	Ability to scan food to determine nutrition content and how information correlates to weight loss plan.	Free	Fooducate ^{1,2}

Figure 5. Consumer Self-Help Apps

Purpose	Name	Description	Cost	Company
Food Analysis	Lose It	Tracks food consumption and provides caloric content.	Free	FitNow Inc ^{1,2}
Food Analysis	ShopWell	Ability to scan food label bar codes and provide feedback in terms of dietary needs and goals.	Free	YottaMark, Inc. ¹
Health Information	iTriage Health	Ability to evaluate symptoms and provide suggestions for the nearest health care facilities.	Free	iTriage Health ^{1,2}
Health Information	KidsDoc	Provides advice from clinical protocols used by pediatricians and nurses in 10,000 practices and 400 nurse call centers in the United States and Canada.	\$1.99	Self Care Decisions ^{1,2}
Health Information	Pocket First Aid & CPR	Provides information on first aid basics, CPR, automated external defibrillators (AED), and medical, injury and environmental emergencies.	\$1.99	Jiva Media Inc. ^{1,2}
	WebMD	Provides database on disease, conditions, medicines, etc.	Free	WebMD ^{1,2}
Heart Health	Cardiio	Measures heart rate through use of smartphone camera.	\$1.99	Cardiio Inc. ¹
Heart Health	InstantHeartRate	Provides information about pulse rate.	Free	Azumio ¹⁻³
Heart Health	Wellframe	Provides heart disease risk assessment, preventive care alerts and educational resources.	Free	Wellframe ^{1,2}
Heart Rate and Mental Health	Stress Doctor	Uses camera to measure heart rate and detect stress level. Provides relaxation techniques to decrease stress levels.	Free	Azumio ¹
Medical Records Storage	MotherKnows	Stores variety of health records including growth charts, medication lists, graphic displays of immunizations and other information collected directly from doctors and regularly updated.	Free	WebMD ¹
Medication	Activ-Rx	Encourages effective medication management for active patients.	\$0.99	Preventice ^{1,2,4}
Medication	Drugs.com	Provides ability to record and track current medications and receive relevant medical information.	Free	Drugs.com ^{1,2}
Medication	GoodRx	Compare prescription drug prices at virtually every pharmacy in the United States.	Free	GoodRx ¹
Medication	Nightingale	Provides reminders to take medication based on prescription requirements.	Free	SmotLab ^{1,2}

Figure 5. Consumer Self-Help Apps

Purpose	Name	Description	Cost	Company
Mental Health	PTSD Coach	Ability to track symptoms and manage those for screening. Ability to link to support if needed.	Free	U.S. Dept. of Veterans Affairs ^{1,2}
Sleep Tracker	Sleep Cycle	Ability to track sleep patterns and create an alarm during light sleep using phone's accelerometer.	\$1.99	Northcube AB ¹
Smoking	Livestrong	Offers a personalized plan for quitting that includes tracking cravings, motivational tips, progress charts and access to a supportive community.	\$3.99	Livestrong ¹

¹iOS ²Android ³Windows ⁴Blackberry

Figure 6. Consumer Self-Help Apps — Physical Fitness

Purpose	Name	Description	Cost	Company
Fitness	Argus	Ability to track and record personal physical activity.	Free	Azumio ¹
Fitness	Calorie Counter	Tracks calories consumed and burned.	Free	MyFitness Pal ^{1,2}
Fitness	Daily Yoga	Provides information about convenient home exercises.	Free	IMOBILIFE ^{1,2}
Fitness	Fitnet	Provides workout videos from personal trainers, uses the camera on your smartphone or tablet to track progress.	Free	Fitnet Corp. ^{1,2}
Fitness	Fitstar Personal Trainer	Assesses fitness level by asking post-workout questions.	Free	FitStar Inc. ¹
Fitness	GAIN Fitness Cross Trainer	Ability to build a custom fitness plan based on fitness goals and preferences through a network of professional trainers and athletes.	Free	Gain Fitness ¹
Fitness	Garmin Fit	Ability to track exercise routine.	\$0.99	Garmin ^{1,2}
Fitness	GoogleFit	Ability to track workouts and set relevant goals.	Free	Google ²
Fitness	GymPact	Ability for multiple users to collaborate and provide monetary incentive for working out.	Free	GymPact ^{1,2}
Fitness	Hot5 Fitness	Provides workout videos designed by personal trainers, includes video advice.	Free	Hot5 ^{1,2}
Fitness	MINDBODY Connect	Discover, book and pay for local fitness classes.	Free	MINDBODY Inc. ^{1,2}
Fitness	Moves	Ability to track and record daily steps and caloric intake.	Free	ProtoGeo ^{1,2}
Fitness	MyFitnessPal	Provides information about exercise and diet geared towards weight loss.	Free	MyFitnessPal ^{1,2}
Fitness	Nike + Training Club	Provides over 100 workouts developed by Nike trainers for people of all fitness levels. Ability to select appropriate fitness goal.	Free	Nike ^{1,2}
Fitness	Pacer	Tracks steps and activity levels.	Free	OutGear Lab ^{1,2}
Fitness	Pumping Weight	Ability to track and record workouts.	Free	Gladsome Studios ^{1,2}
Fitness	Rise	Ability to connect one-on-one with a registered dietician.	\$20.00	Rise Labs ¹
Fitness	RunKeeper	Ability to record and track distance, speed, calories burned, and weight loss goals.	Free	FitnessKeeper Inc. ^{1,2}

Figure 6. Consumer Self-Help Apps — Physical Fitness

Purpose	Name	Description	Cost	Company
Fitness	Runstatic PRO	Ability to track activities using GPS technology to personal goals. Measures distance, duration, speed, pace and calories burned.	\$4.99	Runstatic PRO ¹⁻⁴
Fitness	Strava	Ability to track and record fitness progress.	Free	Strava Inc. ^{1,2}
Fitness	Vida	Ability to select health goals in order to lose weight, get fit, reduce stress or manage chronic conditions.	\$15.00	Vida ^{1,2}
Fitness	Zombies Run	Ability to incorporate step tracker or GPS into a zombie-related storyline played over headphones.	\$3.99	Six to Start ^{1,2}
Fitness — Physiotherapy	Physiotherapy Exercises	Ability to search for exercises appropriate for people with spinal cord injuries and other neurological conditions.	Free	Physiotherapy Exercises ^{1,2}

¹iOS ²Android ³Windows ⁴Blackberry

Figure 7. Apps Connecting Patients with Health Care Providers

Purpose	Name	Description	Cost	Company
Consultation	2nd MD	Provides second opinions with expert specialists by video or by phone.	Free	2nd MD ¹
Consultation	Amwell	Ability to connect with physicians for consultation.	Free	American Well ^{1,2}
Consultation	HealthTap	Provides immediate doctor advice, answers, tips and prescriptions.	Free	HealthTap ^{1,2}
Consultation	MDLive TeleHealth	Source for convenient health care. Doctors present online are ready to help with medical needs.	Free	MDLive Inc. ^{1,2}
Health Care Locator	Better Doctor	Ability to search local doctors by specialty and insurance plan.	Free	Better Doctor ¹
Health Care Locator	Emergency Medical Center Locator	Locates and contacts the closest and best treatment centers during a medical emergency.	Free	Moskowitz, LLC ¹
Health Care Locator	Health4me	Finds nearby physicians or pharmacies, checks the status of a claim, manages prescriptions or estimates individual health care costs.	Free	UnitedHealth Group ^{1,2}
Home Visit	Heal	On-demand and on-door service for doctors.	\$99.00	Heal ¹
Home Visit	Pager	On-demand service for doctors in New York.	Free App, \$50-\$200 Doctor's Fee	Techcare Inc. ¹

¹iOS ²Android

Figure 8. Health Care Provider Apps

Purpose	Name	Description	Cost	Company
Anatomy	3D4Medical Apps	Uses 3D technology to navigate through and provide images of the body systems. Ability to provide anatomic animations.	Free – \$20.00	3D4Medical ¹
Dental Care	DDS GP	Provides tools to improve presentation of dental conditions and treatment to patients.	\$400.00	Kick Your Apps, Inc. ¹
General	Medicine Central	Provides drug facts, drug interaction facts, a pocket guide to diagnostic tests, links to MEDLINE Journals and details on over 900 medical conditions.	Free	Unbound ^{1,2}
Heart Health	Airstrip Cardiology	Combines wireless mobile transmission of ECGs with digital visual enhancement to enable health care providers to review patient ECGs. Ability to access historical data.	Free	Airstrip Cardiology Tech ¹
Heart Health	Heart Murmur Pro	Includes 23 different heart sounds and information for each, including location to best hear each sound, a brief description, etiology, pathophysiology, physical examination findings, treatment options and links to resources.	\$2.99	
Heart Health	iCalcRisk	Aims to encourage patients to adopt healthier lifestyles by calculating their cardiac risk. Ability to use app visualizations to show patients their cholesterol management, control of blood pressure and lowered risk of heart attack.	Free	Independent Individual ¹
General	Electronic Preventive Services Selector (ePSS)	Assists primary care clinicians in identifying the screening, counseling and preventive medication services that are appropriate for their patients.	Free	Agency for Healthcare Research and Quality ^{1,4}
General	Calculate	Uses “question-flow” style to quickly provide answers to diagnostic questions for a variety of health fields, including cardiology, internal medicine and general practice.	Free	QxMD ^{1,2}
General	Doximity	Ability to locate, review and communicate with other health care providers. Ability to easily locate, access and review clinical journals.	Free	Doximity ¹
General	Heart Pro III	Features 360° rotation of any body part, 19 free animations, 64 audio pronunciations of every label, the ability to draw on any screen image and the ability to share on social media.	Free	Heart Pro III ¹

Figure 8. Health Care Provider Apps

Purpose	Name	Description	Cost	Company
General	Merck Manual	Ability to browse resources by health topic and symptom to aid in diagnosis. App automatically logs what sections users have read.	Free	Merck Manual ^{1,2}
General	Skyscape	Provides drug information, medical searches, medical calculator, clinical news, drug alerts and data for more than 800 separate health topics.	Free	Skyscape ^{1,2}
Medical News	Med Page Today	Delivers medical news to mobile device according subspecialty interest.	Free	Medpage Today LLC ^{1,2}
Medical News	Medscape	Provides news articles from 34 different health fields, including a clinical reference section containing safety guidelines on drugs, video tutorials on various procedures and education activities for students.	Free	WebMD, LLC ^{1,2}
Medication	Epocrates	Features a pill identifier, several medical calculators, drug coverage information, medical news, research information and a drug interaction checker.	Free	Epocrates ^{1,2}

¹iOS ²Android ⁴Blackberry