

Supplementary material 2. Lists of practices identified.

Tables S1 to S5 summarize the practices identified as a result of the systematic literature search.

This file contains the tables which list, summarize and present the properties of the practices identified as a result of the systematic literature search. The articles referred in the tables are listed at the end under 'references'.

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Table S1: Basic properties of included practices

P-no. †	Practices	Year first introduced ††	Year first published	Main term(s) used	Primary article(s)	Other articles	Category (see table)
1	Group: Pharmacogenetics (drug - gene)	2004 (6-Mercaptopurine and TPMT test)	2005	personalized medicine; precision medicine	Donnan 2011; Babic 2012; Cohen 2013; Faruki 2010; Mini 2012; Ritchie 2012	See Table S2	1) Practices available in the health care market (Table S3)
2	Group: Tumor genetics/ genomics tests and related drugs (individual drug - gene combinations)	1998 (trastuzumab and HercepTest)	2005	personalized medicine; precision medicine	Andre 2013; Arnedos 2014; Bailey 2014; Cheng 2012; Donnelly 2013	See Table S2	1) Practices available in the health care market (Table S3)
3	Group: Adoptive T cell therapy for cancer	2007	2007	personalized medicine	June 2007		3) Emerging practices (Table S5)
4	Group: Tumor genomics - array of genes	2004 (OncotypeDx & MammaPrint)	2008	personalized medicine	Lee 2013; Arango 2013; van't Veer 2008	See Table S2	1) Practices available in the health care market (Table S3)
5	Group: Genetic tests for highly penetrant mutations	1996 (BRCA1 and BRCA2)	2008	personalized medicine; personalized health care	Meckley 2010; Philips 2008	See Table S2	1) Practices available in the health care market (Table S3)
6	Group: Direct-to-consumer genomic tests ('personal genomics') (* and **)	2006	2009	personalized medicine; personalized health care	Arribas-Ayllon 2011; Palmer 2012; Platt 2009; Richards 2010; Tenenbaum 2012	See Table S2	1) Practices available in the health care market (Table S3)
7	Group: Telemonitoring of implantable cardiac devices	2010 (Biotronik)	2011	personalized medicine; personalized care	Heidbuchel 2011		1) Practices available in the health care market (Table S3)
8	Group: Direct-to-consumer pharmacogenetic tests (* and **)	2006	2012	personalized medicine	Chua 2012		1) Practices available in the health care market (Table S3)
9	Group: Smartphone-Based Personal, Pervasive Health Informatics Services	2012	2012	personalized health care; personal health services	Wac 2012		3) Emerging practices (Table S5)

P-no.†	Practices	Year first introduced ††	Year first published	Main term(s) used	Primary article(s)	Other articles	Category (see table)
10	Internet-based Personalised Healthcare Information (PHI) dissemination system	2000	2000	personalized health care	Abidi 2000	Abidi 2001	3) Emerging practices (Table S5)
11	Healthyme.md **	2000	2000	personalized health care	Thompson 2000		1) Practices available in the health care market (Table S3)
12	Coronary risk scores	2003	2003	personalized medicine	Topol 2003		1) Practices available in the health care market (Table S3)
13	IT-based Diagnostic Instrumentation Systems	2005	2005	personalized health care	Chun 2005		3) Emerging practices (Table S5)
14	AmpliChip CYP450	2004	2005	personalized medicine	de Leon 2006	Jain 2005; Philips 2006	1) Practices available in the health care market (Table S3)
15	Preventing Suicide Network (PSN) **	2005	2005	personalized health care	Wang 2005		3) Emerging practices (Table S5)
16	Mobile Ototoxicity Monitoring Instrumentation	2006	2006	personalized health care	Ellingson 2006		3) Emerging practices (Table S5)
17	BiDil	2005	2006	personalized medicine	Hawkins-Taylor 2013	Issa 2006; Meier 2012	1) Practices available in the health care market (Table S3)
18	Pediatric Psychosocial Preventative Health Model (PPPHM)	2005	2006	systems medicine	Kazak 2006		3) Emerging practices (Table S5)
19	Patient-Nutritionist social network	2009	2009	personalized health care	Bonacina 2009		3) Emerging practices (Table S5)
20	Gentest	2007	2009	personalized health care	Cesuroglu 2009		1) Practices available in the health care market (Table S3); 2) Implementation model (Table S4)

P-no.†	Practices	Year first introduced ††	Year first published	Main term(s) used	Primary article(s)	Other articles	Category (see table)
21	Prostate cancer nomograms	1998	2009	personalized medicine	Dotan 2009		1) Practices available in the health care market (Table S3)
22	Laboratory informatics solution for reporting of multiple myeloma	2007	2009	personalized medicine	Gundlapalli 2009		2) Implementation model (Table S4)
23	Sydney West Area Health Service - CYP450 testing	2009	2009	personalized medicine	Piatkov 2009		2) Implementation model (Table S4)
24	Ubiquitous Healthcare (U-Health)	2009	2010	personalized health care; individualized health care	Chang 2010		2) Implementation model (Table S4)
25	CLIPMERGE PGx Program	2013	2010	personalized medicine	Gottesman 2013	Overby 2014; Overby 2010	2) Implementation model (Table S4)
26	Diabetes Connect - Center for Connected Health	2009	2010	personalized medicine	Jethwani 2010	Agboola 2013	2) Implementation model (Table S4)
27	Coriell Personalized Medicine Collaborative	2007	2010	personalized medicine	Keller 2010	Gordon 2012; Gollust 2012; Schmidlen 2014; Stack 2011; Sweet 2014	2) Implementation model (Table S4)
28	GliomaPredict	2010	2010	personalized medicine	Li 2010		3) Emerging practices (Table S5)
29	Multidisciplinary cancer clinic at Intermountain Health	2005	2010	personalized medicine	Litton 2010		2) Implementation model (Table S4)
30	Genetic cancer risk assessment service	2006	2010	personalized medicine	Macdonald 2010		2) Implementation model (Table S4)
31	Ribavirin/pegylated interferon - Hepatitis C genotype	2004	2010	personalized medicine	Meckley 2010		1) Practices available in the health care market (Table S3)

P-no.†	Practices	Year first introduced ††	Year first published	Main term(s) used	Primary article(s)	Other articles	Category (see table)
32	GeneInsight Suite	2004	2011	personalized medicine	Aronson 2011		1) Practices available in the health care market (Table S3); 2) Implementation model (Table S4)
33	Geisinger blood component utilization programme	2004	2011	personalized medicine	Brown 2011		2) Implementation model (Table S4)
34	Personalised medicine in wound care	2009	2011	personalized medicine	Dowd 2011		3) Emerging practices (Table S5)
35	OurFamilyHealth	2010	2011	personalized medicine	Hulse 2011		2) Implementation model (Table S4)
36	Recon 1 (A global metabolic network reconstruction)	2011	2011	personalized medicine	Jamshidi 2011		3) Emerging practices (Table S5)
37	Personalized Systems Medicine Approach	2011	2011	personalized systems medicine	Kanodia 2011		3) Emerging practices (Table S5)
38	A surveillance tool to support quality assurance and research in personalized medicine	2011	2011	personalized medicine	Khan 2011		2) Implementation model (Table S4)
39	Genomic Medicine Model for primary care / MeTree	2009	2011	personalized medicine	Orlando 2013	Orlando 2011; Orlando 2014	2) Implementation model (Table S4)
40	Data-modelling and visualisation in chronic kidney disease	2001	2011	personalized medicine	Poh 2011		3) Emerging practices (Table S5)
41	Michigan Oncology Sequencing Project (MI-ONCOSEQ)	2009	2011	personalized medicine	Roychowdhury 2011		2) Implementation model (Table S4)
42	Athlete Biological Passport	2008	2011	personalized medicine	Sottas 2011		2) Implementation model (Table S4)
43	PreDx® Diabetes Risk Score (DRS) **	2009	2011	personalized medicine	Towse 2013	Sullivan 2011	1) Practices available in the health care market (Table S3)

P-no.†	Practices	Year first introduced ††	Year first published	Main term(s) used	Primary article(s)	Other articles	Category (see table)
44	French National Cancer Institute's (French NCI) nationwide programme for tumor genomics	2010	2012	personalized medicine	Andre 2012	Lenz 2012	2) Implementation model (Table S4)
45	Next Generation Service Delivery Platform	2012	2012	personalized health care	Andriopoulou 2012		3) Emerging practices (Table S5)
46	Personal Genome Project	2006	2012	personalized medicine	Ball 2012		3) Emerging practices (Table S5)
47	Computer-Assisted Brief Intervention for Tobacco (CABIT) Program	2008	2012	personalized health care	Boudreaux 2012		3) Emerging practices (Table S5)
48	Via Oncology Pathways	2005	2012	personalized medicine	Brufsky 2012		2) Implementation model (Table S4)
49	My PREVENT™ Plan	2012	2012	personalized health care	Burnette 2012		2) Implementation model (Table S4)
50	integrative Personal Omics Profile (iPOP)	2011	2012	personalized medicine	Chen 2012	Li-Pook-Than 2013	3) Emerging practices (Table S5)
51	Coronary Heart Disease Risk Assessment (CHDRA)	2012	2012	personalized medicine	Cross 2012		3) Emerging practices (Table S5)
52	Electronic health record - OntoKBFC	2011	2012	personalized medicine	Jing 2012	0	3) Emerging practices (Table S5)
53	Interpretome	2011	2012	personalized medicine	Karczewski 2012		1) Practices available in the health care market (Table S3)
54	Health Improvement and Management System (HIMS)	2012	2012	personalized health care	Lee 2012		3) Emerging practices (Table S5)
55	My Cancer Genome™	2011	2012	personalized medicine	Printz 2012		1) Practices available in the health care market (Table S3)
56	Next Generation Sequencing for cancer patients at Washington University	2011	2012	personalized medicine	Printz 2012		2) Implementation model (Table S4)

P-no.†	Practices	Year first introduced ††	Year first published	Main term(s) used	Primary article(s)	Other articles	Category (see table)
57	PREDICT (Pharmacogenomic Resource for Enhanced Decisions in Care and Treatment)	2010	2012	personalized medicine	Pulley 2012	Hartzler 2013; Lieb 2012	2) Implementation model (Table S4)
58	MyHealthAtVanderbilt - FluTool	2010	2012	personalized health care	Rosenbloom 2012		2) Implementation model (Table S4)
59	Quantified-self	2008	2012	P4 medicine	Smarr 2012		3) Emerging practices (Table S5)
60	Telemedicine for the Heart	2007	2012	personalized health care	Sohn 2012		2) Implementation model (Table S4)
61	Lynch syndrome screening programme and clinical genetics services at Cleveland Clinic	2011	2012	personalized health care, personalized medicine	Teng 2012		2) Implementation model (Table S4)
62	University of Florida (UF) Health Personalized Medicine Program (PMP)	2012	2012	personalized medicine	Weitzel 2014	Johnson 2012	2) Implementation model (Table S4)
63	Surgeon General's Family Health History tool	2005	2013	personalized medicine	Arar 2013		1) Practices available in the health care market (Table S3)
64	Collaborative Assessment and Recommendation Engine (CARE)	2013	2013	personalized health care	Chawla 2013		3) Emerging practices (Table S5)
65	Gaussian process framework	2012	2013	personalized health care	Clifton 2013		3) Emerging practices (Table S5)
66	Clinical Pharmacogenomics Implementation Program at the University of Chicago	2013	2013	personalized medicine; precision medicine	Dolan 2013	O'Donnel 2014	2) Implementation model (Table S4)
67	Interdisciplinary model of care for cardiogenetics	2013	2013	personalized medicine	Erskine 2013		2) Implementation model (Table S4)
68	Coriell Personalized Medicine Collaborative - Pharmacogenomics Appraisal, Evidence Scoring and Interpretation System (PhAESIS)	2007	2013	personalized medicine	Gharani 2013	Huang 2013	2) Implementation model (Table S4)

P- no.†	Practices	Year first introduced ††	Year first published	Main term(s) used	Primary article(s)	Other articles	Category (see table)
69	The Oral-Systemic Personalized Medicine Model at Marshfield Clinic	2013	2013	personalized medicine; personalized health	Glurich 2013		2) Implementation model (Table S4)
70	Gknowmix™ / Pathology-Supported Genetic Testing™	2013	2013	personalized medicine	Kotze 2013		1) Practices available in the health care market (Table S3)
71	Individualized Medicine Clinic at Mayo Clinic	2012	2013	individualized medicine	Lazardis 2014	Farrugia 2013	2) Implementation model (Table S4)
72	Pregnancy and Health Profile (PHP)	2013	2013	personalized medicine	Lin 2013		3) Emerging practices (Table S5)
73	P4 nutrigenetics	2013	2013	P4 medicine	Lorenz 2013		1) Practices available in the health care market (Table S3)
74	Pharmacogenetic Smoking Cessation Intervention	2010	2013	personalized medicine	McClure 2013		2) Implementation model (Table S4)
75	The University of Texas MD Anderson Cancer Center experience with cancer genomics	2013	2013	personalized medicine	Meric-Bernstam 2013		2) Implementation model (Table S4)
76	Medtronic Reclaim Deep Brain Stimulation Therapy device for Obsessive Compulsive Disorder	2010	2013	precision medicine	O'Rawe 2013		1) Practices available in the health care market (Table S3)
77	WHOLE - Wellness and Health Omics Linked to the Environment	2013	2013	personalized medicine	Patel 2013	Gibson 2014	2) Implementation model (Table S4)
78	IAServ: An Intelligent Home Care Web Services Platform in a Cloud for Aging-in-Place	2013	2013	personalized health care	Su 2013		3) Emerging practices (Table S5)
79	Testing for Viral Load Monitoring (VLM) and the Treatment of Hepatitis C	2006	2013	personalized medicine	Towse 2013		1) Practices available in the health care market (Table S3)
80	Health Coaching and Genomics	2012	2013	personalized medicine	Vorderstasse 2013		2) Implementation model (Table S4)
81	Kaleidoscope model of diabetes care	2014	2014	personalized health care	Barnard 2014		3) Emerging practices (Table S5)

P-no.†	Practices	Year first introduced ††	Year first published	Main term(s) used	Primary article(s)	Other articles	Category (see table)
82	Preemptive Pharmacogenomics at Mayo Clinic	2012	2014	personalized medicine	Bielinski 2014	Farrugia 2013; Hartzler 2013	2) Implementation model (Table S4)
83	Corus CAD by CardioDx	2010	2014	personalized medicine	Herman 2014		1) Practices available in the health care market (Table S3)
84	ALGA-C (questionnaire that measures and collects psychocognitive information about patients)	2013	2014	personalized medicine	Kondylakis 2014		3) Emerging practices (Table S5)
85	A prototype for automated interpretation of genetic tests	2014	2014	individualized medicine	Laerum 2014		3) Emerging practices (Table S5)
86	Youth Area for adolescent and young adult cancer patients	2007	2014	personalized medicine	Mascarin 2014		2) Implementation model (Table S4)
87	A case of whole-exome sequencing from a prostate cancer bone metastasis biopsy	2013	2014	precision medicine	van Allen 2014		3) Emerging practices (Table S5)
88	A Hybrid Mobile-Cloud Approach for ECG Telemonitoring	2013	2014	personalized health care	Wang 2014		3) Emerging practices (Table S5)

† The practices are presented in the order of year first published. These numbers are used as identifier of each practice and referred with a “P-“ number in the text.

†† If indicated, the first year in which the practice is introduced is written. In cases where this is not available in the articles or the references of articles, the year article is submitted (if available) or published is written.

* Known to have changed the content of the product/ service since the article included is published

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Table S2: Details of grouped practices and their references

P- no.†	Practices	Primary article	Other articles
1	Group: Pharmacogenetics (drug - gene)		
	Abacavir - HLA-B*5701	Cohen 2013	Guo 2013, Ritchie 2012, Towse 2013
	Clopidrogel - CYP2C19	Babic 2012	Gundert-Remy 2012; Hresko 2012; Sorich 2012; Towse 2013
	Codeine - CYP2D6	Ritchie 2012	Vaiopoulou 2013
	Irinotecan - UGT1A1	Faruki 2010	Andre 2013; Cohen 2013; Meckley 2010; Sorich 201
	Mercaptopurine - TPMT	Donnan 2011	Andre 2013; Gardiner 2005; Ritchie 2012; Vaiopoulou 2013
	Tamoxifen - CYP2D6	Faruki 2010	Andre 2013; Jiang 2010; Ruddy 2013
	Warfarin - CYP2C9/VKORC1	Babic 2012	Cohen 2013; Gundert-Remy 2012; Hresko 2012; Meckley 2010; Ritchie 2012; Sorich 2012; Vaiopoulou 2013
	Pharmacogenetics in general	Mini 2012	
2	Group: Tumor genetics/ genomics tests and related drugs (individual drug – gene- disease combinations)		
	Crizotinib - EML4-ALK translocations - lung cancer	Donnelly 2013	Ardini 2012; Andre 2012; Gundert-Remy 2012; Love 2012; Ong 2012; Ou 2012
	Gefitinib and erlotinib - EGFR - lung cancer	Dawe 2012	Faruki 2010; Andre 2013; Andre 2012; Cohen 2013; Merlin 2013; Nishimura 2012; Ong 2012; Towse 2013; Waring 2006
	Imatinib - KIT, PDGFRA, SDHB and NF1 - GIS tumors	Andre 2013	Ely 2009
	Imatinib - Philedelphia (BCR-ABL), c-kit and PDGFRA mutations - CML	Faruki 2010	Andre 2013; Andre 2012; Cohen 2013; Gambacorti-Passerini 2008; Jiang 2010; Merlin 2013; Ong 2012; Towse 2013; Vaiopoulou 2013; Vizirianikis 2005
	Panitumumab and cetuximab - KRAS/(EGFR?) - Colorectal cancer	Faruki 2010	Andre 2013; Andre 2012; Cohen 2013; Gundert-Remy 2012; Kelley 2011; Linardou 2011; Merlin 2013; Ong 2012; Shackelford 2012; Towse 2013; Vaiopoulou 2013
	PML/RARα for all-trans-retinoic acid and arsenic trioxide treatment for acute promyelocytic leukemia	Ong 2012	
	Trastuzumab - HER2 amplification - Breast and gastric centers	Faruki 2010	Andre 2013; Andre 2012; Cohen 2013; Ferrusi 2013; Gelmon 2008; Gundert-Remy 2012; Jiang 2010; Leopold 2013; Meckley 2010; Ong 2012; Philips 2006; Philips 2008; Towse 2013; Vaiopoulou 2013; Waring 2006
	Vemurafenib - BRAF mutation - myeloma	Cheng 2012	Andre 2013; Arnedos 2014; Andre 2012; Bailey 2014; Love 2012; Ong 2012
	Tumor genomics in general	Bailey 2014	Mini 2012
3	Group: Adoptive T cell therapy for cancer		
	CTL therapy, TIL therapy and engineered T cells	June 2007	

P-no.† Practices	Primary article	Other articles
4 Group: Tumor genomics - array of genes		
Oncotype DX	Lee 2013	Arango 2013; Hresko 2012; Jiang 2010; Kelley 2011; Meckley 2010; Towse 2013; Trosman 2010; van't Veer 2008; Weldon 2012
MammaPrint	Arango 2013	Cardoso 2007; Hresko 2012; Towse 2013; van't Veer 2008
Multigene signatures in general	van't Veer 2008	
5 Group: Genetic tests for highly penetrant mutations		
BRCA1/2 - Breast Cancer	Meckley 2010	Weldon 2012
Lynch Syndrome	Philips 2008	
6 Group: Direct-to-consumer genomic tests ('personal genomics')		
23andMe *	Richards 2010	Arribas-Ayllon 2011; Bartlett 2013; Chua 2012; Janssens 2011; Ng 2009; Palmer 2012; Tenenbaum 2012
deCODEme **	Arribas-Ayllon 2011	Bartlett 2013; Palmer 2012; Richards 2010
Navigenics **	Arribas-Ayllon 2011	Bartlett 2013; Chua 2012; Ng 2009; Palmer 2012
DTC applications in general	Bartlett 2013	Janssens 2011; Palmer 2012; Platt 2009; Tenenbaum 2012
7 Group: Direct-to-consumer pharmacogenetic tests		
23andMe*; GenePlanet; Matrix Genomics**; Theranostics Lab	Chua 2012	
8 Group: Telemonitoring of implantable cardiac devices		
Biotronik- Home Monitoring System & Cardiomessenger; Medtronic- Carelink; St. Jude Medical- Merlin.net &merlin@home; Boston Scientific- Latitude	Heidbuchel 2011	
9 Group: Smartphone-Based Personal, Pervasive Health Informatics Services		
Various smartphone based applications	Wac 2012	

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Table S3: Practices available in health care market (Category-1)

P- No.†	Practices	Setting: Provider	Country	Short description	Axis-2: Group served to
1	Group: Pharmacogenetics (drug - gene)	N/A	-	Group of genome-based test that predict individuals' response to certain drugs	Health professional
2	Group: Tumor genetics/ genomics tests and related drugs (individual drug - gene combinations)	N/A	-	Group of genome-based tests that predict response of tumor tissues to certain drugs	Health professional
4	Group: Tumor genomics - array of genes	Oncotype Dx, MammaPrint	USA, Netherlands	Group of tests with an array of genome-based markers to predict the prognosis and response of tumor tissues to certain drugs	Health professional
5	Group: Genetic tests for highly penetrant mutations	N/A	-	Group of genetic tests for highly penetrant mutations to predict certain diseases	Individual (indirectly); Health professional
6	Group: Direct-to-consumer genomic tests ('personal genomics') (* and **)	23andMe*, Navigenics**, deCODEme**	USA	Group of direct-to-consumer genetic tests that identify predisposition to or predict risk of certain diseases	Individual
7	Group: Telemonitoring of implantable cardiac devices	Biotronik; Medtronic; St. Jude Medical; Boston Scientific	Germany, USA	Group of implantable cardiac devices and systems required for their remote surveillance	Individual (indirectly); Health professional
8	Group: Direct-to-consumer pharmacogenetic tests (* and **)	23andMe*; GenePlanet; Matrix Genomics**; Theranostics Lab	USA, Slovenia, New Zealand	Group of direct-to-consumer genetic tests that predict individuals' response to certain drugs	Individual
11	Healthyme.md**	HealthyMe.md	USA	A web service which is an intermediary between the physicians in their private practices and the patients	Individual; Health professional
12	Coronary risk scores	-	-	Risk scoring tools for prediction of coronary artery disease	Individual (indirectly); Health professional
14	AmpliChip CYP450	Roche Diagnostics	Switzerland	A genome-based test with an array of markers to predict response to certain drugs	Health professional
17	BiDil	Arbor Pharmaceuticals	USA	A heart failure drug for African-American patients	Health professional
20	Gentest¹	GENAR Institute for Public Health and Genomics Research	Turkey	An integrative preventive model that utilizes an individual's health information, family history, lifestyle factors, biomarkers and genotype to prevent chronic complex diseases in a targeted way ¹	Individual; Health professional; Health care organization

P- No.†	Practices	Setting: Provider	Country	Short description	Axis-2: Group served to
21	Prostate cancer nomograms	N/A	-	Tools that use several clinical variables to predict clinical outcome of prostate cancer patients	Individual (indirectly); Health professional
31	Ribavirin/ pegylated interferon - Hepatitis C genotype	N/A	-	A genome-based test to detect Hepatitis C genotype, in order to predict response to ribavirin therapy	Health professional
32	GeneInsight Suite ²	Partners HealthCare	USA	A series of software applications for laboratories, clinics and the communication between them to streamline interpretation and management of genome-based data ²	Health professional; Health care organization
43	PreDx® Diabetes Risk Score (DRS) **	PreDx	USA	A genome-based test with an array of markers and an algorithm to predict type 2 diabetes risk	Health professional
53	Interpretome	Stanford University School of Medicine	USA	A web-based genome interpretation tool	Individual; Health professional (indirectly)
55	My Cancer Genome™	Vanderbilt-Ingram Cancer Center	USA	An online cancer therapy decision support tool	Individual (recently added, *); Health professional
63	Surgeon General's Family Health History tool	US Surgeon General	USA	A web-based tool to collect, organize and present family health history	Individual
70	Gknowmix™ / Pathology-Supported Genetic Testing™	Gnowmix Ltd.	South Africa	A service delivery system and computer based tool for genetic test interpretation and reporting, using a database and expert knowledge	Health professional
73	P4 nutrigenetics	PharmGenomics GmbH	Germany	A genetic test based on an array of markers to detect nutritional intolerances	Individual (indirectly); Health professional
79	Testing for Viral Load Monitoring (VLM) and the Treatment of Hepatitis C	-	-	Testing for monitoring viral load of Hepatitis C to assess and predict response to therapy	Health professional
83	Corus CAD by CardioDx	Corus CAD; CardioDx	USA	A gene expression test on an array of genes to improve prediction of coronary artery disease risk	Health professional

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¹ Gentest was reported to be implemented in two facets: as a health practice to individuals via authorized practitioners, which continues today, and as an implementation model at GENAR's relevant center, which is not active anymore**.

² GeneInsight started as an implementation model in one institution but now it is available for others as well.

Table S4: Implementation models (Category-2)

P- No.†	Practices	Setting: Institution implemented	Country	Short description	Axis-2: Group served to
20	Gentest **¹	GENAR Institute for Public Health and Genomics Research	Turkey	An integrative preventive model that utilizes an individual's health information, lifestyle factors, biomarkers and genotype to prevent chronic complex diseases in a targeted way is developed and implemented on individuals at GENAR's relevant center.** ¹	Individual; Health professional; Health care organization
22	Laboratory informatics solution for reporting of multiple myeloma	University of Utah School of Medicine	USA	A reporting framework which provided the clinicians with composite results of the biomarkers used for myeloma patients is developed and implemented.	Health professional; Health care organization
23	Sydney West Area Health Service - CYP450 testing	Sydney West Area Health Service	Australia	A laboratory provides on demand pharmacogenetic testing service within 24 hours to medical practices (hospitals, clinics, etc.) in a certain region.	Health professional; Health care organization
24	Ubiquitous Healthcare (U-Health)	National Taiwan University Hospital	Taiwan	A home healthcare service and sensors network is combined into a service system to continually provide health care service to patients who live in remote areas. It is offered to patients discharged from the hospital or hospice care and patients suffering from chronic diseases including cardiovascular diseases.	Individual; Health professional (indirectly); Health care organization
25	CLIPMERGE PGx Program	Mount Sinai Medical Center	USA	Patients enrolled are provided pharmacogenetic testing preemptively, i.e. before the relevant drug is indicated. A clinical decision support system is integrated to the existing work processes to deliver guidance on actionable results.	Health professional; Health care organization
26	Diabetes Connect - Center for Connected Health	Partners HealthCare	USA	In this programme, type 2 diabetic patients upload their blood glucose readings using their own glucometer through landline. The data is visible on a web-portal to patient and physician, who can also communicate with each other there. The physician can recommend on medical and lifestyle management of the disease.	Individual; Health professional; Health care organization (indirectly)

P- No.†	Practices	Setting: Institution implemented	Country	Short description	Axis-2: Group served to
27	Coriell Personalized Medicine Collaborative - Common complex diseases	Coriell Personalized Medicine Collaborative, via U.S. Air Force, Ohio State University Medical Center, Fox Chase Medical Center	USA	Three groups of individuals, community, cancer and chronic disease cohorts, are enrolled in the programme. Individuals provide a detailed medical history and DNA test is carried out on predefined variants. Risk reports for actionable health conditions are provided them with a web interface.	Individual; Health professional (optional); Health care organization (indirectly)
29	Multidisciplinary cancer clinic at Intermountain Health	Intermountain Healthcare	USA	A multidisciplinary clinic is established to provide coordinated and comprehensive treatment planning in a single visit for cancer patients.	Individual; Health care organization
30	Genetic cancer risk assessment service	City of Hope Comprehensive Cancer Center	USA	Genetic cancer risk assessment services are provided not only at the academic medical center but also to a larger community through Cancer Screening and Prevention Program Network.	Individual (indirectly); Health professional; Health care organization
32	GeneInsight Suite²	Partners HealthCare	USA	A series of software applications for laboratories, clinics and the communication between them to streamline interpretation and management of genome-based data is developed and implemented. ²	Health professional; Health care organization
33	Geisinger blood component utilization programme	Geisinger Medical Center	USA	In order to reduce unnecessary blood component utilization for patients undergoing surgery, algorithms are developed to clarify when and which blood components to use. A system is set for communication between the pathologist and the patients' clinical team 7/24, involving clinical pathologist when too much blood components are used for a given patient.	Health professional; Health care organization
35	OurFamilyHealth	Intermountain Healthcare	USA	A patient-facing family health history tool is developed and introduced. It is accessible via a personal health record site to patients and also linked to their electronic health record.	Individual; Health professional (indirectly); Health care organization

P- No.†	Practices	Setting: Institution implemented	Country	Short description	Axis-2: Group served to
38	A surveillance tool to support quality assurance and research in personalized medicine	Vanderbilt University School of Medicine	USA	A quality assurance tool for assessment of a service implemented, i.e. routine pharmacogenetic testing of patients preparing to undergo coronary angiography (preemptive pharmacogenetics), is developed and introduced.	Health professional; Health care organization
39	Genomic Medicine Model for primary care / MeTree	Duke University/ Moses Cone Health System	USA	An internet based patient-facing family health history collection and clinical decision support tool is developed and implemented.	Health professional; Health care organization
41	Michigan Oncology Sequencing Project (MI-ONCOSEQ)	Michigan University	USA	Advanced or refractory cancer patients' are provided tumor genomics testing (whole genome and exome sequencing). Based on the results, therapeutic possibilities are identified by a multidisciplinary team.	Health professional; Health care organization
42	Athlete Biological Passport	World Anti-Doping Agency, through local/national antidoping organizations	International	Athletes are followed longitudinally to detect any changes in their hematologic and steroidal profiles. Recent large changes and disparities in the parameters indicate either doping or a medical condition.	Individuals; Other organization
44	French National Cancer Institute's (French NCI) nationwide programme for tumor genomics	French National Cancer Institute (NCI)	France	French NCI and a network of 28 laboratories provide biomarker testing for all cancer patients in all clinics (tumor genomics). The programme is funded by the French NCI and the Ministry of Health.	Health professional; National health system
48	Via Oncology Pathways	University of Pittsburgh Medical Center	USA	A clinical pathways programme was developed including algorithms for oncology clinical decision making and measuring the adherence to the algorithms.	Health professional; Health care organization
49	My PREVENT™ Plan	Duke University Medical Center / 'Just for Us' program	USA	Within a home health care programme for disabled and elderly people, a service was developed for identification of patients' proximate and longer-term health risks and needs, chronic disease management, patient engagement and coordination of care, using the health profile of the individual.	Individual; Health professional; Health care organization
56	Next Generation Sequencing for cancer patients at Washington University	Washington University	USA	Next generation sequencing is offered to patients to test for mutations in certain genes in tumors to determine the most appropriate therapy (tumor genomics).	Individual (indirectly); Health professional; Health care organization (indirectly)

P- No.†	Practices	Setting: Institution implemented	Country	Short description	Axis-2: Group served to
57	PREDICT (Pharmacogenomic Resource for Enhanced Decisions in Care and Treatment)	Vanderbilt University School of Medicine	USA	Identified patients, who were scheduled for coronary arteriography, is genotyped preemptively to predict the response to a drug which is likely to be prescribed after the arteriography. Clinically actionable results are integrated to the electronic medical record of the individuals to be used by the clinician, and a clinical decision support system is developed and implemented.	Individual (indirectly); Health professional; Health care organization
58	MyHealthAtVanderbilt - FluTool	Vanderbilt University School of Medicine	USA	A decision support application which is targeted to patients with influenza-like illness to enable triage of individuals at risk of influenza is integrated into a patient portal.	Individual; Health care organization (indirectly)
60	Telemedicine for the Heart	German Foundation for the Chronically Ill, Techniker Krankenkasse	Germany	A telemedicine programme which consists of nurse-calls to motivate patients to perform regular self-measurements (blood pressure, pulse, weight) and their recording is offered to the members of a sickness fund in Germany (a sort of a social insurance). In the case the measured values are outside of set limits, calls to physicians are placed for therapy adjustments.	Health professional; Health care organization; Payer organization (a social health insurance fund)
61	Lynch syndrome screening programme and clinical genetics services at Cleveland Clinic	Cleveland Clinic	USA	A screening programme for all colorectal patients is offered to identify mutations related with a familial form of it (Lynch syndrome).	Individual (indirectly); Health care organization
62	University of Florida (UF) Health Personalized Medicine Program (PMP)	University of Florida	USA	Patients undergoing left heart catheterization and percutaneous-coronary intervention are genotyped preemptively to predict the response to a drug which is likely to be prescribed afterward the procedure (pharmacogenetics). Results are incorporated to electronic health records of the individual, assisted with a clinical decision support tool.	Health professional; Health care organization

P- No.†	Practices	Setting: Institution implemented	Country	Short description	Axis-2: Group served to
66	Clinical Pharmacogenomics Implementation Program at the University of Chicago	University of Chicago	USA	Patients enrolled are provided broad pharmacogenomic testing preemptively, i.e. before the relevant drug is indicated. Results are available via genomic prescribing system portal, which also provides guidance on use of drugs based on the results.	Health professional; Health care organization
67	Interdisciplinary model of care for cardiogenetics	Montefiore Medical Center (Albert Einstein College of Medicine)	USA	An interdisciplinary model of care is provided for families with a history of sudden cardiac death or event, addressing genetic, psychological, ethical and medical issues.	Individual (indirectly); Health professional; Health care organization (indirectly)
68	Coriell Personalized Medicine Collaborative - Pharmacogenomics	See P-27 above	USA	A systematic process is developed for critically evaluating and translating published drug-specific pharmacogenetic data for pharmacogenetic risk reporting. These reports are delivered through secure web portal, accessible by the individuals and their care givers.	Individual; Health professional (optional/indirectly); Health care organization (indirectly)
69	The Oral-Systemic Personalized Medicine Model at Marshfield Clinic	Marshfield Clinic	USA	Medical and dental electronic health records are integrated and a clinical decision support system is introduced to support diabetic individuals get a dental visit and dental patients under risk of diabetes or with diabetes get a medical visit.	Health professional; Health care organization
71	Individualized Medicine Clinic at Mayo Clinic	Mayo Clinic	USA	Two lines of services are introduced in this clinic: 1) tumor genomics services for patients with advanced cancer who fail standard therapy; 2) Whole Exome Sequencing and interpretation services for patients with a suspected genetic condition for whom previous genetic testing did not reveal an etiology.	Health professional; Health care organization
74	Pharmacogenetic Smoking Cessation Intervention	Group Health Cooperative	USA	A patient-centered service to quit smoking including genetic testing to tailor pharmacotherapy is developed and implemented.	Individual (indirectly); Health professional; Health care organization
75	The University of Texas MD Anderson Cancer Center experience with cancer genomics	The University of Texas MD Anderson Cancer Center	USA	Tumor genomics services are established in a cancer center, including a sequential genomic analysis protocol involving targeted mutation testing, targeted full length sequencing and whole exome or genome sequencing.	Health professional; Health care organization (indirectly)

P- No.†	Practices	Setting: Institution implemented	Country	Short description	Axis-2: Group served to
77	WHOLE - Wellness and Health Omics Linked to the Environment	Georgia Institute of Technology, Emory University	USA	Clinical data, lifestyle data and family health history is obtained every 6-12 months from individuals and annual health evaluations are made to help individuals make more informed health decisions. For a subset of participants, whole genome sequencing and other deep genomic profiling is carried out to be combined with the clinical assessment.	Individual; Health professional; Health care organization
80	Health Coaching and Genomics	Duke University, US Air Force	USA	Individuals are offered a risk counseling for coronary heart disease and type 2 diabetes using conventional risk factors and genetic test results, and followed-up with health coaching.	Individual; Health professional; Health care organization
82	Preemptive Pharmacogenomics at Mayo Clinic	Mayo Clinic	USA	Selected patients are tested for pharmacogenetic genes (sequencing and genotyping) preemptively, i.e. before the relevant drug is indicated. Clinically actionable results are integrated to the electronic medical record of the individuals. A clinical decision support system is developed and implemented at the point of care.	Individual (minor); Health professional; Health care organization
86	Youth Area for adolescent and young adult cancer patients	CRO National Cancer Institute	Italy	A special unit for adolescents and young adults (Youth Area) is created at a cancer research hospital to provide patient-centered assistance, in particular for their psychosocial needs.	Individual (and his/her family); Health care organization (indirectly)

† Numbering is based on Table S1. These numbers are used as identifier of each practice and referred with a “P-” number in the text.

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1 Gentest was reported to be implemented in two facets: as a health practice to individuals via authorized practitioners, which continues today, and as an implementation model at GENAR's relevant center, which is not active anymore.

2 GeneInsight started as an implementation model in one institution but now it is available for others as well.

Table S5: Emerging practices (Category-3)

P- No.†	Practices	Setting: developer	Country	Short description	Axis-2: Group served to
3	Group: Adoptive T cell therapy for cancer	N/A	-	Transfusion of T cells to cancer patients after adopting with various methods to treat cancer (patient's own cells or donor cells)	Health professional
9	Group: Smartphone-Based Personal, Pervasive Health Informatics Services	Various	-	Smartphone-based personal health informatics (incl. sensor, signal and imaging informatics) applications for provision and improvement of diagnosis, acute and chronic treatment and rehabilitation services as well as supporting self-care to stay healthy/prevention of diseases	Individual; Health professional
10	Internet-based Personalised Healthcare Information (PHI) dissemination system	Universiti Sains Malaysia	Malaysia	A system providing customized health maintenance information via internet proactively based on one's electronic medical record	Individual
13	IT-based Diagnostic Instrumentation Systems	Seul National University	Korea	A personal wearable device including wrist-worn health monitoring device, a blood glucometer integrated to a cell phone and a home telehealthcare system including bio-signal measurement systems that can measure, for example, ECG, body temperature, body-fat ratio on a toilet seat	Individual
15	Preventing Suicide Network (PSN) **	State University of New York	USA	An online resource center that provides information about suicide prevention to intermediaries (people who help individuals at risk of suicide)	Individuals (indirectly via family, friends, teachers, colleagues, etc.); Health professional
16	Mobile Ototoxicity Monitoring Instrumentation	Veteran Affairs Medical Center	USA	A mobile audological instrument platform to be used in hospital wards in order to detect ototoxic change early and prevent hearing loss.	Health professional; Health care organization (indirectly)
18	Pediatric Psychosocial Preventative Health Model (PPPHM)	Children's Hospital of Philadelphia	USA	A biopsychosocial framework for assessing and treating families of children in pediatric health care settings	Health professional; Health care organization
19	Patient-Nutritionist social network	Politecnico di Milano	Italy	An online social networking platform for patients and nutritionists to communicate and interact within and across the patient community and nutritionist community	Individual; Health professional

P- No.†	Practices	Setting: developer	Country	Short description	Axis-2: Group served to
28	GliomaPredict	National Cancer Institute	USA	An algorithm for prediction of the outcome of gliomas (a brain tumor) based on their transcriptomic profile	Health professional; Health care organization (indirectly)
34	Personalised medicine in wound care	PathoGenius Diagnostics, Southwest Regional Wound Care Center	USA	Tailoring the systemic and topical antimicrobial treatment based on the diagnostic tests that identify the pathogens on the wound	Health professional
36	Recon 1 (A global metabolic network reconstruction)	University of California	USA	Network analysis of metabolomic profiles of an individual to identify the required therapy	Health professional
37	Personalized Systems Medicine Approach	Ohio State University Medical Center	USA	"Personalized systems medicine approach", reported to be implemented on one patient: the patient is approached as a whole person within the illness trajectory, rather than specific illnesses at specific time points.	Individual (indirectly); Health professional (for and by); Health care organization (indirectly)
40	Data-modelling and visualization in chronic kidney disease	University of Surrey	UK	Creation of a data display for visualizing individual patient's renal function in smoothed trend lines	Health professional
45	Next Generation Service Delivery Platform	University of Patras, Rion University Hospital	Greece	A system which 1) collects patient data and creates treatment scenarios, 2) monitors patient and detects the scenarios to take necessary action, such as establishing contact with the physician	Individual; Health professional
46	Personal Genome Project	Harvard Medical School	USA	Based on the genetic test results interpreted via Genome-Environment-Trait Evidence (GET-Evidence) system, which is a tool that automatically processes genomes and prioritizes both published and novel variants for interpretation, the Personal Genome Project participants received information on possible diseases, which led to medical follow-ups.	Individual
47	Computer-Assisted Brief Intervention for Tobacco (CABIT) Program	Cooper University Hospital & Polaris Health Directions, Inc.	USA	A computer based tool to assist quitting smoking in clinical settings, which carries out a self-administered computerized assessment to produce reports for health care provider and patient, cue a stage-matched video intervention and provide referral for smoking cessation	Individual; Health professional; Health care organization (indirectly)

P- No.†	Practices	Setting: developer	Country	Short description	Axis-2: Group served to
50	integrative Personal Omics Profile (iPOP)	Stanford University	USA	Extensive omics profiling of blood components from a generally healthy individual was performed over a 14 month period. The whole genome sequencing data was analyzed with RiskOGRAM algorithm, which integrates information from multiple alleles associated with disease risk. It indicated an increased risk of type 2 diabetes, which actually developed during the follow-up period and was diagnosed by the physician.	Individual
51	Coronary Heart Disease Risk Assessment (CHDRA)	Marshfield Clinic	USA	A coronary heart disease risk assessment model using serum protein levels and conventional clinical risk factors	Individual (indirectly); Health professional
52	Electronic health record - OntoKBFC	NIH Clinical Center	USA	Integration of molecular genetics laboratory results into electronic health records and linking them to an existing knowledge base for the relevant disease (in this case, cystic fibrosis)	Health professional; Health care organization
54	Health Improvement and Management System (HIMS)	Yongin Songdam College	Korea	An integrated system to measure body features regularly (weight, body fat, blood pressure) to control them	Individual
59	Quantified-self	University of California	USA	An individual followed various parameters related to his body longitudinally (digital biomedical measurement devices and blood and stool biomarkers) and identified abnormal patterns, which led to clinical diagnosis of a disease.	Individual
64	Collaborative Assessment and Recommendation Engine (CARE)	University of Notre Dame	USA	An informatics tool that provides disease risk predictions for individuals based on the health care records of large populations	Individual; Health professional
65	Gaussian process framework	University of Oxford	UK	A Gaussian process framework that aims to facilitate patient monitoring in wards by providing analysis and inference in the presence of data uncertainty	Health professional
72	Pregnancy and Health Profile (PHP)	March of Dimes Foundation and others	USA	An electronic patient-entered family health history tool that provides clinical decision support and point-of-care education to assist with patient management	Health professional; Health care organization

P-No.†	Practices	Setting: developer	Country	Short description	Axis-2: Group served to
76	Integration of deep brain stimulation and whole genome sequencing for obsessive compulsive disorder	Medtronic	USA	Integration of deep brain stimulation and whole genome sequencing in the evaluation, treatment and preventive care for the case of an obsessive compulsive disorder patient. In addition to implantation of a deep brain stimulation therapy device; whole genome sequencing was carried out, which identified a variant related to an inherited condition that might explain the symptoms of the case; common variants and pharmacogenomic variants.	Individual (indirectly); Health professional
78	IAServ: An Intelligent Home Care Web Services Platform in a Cloud for Aging-in-Place	Yuan Ze University	Taiwan	A home care web services platform to assist aging-in-place by generating care plans (subject to approval of the health care provider), making arrangements such as appointments and pick-up services and reminders	Individual (minor); Health professional; Health care organization
81	Kaleidoscope model of diabetes care	University of Southampton and others	UK, Germany	A model of care that proposes the encompassing of environment, intrinsic thought and therapy regimens to provide tailored, personalized healthcare in order to support enhanced diabetes self-management and outcomes	Individual; Health professional
84	ALGA-C (questionnaire that measures and collects psycho-cognitive information about patients)	P-medicine project	Greece, Italy, UK	An electronic questionnaire which aim to provide a psycho-cognitive picture of the patient with whom the physician is about to meet, so that the physician can use the feedback from the questionnaire to optimize the communication style and interaction with the patient	Health professional
85	A prototype for automated interpretation of genetic tests	Oslo University Hospital	Norway	A prototype of an algorithm and reporting system for a pharmacogenetic test (CYP3A5 - tacrolimus dose)	Health professional
87	A case of whole-exome sequencing from a prostate cancer bone metastasis biopsy	University of California San Francisco	USA	Whole exome sequencing was carried out on prostate cancer bone metastasis biopsy. The results identified genomic alterations which may impact decisions on therapy.	Health professional
88	A Hybrid Mobile-Cloud Approach for ECG Telemonitoring	University of Maryland	USA	A mobile-cloud based electrocardiograph monitoring using a smartphone	Health professional

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