



& preliminary results

EOSC-Nordic WP4

FAIR assessments

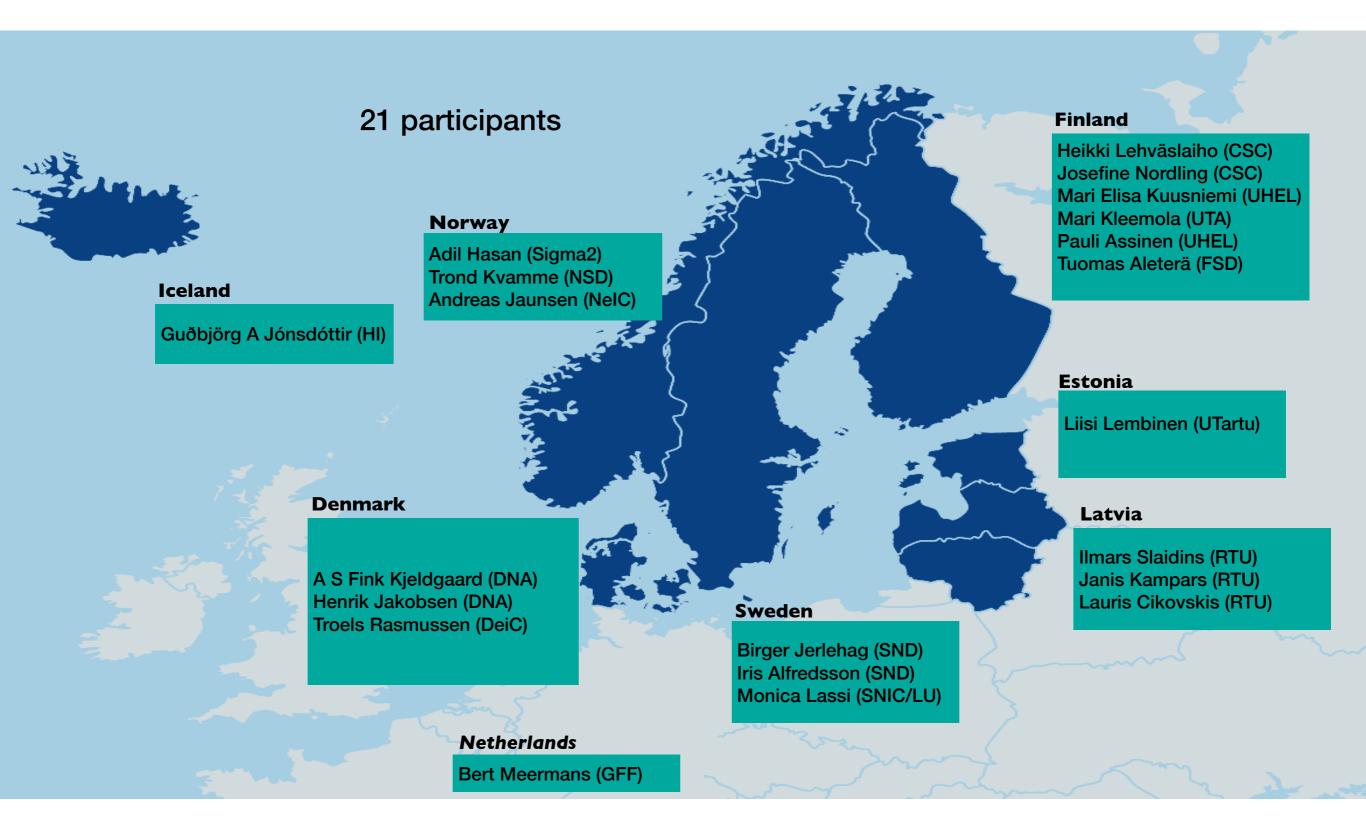
EOSC-Nordic project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 857652

Andreas O Jaunsen (NeIC, WP4 lead)



WP4 members





It's all about FAIR...











What is a dataset?



For Humans

472 187
Save Citation

37,138 57
View Share

<meta name="dc.identifier" content="10.1</pre>

For Machines

Community Health Workers and Mobile Technology: A Systematic Review of the Literature

Rebecca Braun , Caricia Catalani, Julian Wimbush, Dennis Israelski

RESEARCH ARTICLE

Published: June 12, 2013 https://doi.org/10.1371/journal.pone.0065772

Article	Authors	Metrics	Comments	Media Coverage
*				

Abstract

Introduction

Methods Results

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Supporting Information

Acknowledaments

Author Contribution

References

Reader Comments (0) Media Coverage (1) Figures

Abstract

Introduction

In low-resource settings, community health workers are frontline providers who shoulder the health service delivery burden. Increasingly, mobile technologies are developed, tested, and deployed with community health workers to facilitate tasks and improve outcomes. We reviewed the evidence for the use of mobile technology by community health workers to identify opportunities and challenges for strengthening health systems in resource-constrained settings.

Methods

We conducted a systematic review of peer-reviewed literature from health, medical, social science, and engineering databases, using PRISMA guidelines. We identified a total of 25 unique full-text research articles on community health workers and their use of mobile technology for the delivery of health services.

Result

Community health workers have used mobile tools to advance a broad range of health aims throughout the globe, particularly maternal and child health, HIV/AIDS, and sexual and reproductive health. Most commonly, community health workers use mobile technology to collect field-based health data, receive alerts and reminders, facilitate health education sessions, and conduct person-to-person communication. Programmatic efforts to strengthen health service delivery focus on improving adherence to standards and guidelines, community education and training, and programmatic leadership and management practices. Those studies that evaluated program outcomes provided some evidence that mobile tools help community health workers to improve the quality of care provided, efficiency of services, and capacity for program monitoring.

Discussion

Evidence suggests mobile technology presents promising opportunities to improve the range and quality of services provided by community health workers. Small-scale efforts, pilot projects, and preliminary descriptive studies are increasing, and there is a trend toward using feasible and acceptable interventions that lead to positive program outcomes through operational improvements and rigorous study designs. Programmatic and scientific gaps will need to be addressed by global leaders as they advance the use and assessment of mobile technology tools for community health workers.

Figures



<meta name="citation title" content="Community</pre> Health orkers and Mobile Technology: A Systematic Review of <meta itemprop="name" content="Community Health Worker</pre> s and Mobile Technology: A Systematic Review of the Li ="PLOS ONE <meta name="citation_journal_title" conten</pre> <meta name="citation journal abbrev" con,</pre> ent="PLOS <meta name="citation date" content="Jur</pre> 12, 2013" <meta name="citation firstpage" conte</pre> t="e65772". <meta name="citation issue" content</pre> <meta name="citation volume" conte</pre> <meta name="citation issn" conte <meta name="citation_publisher"</pre> content="Publi Library of Science"/> 75 rl" content="https://journals.plos.org/plosone/article/file?id=10.1371/journal.p <meta name="citation_pdf_</pre> rticle_type" conte t="Research Article">

<meta name="twitter:card" content="summary" /> <meta name="twitter:site" content= @plosone"/> <meta name="twitter:title" content="Community Health Workers and Mobile Technology: A Systematic Review</pre> <meta property="twitter:description" content="Introduction In low-resource settings, community health wo</pre> burden. Increasingly, mobile technologies are developed, tested, and deployed with community health workers the use of mobile technology by community health workers to identify opportunities and challenges for streng conducted a systematic review of peer-reviewed literature from health, medical, social science, and engineer unique full-text research articles on community health workers and their use of mobile technology for the de mobile tools to advance a broad range of health aims throughout the globe, particularly maternal and child h community health workers use mobile technology to collect field-based health data, receive alerts and remind communication. Programmatic efforts to strengthen health service delivery focus on improving adherence to st programmatic leadership and management practices. Those studies that evaluated program outcomes provided som the quality of care provided, efficiency of services, and capacity for program monitoring. Discussion Evide improve the range and quality of services provided by community health workers. Small-scale efforts, pilot p is a trend toward using feasible and acceptable interventions that lead to positive program outcomes through scientific gaps will need to be addressed by global leaders as they advance the use and assessment of mobile

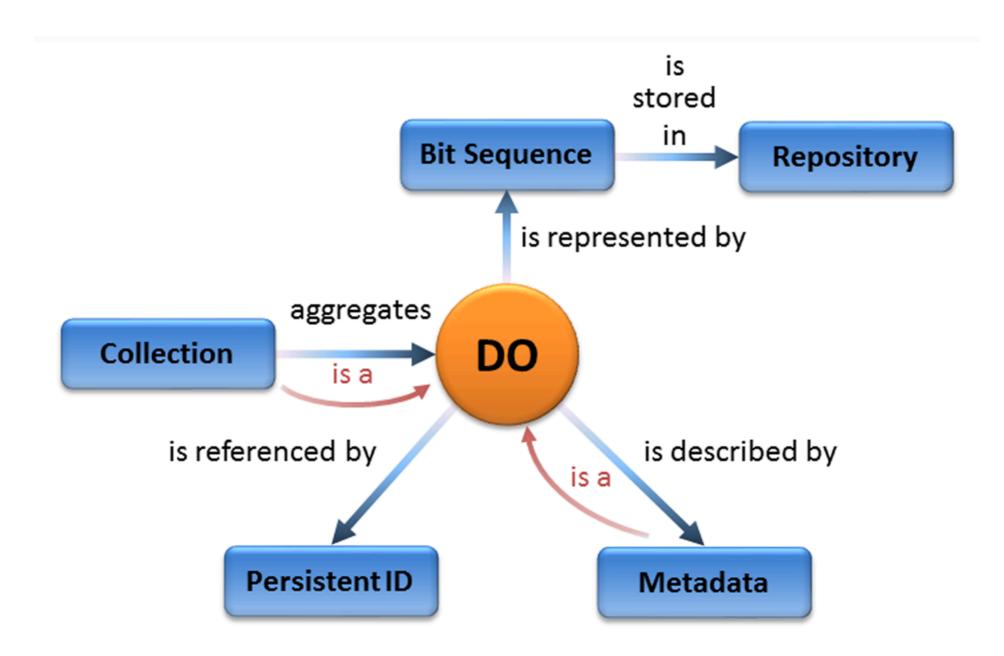
71/journal.pone.0065772"/>

workers use mobile technology to collect field-based health data, receive alerts and reminders, facilitate h Programmatic efforts to strengthen health service delivery focus on improving adherence to standards and gui

<meta property="tyltter:image" content="https://journals.plos.org/plosone/article/figure/image?id=10.137</pre>

Citation: Braun R, Catalani C, Wimbush J, Israelski D (2013) Community Health

FAIR Digital Objects



Schwardmann, U., 2020. Digital Objects – FAIR Digital Objects: Which Services Are Required?. *Data Science Journal*, 19(1), p.15. DOI: http://doi.org/10.5334/dsj-2020-015

Our semi-automated FAIR- EOS assessment approach



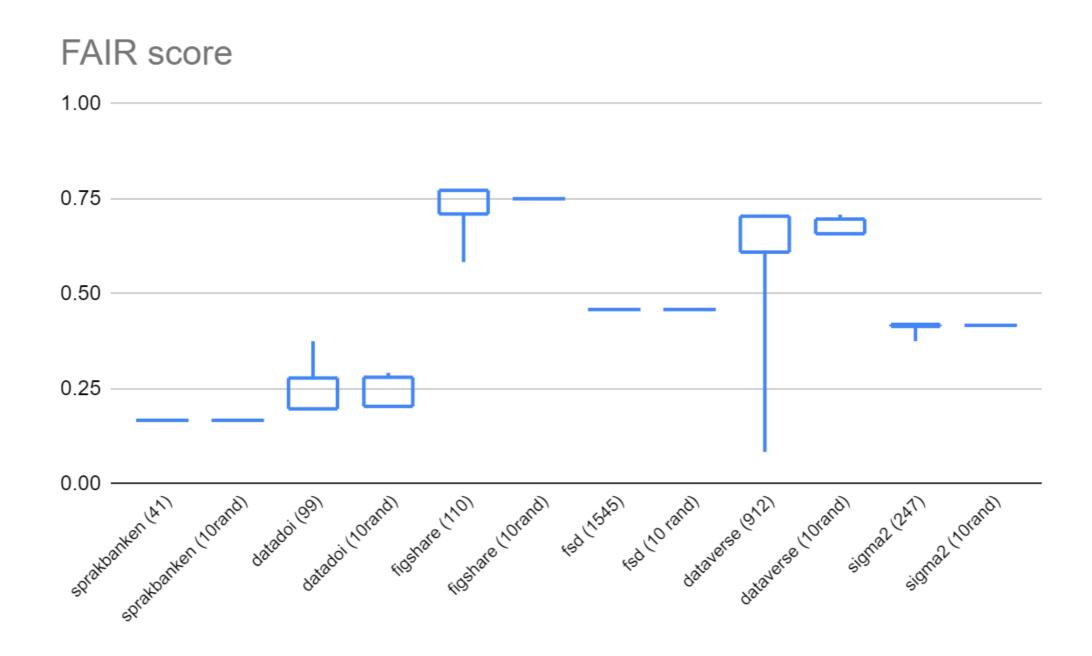


Evaluate datasets using metrics that (mostly) explore machine-actionable metadata

Select repositories with PIDs for evaluation (75 repos)

Survey Nordic region for research repositories (~100 repos in sample) (Manually) select N=10 datasets per repository (~750 unique DOs)

N=10 approximation test





Our goal is to guide communities based on FAIR assessments of their data repository and hope this leads them to take action and FAIRify there datasets/repository



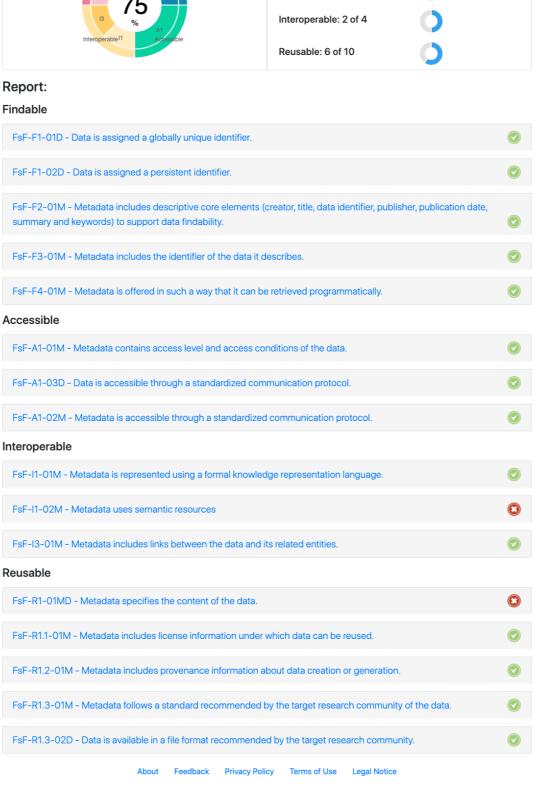
Disclaimer: The test results shown here are based on preliminary data and code which still is under development. F-UJI is rapidly evolving and not yet available in a productive environment.

Summary:



Report:

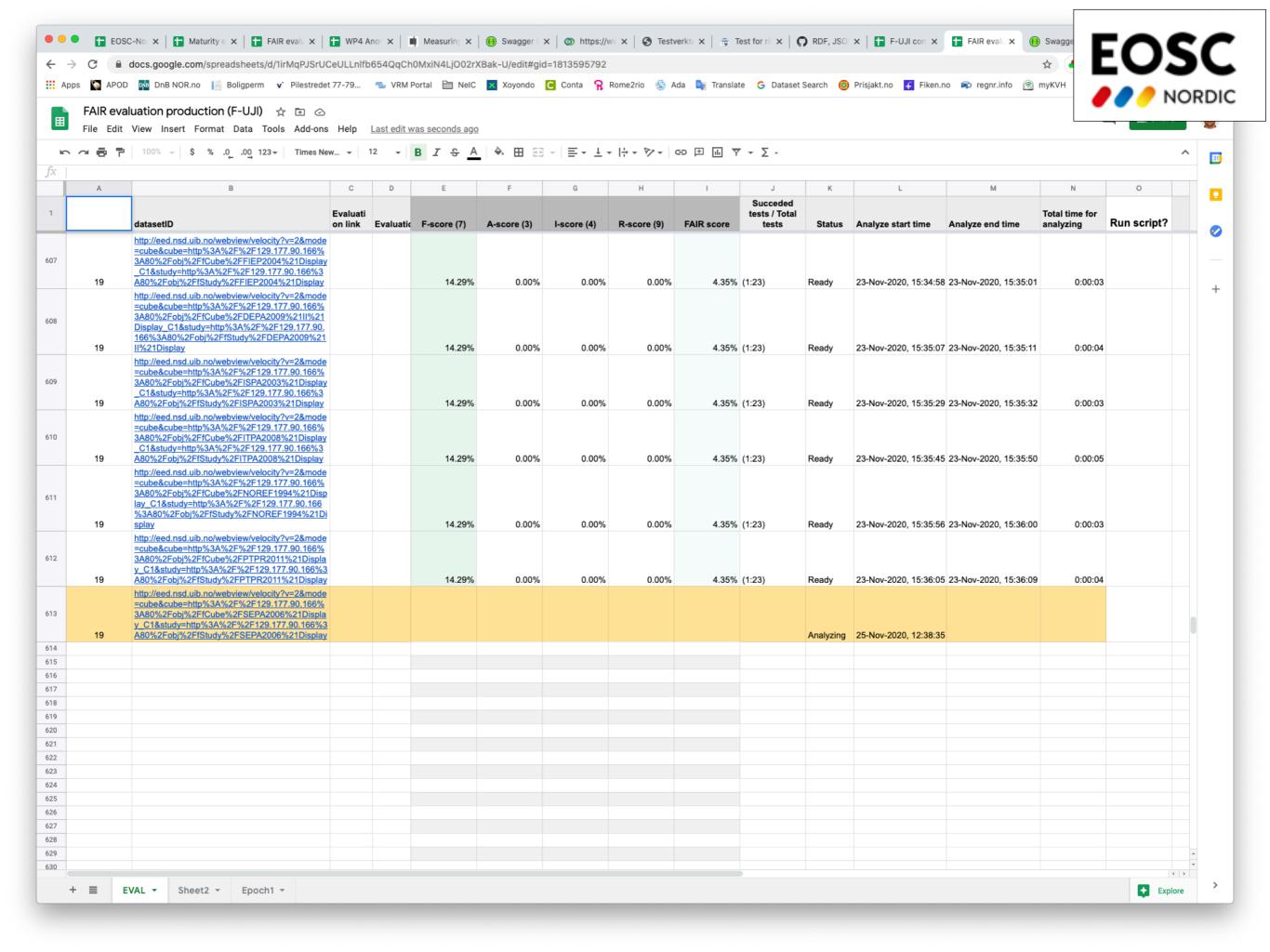
Findable



F-UJI is a result of the FAIRsFAIR "Fostering FAIR Data Practices In Europe" project which received funding from the European Union's Horizon 2020

project call H2020-INFRAEOSC-2018-2020 (grant agreement 831558).





https://
docs.google.co
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spreadsheets/d/
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BKiyEzImgJtQtx
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2vgdc

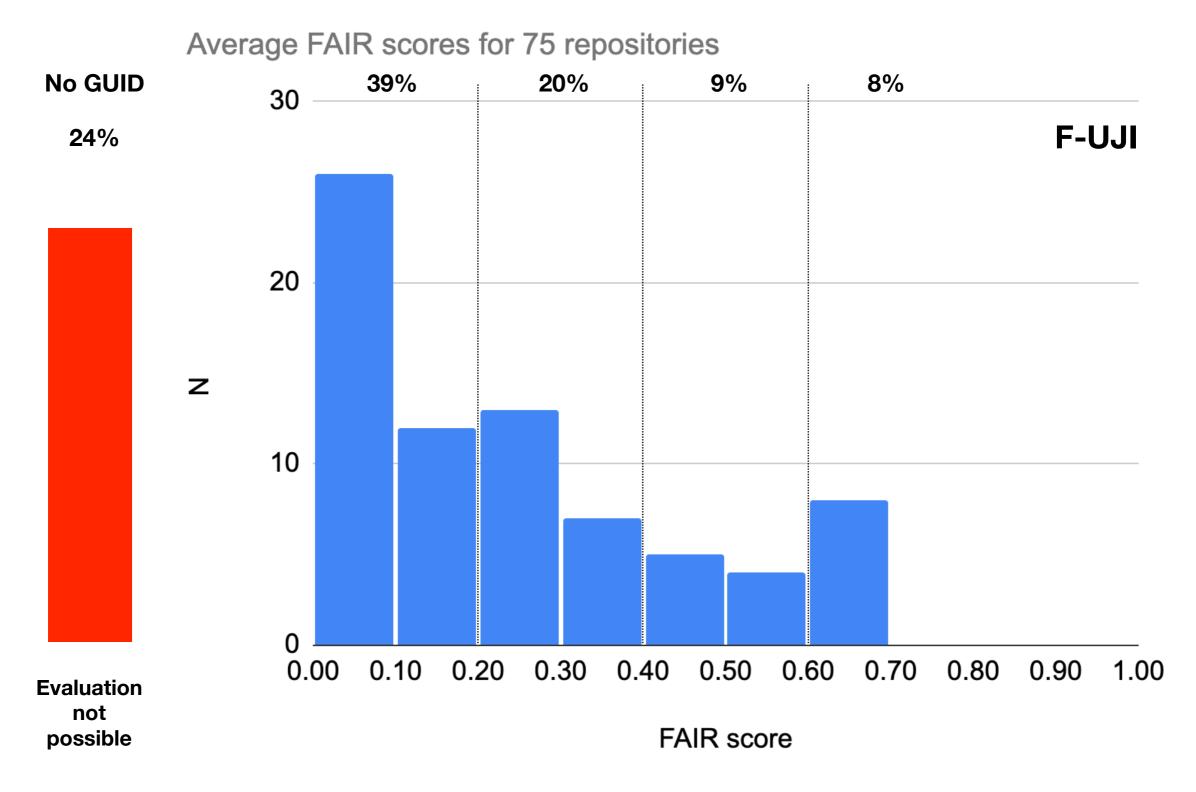
Expose the results to repos/communities, so that they can use the feedback from the tool as a guideline to improve their FAIRness

	F-UJI evaluator (latest) repoID = Name = Data = Platform = F-score = I-score = R-score = FAIR = Sigma = ilgma (A = Sigma															
repoID =	Name =	Data =		50.00%	A-score = 66.67%	9.72%	22.22%	34.30%	0.036	0.072	igma (A = 0.000	3igma (I = 0.124	ilgma (R =	Υ	₹ :	- -
3	DDA	20	Dspace	57.14%	33.33%	50.00%	33.33%	43.48%	0.030	0.072	0.000	0.124	0.000	^		- '
4	Det Kgl. bibliotek	20		30.00%	13.33%	5.00%	7.22%	14.57%	0.118	0.307	0.294	0.131	0.154		-	
6	Kielipankki	10	META-SHARE	14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000	х		×
7	Data Service Portal Aila	10		71.43%	66.67%	25.00%	33.33%	47.83%	0.000	0.000	0.000	0.000	0.000			
8	Fairdata IDA	10		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000			
9	NMBU dataverseNO	16	Dataverse	85.72%	66.67%	37.50%	43.05%	58.15%	0.050	0.148	0.000	0.129	0.038			
10	NSD	20	NESSTAR	37.86%	13.33%	0.00%	8.89%	16.74%	0.087	0.283	0.168	0.000	0.112	х		
11	HUNT Databank	10		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000			
13	CLARINO Bergen Center repo	20	Dspace	30.00%	20.00%	7.50%	6.67%	15.65%	0.096	0.153	0.313	0.118	0.104	х		X
16	Språkbanken	10		14.29%	33.33%	0.00%	22.22%	17.39%	0.000	0.000	0.000	0.000	0.000			
17	ESS Data	9		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000			
18	TROLLing	22	Dataverse	75.00%	56.67%	27.50%	35.55%	48.91%	0.103	0.240	0.244	0.160	0.160	х		
19	EED	10	Nesstar	14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000			
20	UiT Open Research Data Dat	20	Dataverse	85.72%	66.67%	32.50%	44.44%	57.83%	0.047	0.147	0.000	0.118	0.000			
24	Språkbanken	13		17.59%	0.00%	0.00%	0.00%	5.35%	0.016	0.063	0.000	0.000	0.000		Х	X
25	Lund University Humanities	20		21.43%	0.00%	0.00%	0.00%	6.52%	0.018	0.073	0.000	0.000	0.000			
26	su.figshare.com	20	Figshare	51.43%	45.00%	10.00%	29.44%	34.78%	0.098	0.287	0.196	0.126	0.136			
27	SND	20		64.29%	50.00%	42.50%	38.89%	48.69%	0.077	0.220	0.171	0.118	0.057	Х		
28	ICES data portals	8		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000			
29	JASPAR	10		14.29%	33.33%	0.00%	11.11%	13.04%	0.000	0.000	0.000	0.000	0.000			
30	STRING	10		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000			
32	GBIF	22	IPT	59.74%	66.67%	25.00%	38.89%	46.44%	0.047	0.180	0.000	0.000	0.057)	Х
39	HPA	10		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000			
41	Fishbase	10		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000			
45	ISIG	10		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000			
47	GERDA	10		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000			
49	ACTRIS	8		46.43%	33.34%	12.50%	16.67%	27.17%	0.139	0.312	0.356	0.231	0.178			
52	NPDC	20		37.86%	35.00%	13.75%	17.22%	25.22%	0.127	0.259	0.366	0.151	0.178			
54	Bolin Centre Database	12		61.90%	33.33%	25.00%	22.22%	36.23%	0.028	0.111	0.000	0.000	0.000			
55	SMHI open data	10		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000			
57	NIRD Archive GTN-P Database	20		44.29%	20.00%	0.00%	0.00%	20.43%	0.093	0.311	0.168	0.000	0.114			
60	UNITE			14.29%				22.83%	0.114	0.000	0.000	0.000	0.000			
62	Estonian Biocentre Public	20		35.72% 14.29%	33.34%	6.25% 0.00%	16.67%	17.39%	0.000	0.220	0.000	0.111	0.171			
63	DataDOI	18		61.90%	62.97%	2.78%	27.78%	38.40%	0.068							
64 65	CELR META-SHARE	20		35.72%	33.33%	0.00%	5.56%	17.39%	0.057	0.208	0.108	0.081	0.116 0.057	Х		Х
66	AHEAD	10		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000	^		- '
68	USN RDA	10	Figshare	28.57%	33.33%	0.00%	22.22%	21.74%	0.000	0.000	0.000	0.000	0.000			
71	LOAR	19	1 Iganui c	61.65%	63.16%	2.63%	26.31%	37.76%	0.077	0.243	0.153	0.079	0.085			
72	AIDA Data Hub	20		65.71%	43.33%	23.75%	30.00%	41.52%	0.080	0.188	0.219	0.099	0.103			
73	QoG Institute's data	10		31.43%	10.00%	0.00%	6.67%	13.48%	0.084	0.276	0.161	0.000	0.107			
76	JYX	20		35.72%	33.34%	1.25%	11.11%	19.78%	0.093	0.073		0.056	0.114			
78	B2SHARE	12	Invenio	38.10%	27.78%	0.00%	13.89%	20.65%	0.118	0.275	0.343	0.000	0.172			
79	DH	10		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000			
80	NLL	10		25.71%	53.34%	40.00%	35.55%	35.65%	0.101	0.060	0.281	0.211	0.187			
	RTU RIS							40.049								
84		10		14.29%	0.00%	25.00%	11.11%	13.04%	0.000	0.000	0.000	0.000	0.000			
85	FinBIF	10		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000	Н		
87	SARV	10		14.29%	33.33%	0.00%	11.11%	13.04%	0.000	0.000	0.000	0.000	0.000			
92	SSRI	15		42.86%	26.67%	0.00%	13.33%	21.74%	0.131	0.362	0.338	0.000	0.169	Н		
94	IINH QsarDB	10		14.29% 35.72%	0.00% 30.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000			
100	QsarDB Bird	20		30.00%	40.00%	0.00%	6.67%	16.96%	0.110	0.220		0.128	0.163			
104	Migration Institute of Fir			14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.222	0.137	0.000	0.000			
106	Musiikkiarkisto	4	CKAN	28.57%	66.67%	50.00%	50.00%	45.65%	0.016	0.000	0.000	0.000	0.064			
109	SLS	14		14.29%	23.81%	0.00%	7.94%	10.56%	0.041	0.000	0.156	0.000	0.052			
113	SweFreq	10		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.002			
114	Metabolic Atlas	10		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000			
115	SEAD	10		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000			
116	NOW	10		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000			
117	SNM Digital Assets	10		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000			
120	GEUS	10		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000			
123	LARM	10		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000			
127	Garamantas	10		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000			
129	ммв	10		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000			
130	PlutoF	20		35.72%	31.67%	3.75%	16.11%	21.96%	0.111	0.220	0.333	0.092	0.167			
131	MIDAS	10		14.29%	0.00%	0.00%	0.00%	4.35%	0.000	0.000	0.000	0.000	0.000			
132	NMDC	20	Dataverse	85.72%	66.67%	32.50%	35.55%	54.35%	0.048	0.147	0.000	0.118	0.046			
133	IINH BIOTA	10		14.29%	33.33%	0.00%	22.22%	17.39%	0.000	0.000	0.000	0.000	0.000	Ш		
134	ICOS	20		21.43%	0.00%	0.00%	0.00%	6.52%	0.018	0.073	0.000	0.000	0.000			
135	CESSDA DC	14		34.70%	19.05%	14.29%	12.70%	20.50%	0.139	0.335	0.313	0.234	0.208			
136	DTU data	10	figshare	28.57%	33.33%	0.00%	22.22%	21.74%	0.000	0.000	0.000	0.000	0.000			
137	CLARIN IS	20	CLARIN	50.00%	63.34%	21.25%	22.22%	35.87%	0.039	0.073	0.103	0.092	0.000	Ш		
138																_

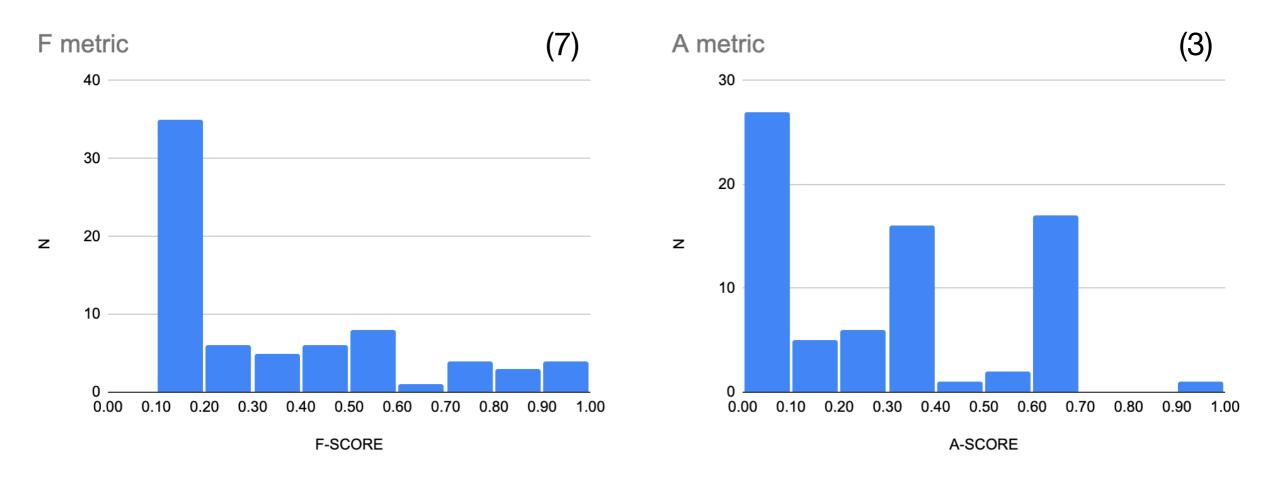


FAIR uptake

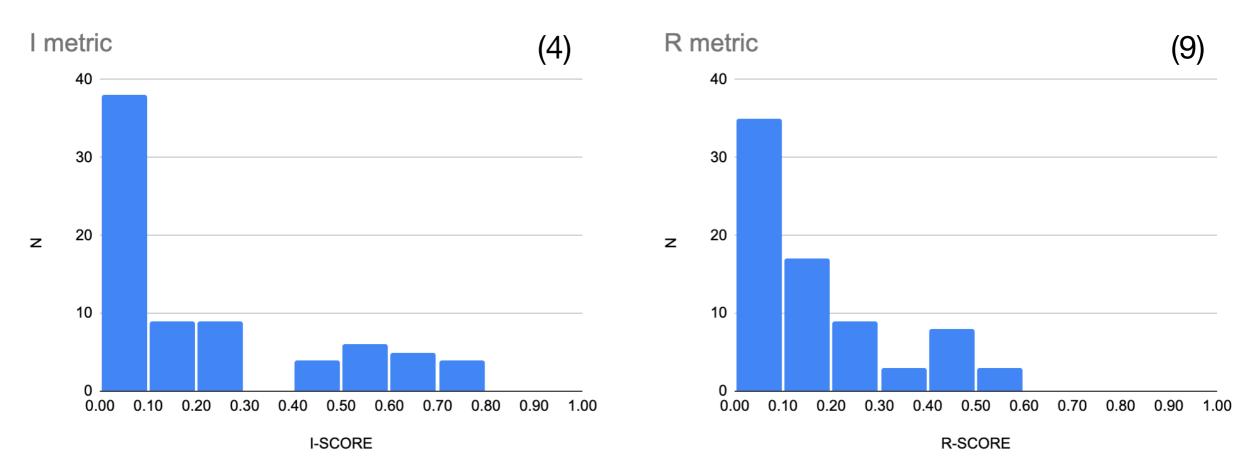




98 repositories (75 evaluated)

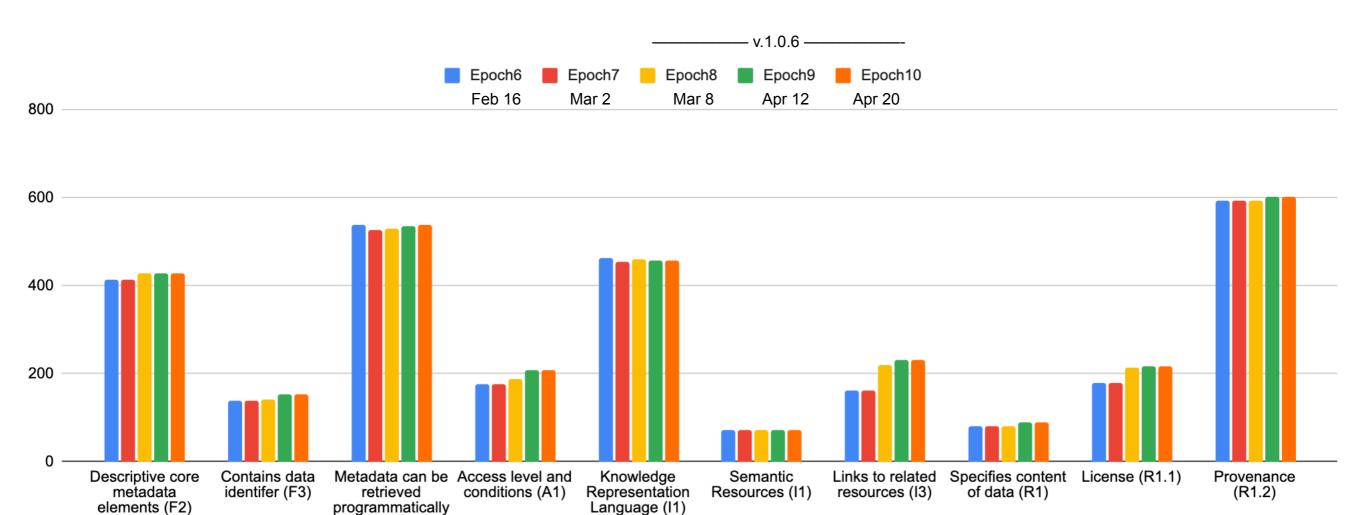


Evaluated using F-UJI



Assessment tests

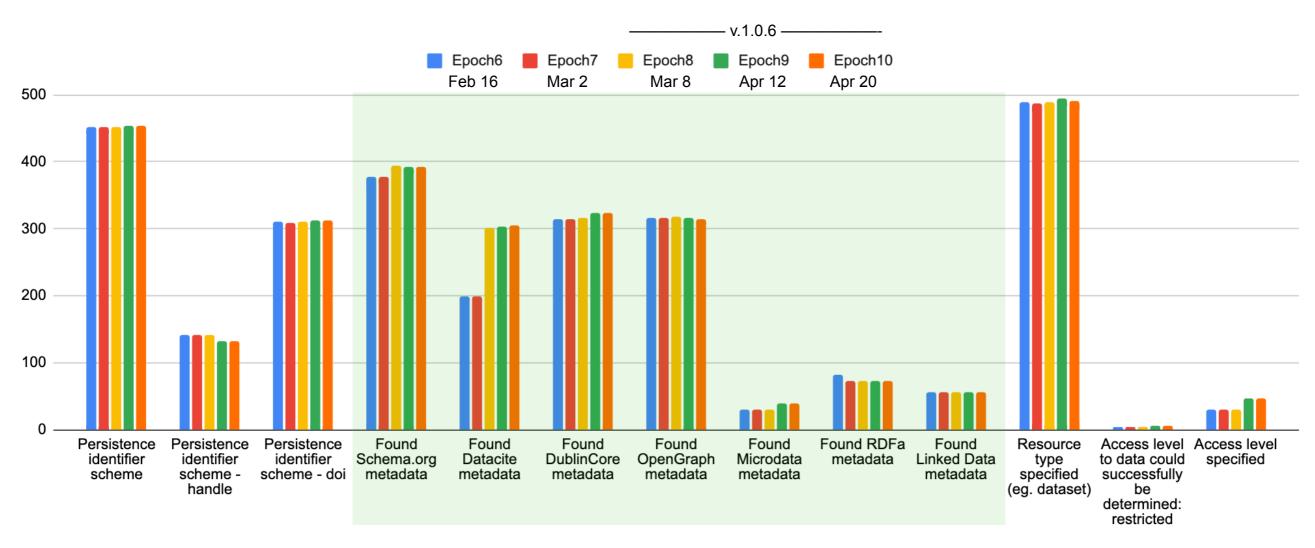




(F4)

Misc assessment output



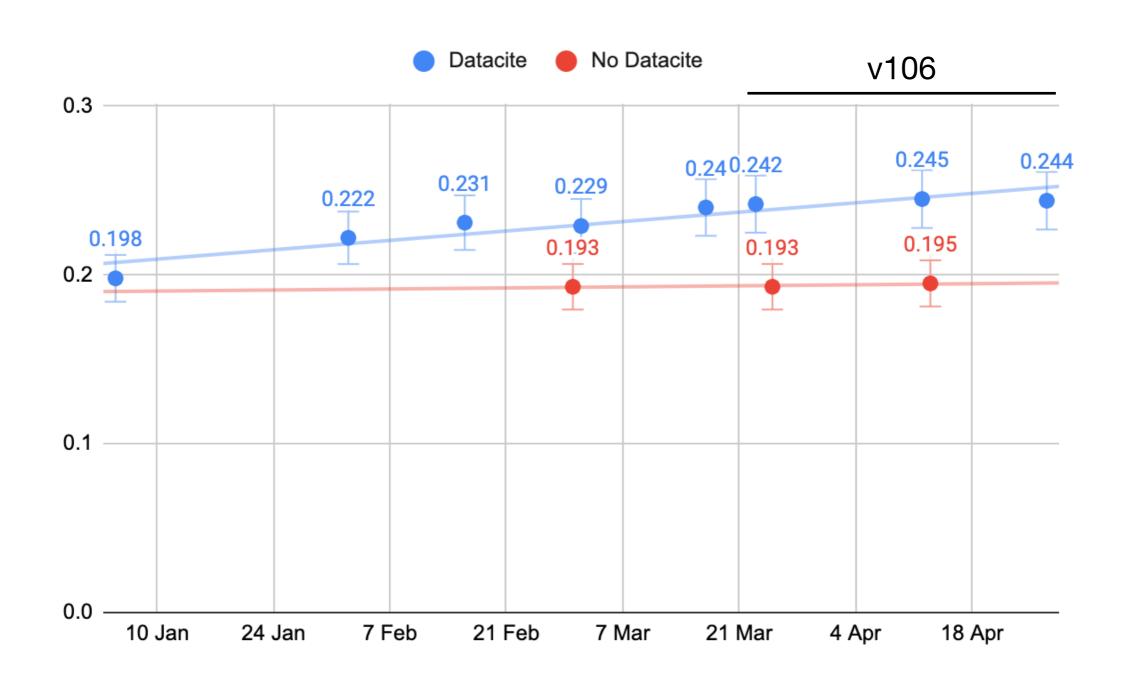


Description

A look at the temporal evolution of the FAIR scores (aka FAIR uptake)

FAIR score evolution



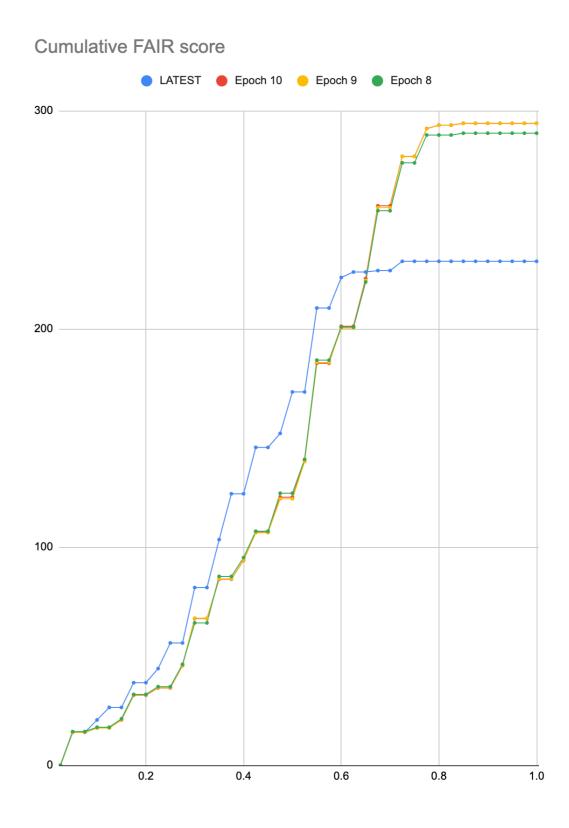


Parameters that influence the FAIR score

- Software and/or metric changes influence the results
- Individual datasets (DOs) assessments may fluctuate (due to intrinsic changes in metadata/repository)
- URL deprecation is a problem (currently; 24 out of 1040 GUIDs do not resolve – 404 error)

FAIR score analysis

Bins	LATEST	Epoch 10	Epoch 9	Epoch 8		
0.025	0	0	0	0		
0.05	2.4186	15.1371	15.0537	15.429		
0.075	2.4186	15.1371	15.0537	15.429		
0.1	2.4186	17.1363	17.0529	17.4282		
0.125	2.4186	17.1363	17.0529	17.4282		
0.15	2.4186	20.7613	20.9279	21.3032		
0.175	5.2525	32.0969	32.2635	32.4721		
0.2	5.2525	32.0969	32.2635	32.4721		
0.225	5.2525	35.4297	35.5963	36.0132		
0.25	6.0025	35.4297	35.5963	36.0132		
0.275	6.0025	45.6797	45.8463	46.2632		
0.3	10.0863	67.2655	67.4321	65.2237		
0.325	10.0863	67.2655	67.4321	65.2237		
0.35	15.4191	85.2637	85.4303	86.5549		
0.375	15.7941	85.2637	85.4303	86.5549		
0.4	15.7941	93.8887	94.0553	95.1799		
0.425	24.1281	106.8064	106.5563	107.2642		
0.45	24.1281	106.8064	106.5563	107.2642		
0.475	29.6277	122.8469	122.1385	124.6796		
0.5	40.1277	122.8469	122.1385	124.6796		
0.525	40.1277	139.8469	139.1385	140.1796		
0.55	43.9196	184.2663	184.6413	185.6824		
0.575	43.9196	184.2663	184.6413	185.6824		
0.6	46.8361	201.182	200.3904	200.8482		
0.625	48.7111	201.182	200.3904	200.8482		
0.65	48.7111	223.057	222.2654	221.4732		
0.675	48.7111	256.392	255.6004	254.1415		
0.7	48.7111	256.392	255.6004	254.1415		
0.725	49.4194	279.0576	278.9743	276.0988		
0.75	49.4194	279.0576	278.9743	276.0988		
0.775	49.4194	291.8076	291.7243	288.8488		
0.8	49.4194	293.391	293.3077	288.8488		
0.825	49.4194	293.391	293.3077	288.8488		
0.85	49.4194	294.2243	294.141	289.6821		
0.875	49.4194	294.2243	294.141	289.6821		
0.9	49.4194	294.2243	294.141	289.6821		
0.925	49.4194	294.2243	294.141	289.6821		
0.95	49.4194	294.2243	294.141	289.6821		
0.975	49.4194	294.2243	294.141	289.6821		
1	49.4194	294.2243	294.141	289.6821		





Highlights

- The majority of repositories are not very FAIR, primarily because they do not support machine-actionable metadata
- 24% of the sample cannot be evaluated due to lack of GUID
- The average score of the 75 evaluated repositories is 0.244 ± 0.007
- Repositories running on established platforms score an average of 0.42
- Repositories that are certified score an average of 0.31



The End