GENIE BPC CRC 2.0-PUBLIC

OVERVIEW

2022

Release Notes

- **PRISSMM™:** the BPC CRC dataset uses the PRISSMM™ framework developed at the Dana-Farber Cancer Institute to determine outcomes from retrospective real-world data to ascertain cancer treatment responses in the real world. Additional information can be found in the analytic data guide and information about licensing PRISSMM™ can be obtained by emailing PRISSMM@mskcc.org

- **Pathologic information:** Each pathology specimen from diagnosis through death or last follow-up is curated with specimen type, site, and histology.

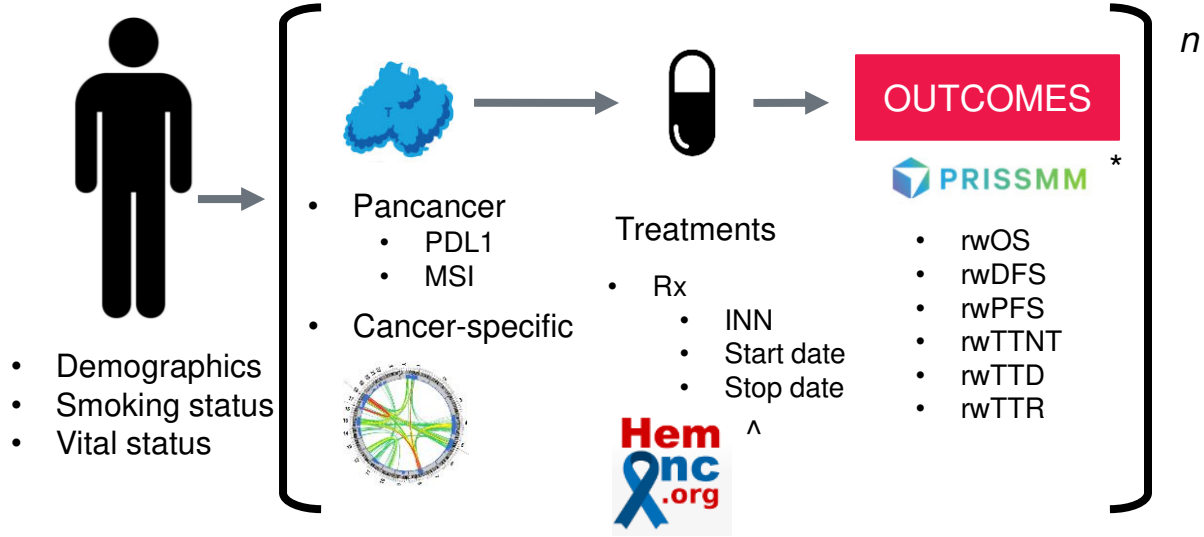
- **Imaging information:** Each CT, MRI, PET-CT scan from diagnosis through death or last follow-up is curated for the presence or absence of cancer and an evaluation of whether the cancer was stable, responding, or progressing.

- **Medical oncologist's evaluations:** Medical oncology notes (1/month) have been curated to ascertain the presence or absence of cancer and whether the cancer was stable, responding, or progressing.

- **Additional relevant biomarkers:** Information about select biomarkers not included on the NGS panels, including PDL1, MMR and MSI, are also curated.

- Colorectal cancer diagnosis is considered the index tumor for this patient cohort. There are data about other cancer diagnoses antecedent to the colorectal and subsequent to the colorectal diagnosis.

GENIE Data Model



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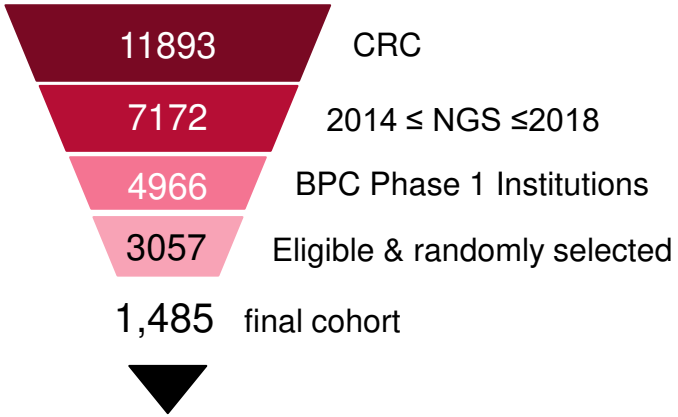
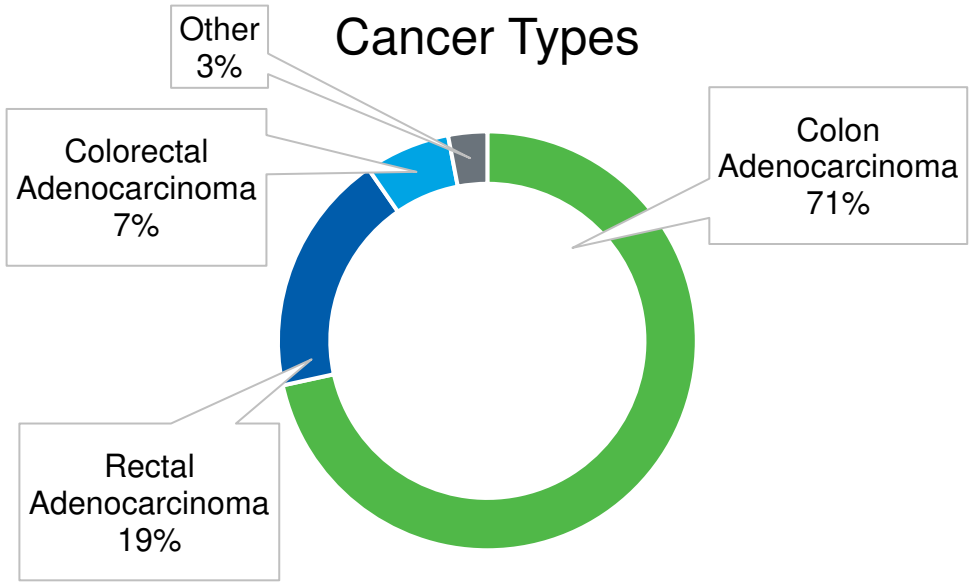
BPC CRC 2.0-public Cohort



Colon Adenocarcinoma	1,107	71.4%
Rectal Adenocarcinoma	288	18.6%
Colorectal Adenocarcinoma	102	6.6%
Mucinous Adenocarcinoma of the …	49	3.2%



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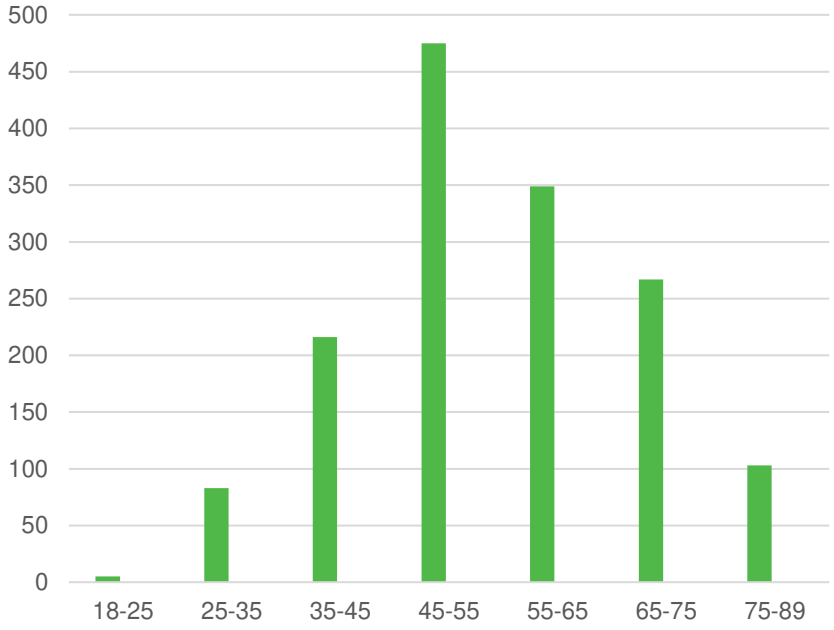
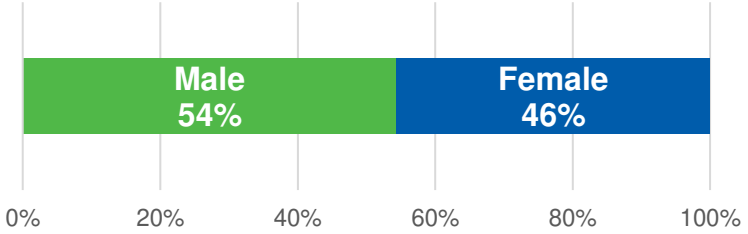
BPC CRC 2.0-public Demographics

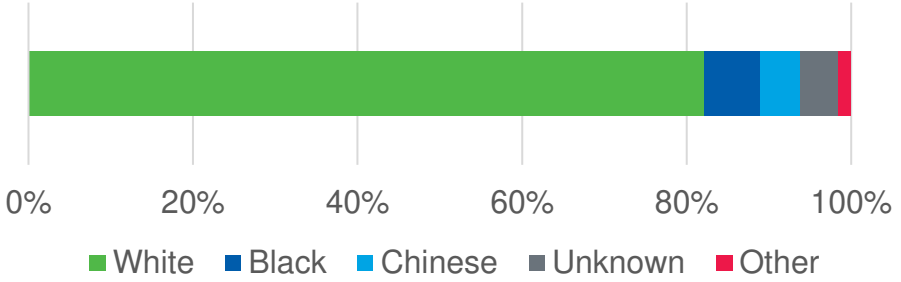
Age at Diagnosis



Sex



Primary Race



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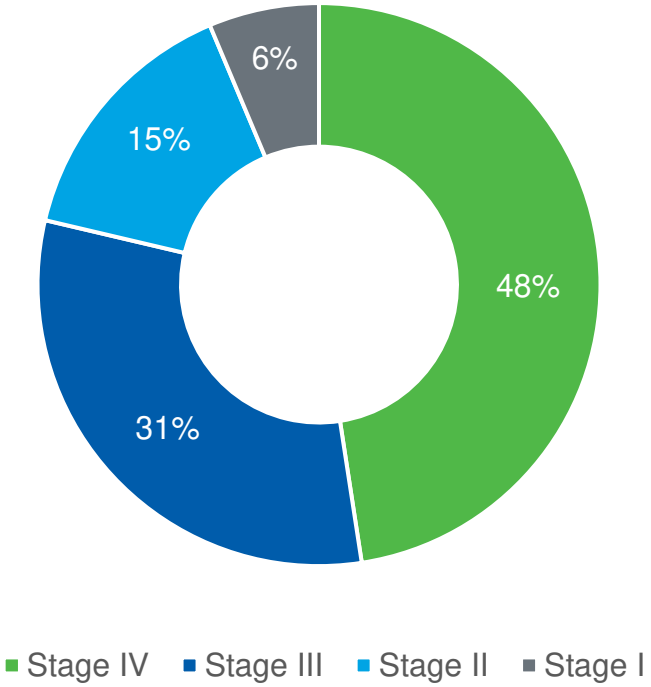
BPC CRC 2.0-public: Stage at Diagnosis



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BPC CRC 2.0-public: Sites of Metastases at Diagnosis

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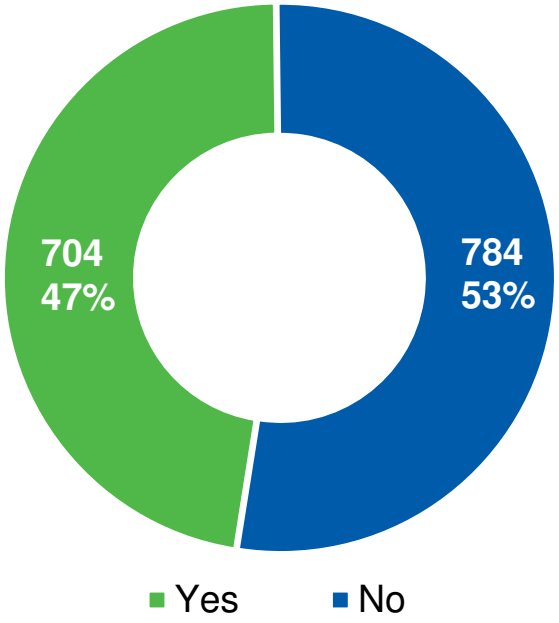
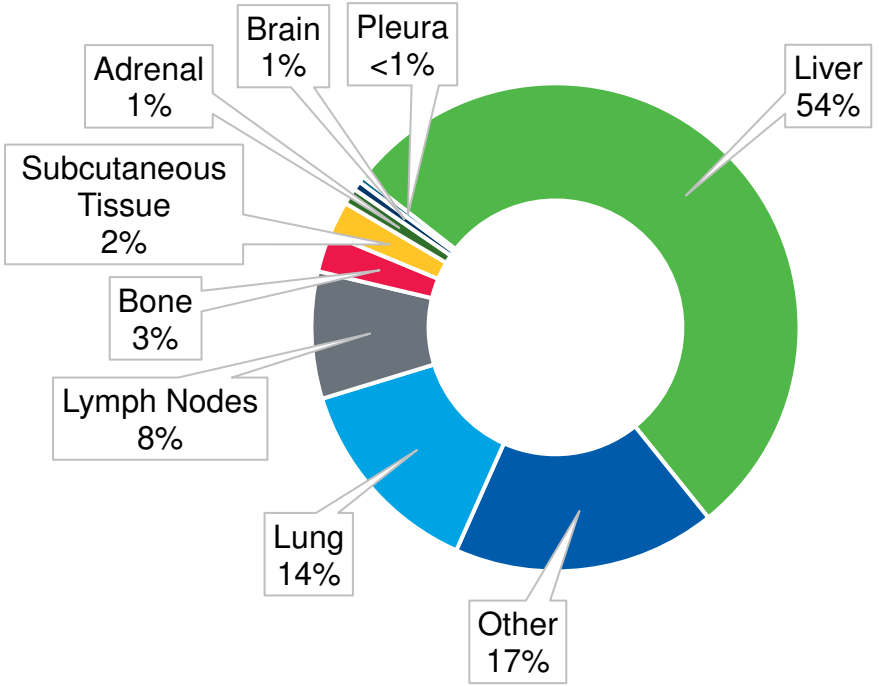
Patients with Distant Metastases at Diagnosis



Location of Metastasis



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BPC CRC 2.0-public: Detailed Clinical Genomics

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Mutated Genes (1551 profiled samples)

Gene	# Mut	#	Freq
APC	1,810	1,114	74.9%
TP53	1,187	1,107	71.4%
KRAS	678	669	43.1%
PIK3CA	367	327	21.1%
SMAD4	247	224	15.1%
LRP1B	52	27	14.8%
KMT2D	336	208	14.0%
FBXW7	226	203	13.7%
COL7A1	40	35	12.5%
BRAF	200	190	12.3%
SOX9	200	174	11.7%
PTPRS	108	85	11.6%

Structural Variant Genes (253 profiled samples)

Gene	# SV	#	Freq
APC	19	19	7.5%
TP53	14	14	5.5%
CTNNB1	13	13	5.1%
BRAF	8	7	2.8%
PRKN	6	6	2.4%
SMAD4	4	4	1.6%
TCF7L2	4	4	1.6%
PBRM1	4	4	1.6%
NTRK1	4	4	1.6%
ATM	3	3	1.2%
PTEN	3	3	1.2%
NF1	3	3	1.2%

CNA Genes (1487 profiled samples)

Gene	Cytoband	CNA	#	Freq
ARFRP1	20q13.33	AMP	19	10.4%
FGF14	13q33.1	AMP	16	8.8%
RTEL1	20q13.33	AMP	20	5.3%
FLT3	13q12.2	AMP	73	4.9%
BCL2L1	20q11.21	AMP	67	4.5%
MYC	8q24.21	AMP	67	4.5%
SRC	20q11.23	AMP	52	4.3%
FLT1	13q12.3	AMP	61	4.1%
CDK8	13q12.13	AMP	49	4.1%
TOP1	20q12	AMP	37	4.0%
AGO2	8q24.3	AMP	15	4.0%
DNMT3B	20q11.21	AMP	28	3.8%

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Top 12 Mutated Genes CRC 2.0-public

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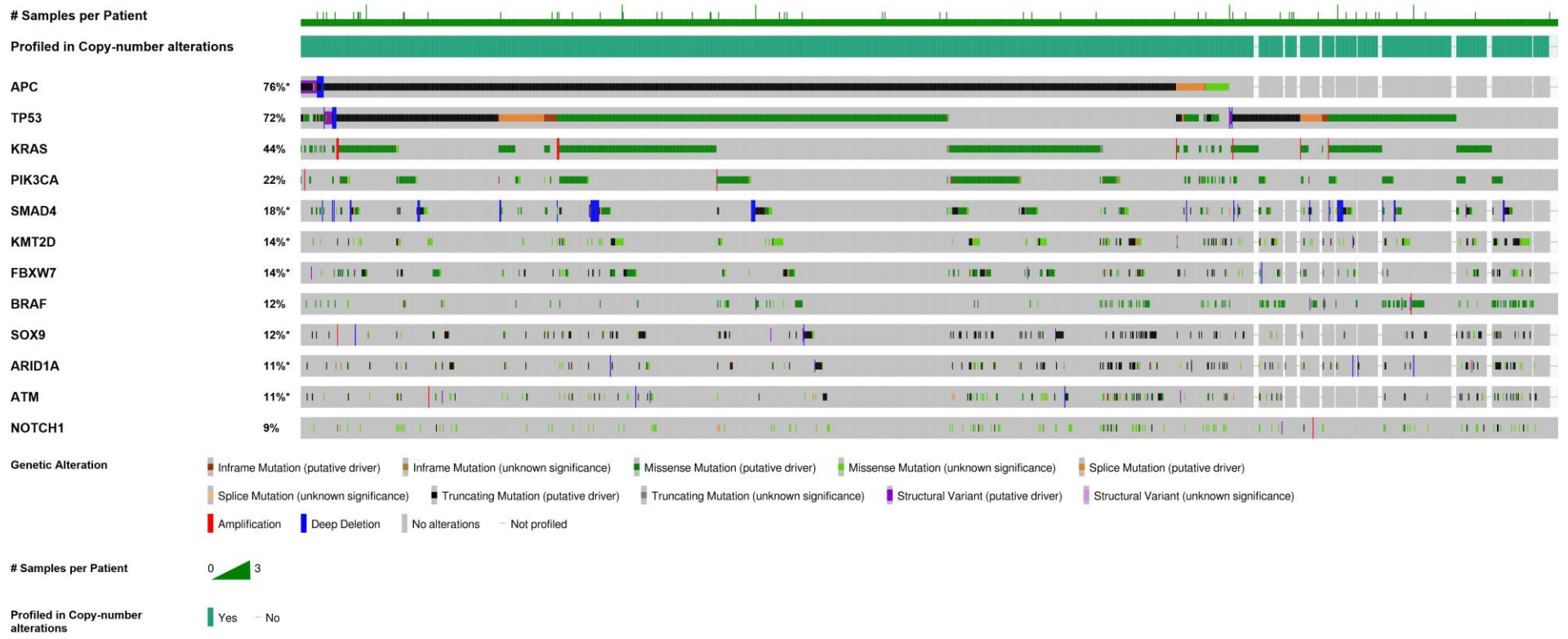

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Clinically Actionable Genes CRC 2.0-public

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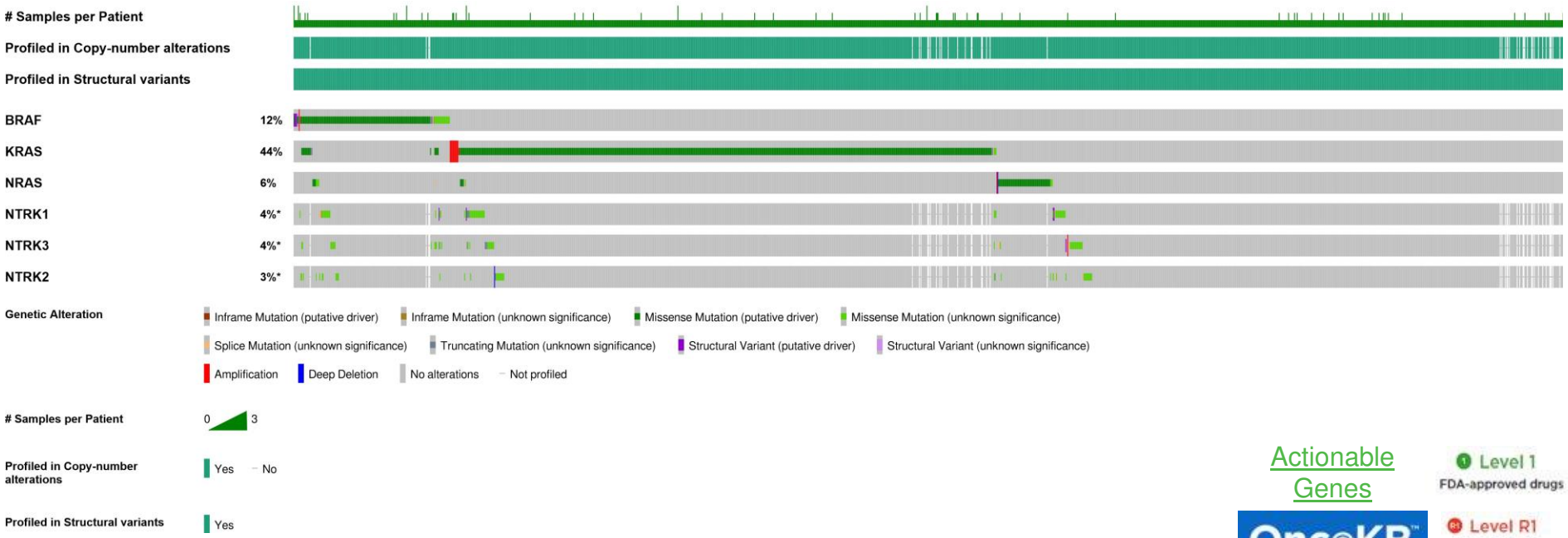

Actionable Genes

OncoKB™

Level 1
FDA-approved drugs

Level R1
Standard care

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Chakravarty et al., JCO PO 2017

BPC CRC 2.0-public: Complete Treatment Histories

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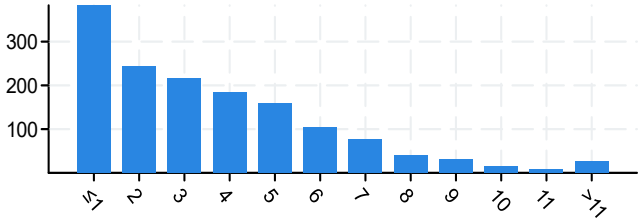
Number of cancer-directed drug regimens curated for each patient



Cancer-directed Drug Regimens (Includes regimens ever received for CRC irrespective of line or stage)

Regimen	# of patients
FOLFOX	1172
FOLFOX + Bevacizumab	702
FOLFIRI	853
FOLFIRI + Bevacizumab	665

Treatments by Patient

Treatment per Patient

Treatment	#
Fluorouracil	1,247
Leucovorin Calcium	1,237
Oxaliplatin	1,209
Irinotecan Hydrochloride	866
Bevacizumab	746
Capecitabine	397
Investigational Drug	189
Panitumumab	171
Cetuximab	154
Trifluridine and Tipiracil Hydrochloride	153

Treatments by Sample (pre- and post-)

Treatment per Sample (pre/post)

Treatment	Pre / Post	#
Leucovorin Calcium	Pre	865
Leucovorin Calcium	Post	437
Fluorouracil	Pre	853
Fluorouracil	Post	459
Oxaliplatin	Pre	843
Oxaliplatin	Post	428
Irinotecan Hydrochloride	Pre	757
Irinotecan Hydrochloride	Post	167
Bevacizumab	Pre	630
Bevacizumab	Post	162

- Individual regimens can be calculated from the raw data found here on Synapse
- Treatment history for non-index cancers can be found here on Synapse

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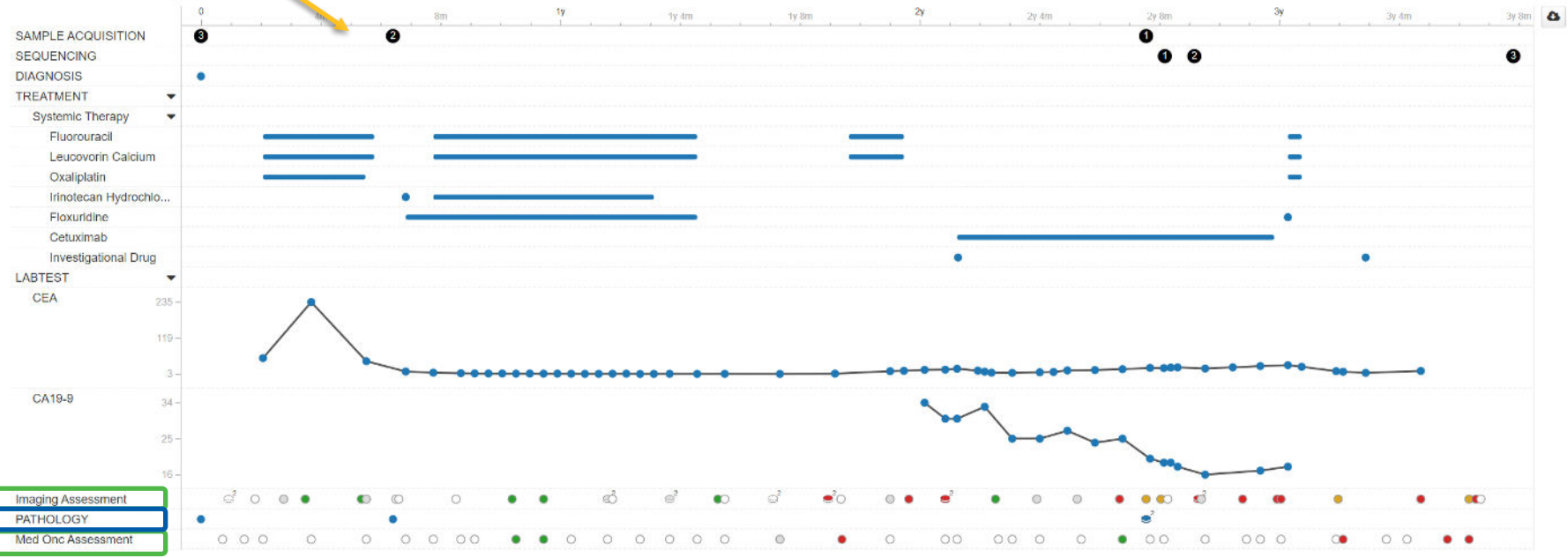
Sample Patient



Pathology Reports

Disease Status by Medical Oncology Note and by Imaging

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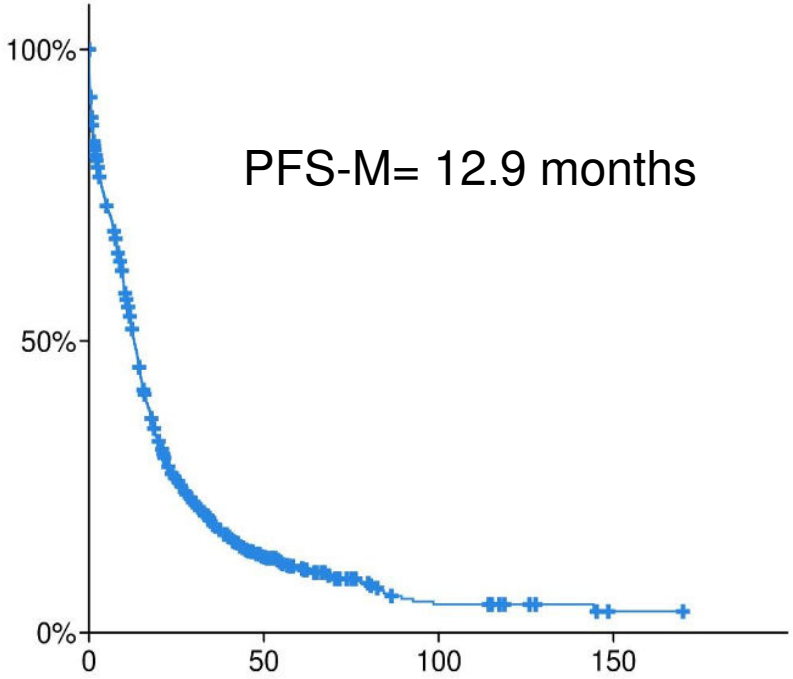

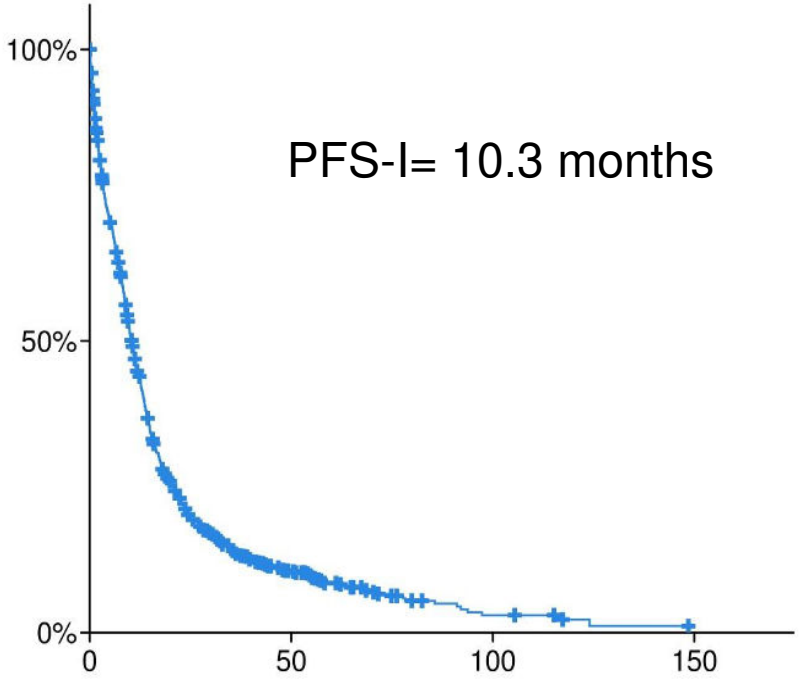

- PFS-M and PSF-I are available by regimen for those regimens containing greater than 10 patients

* Not adjusted for delayed entry

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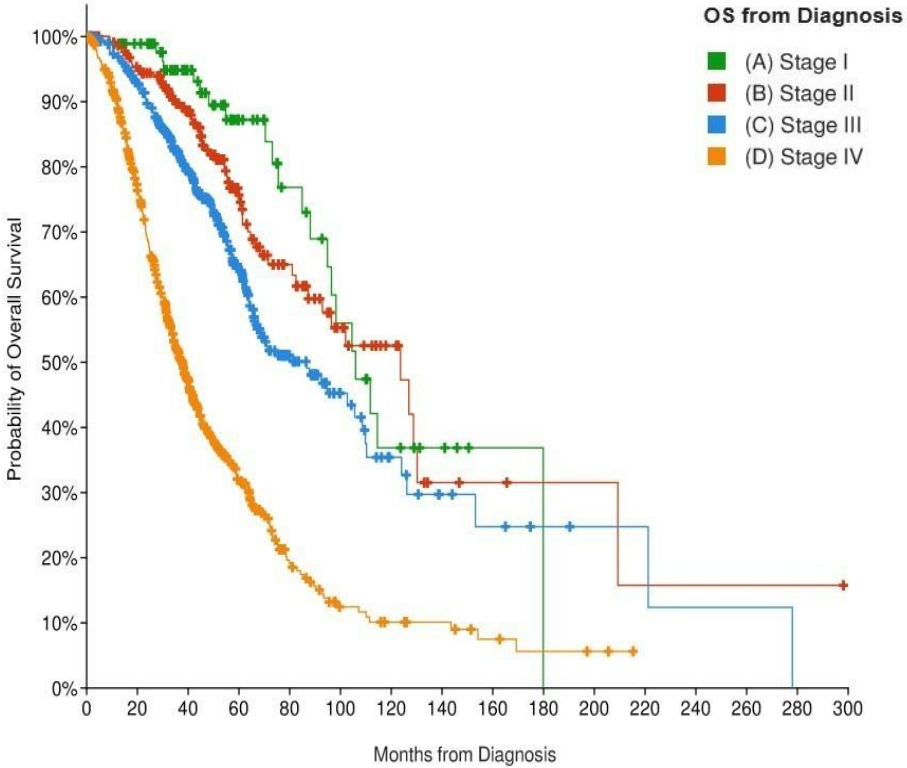
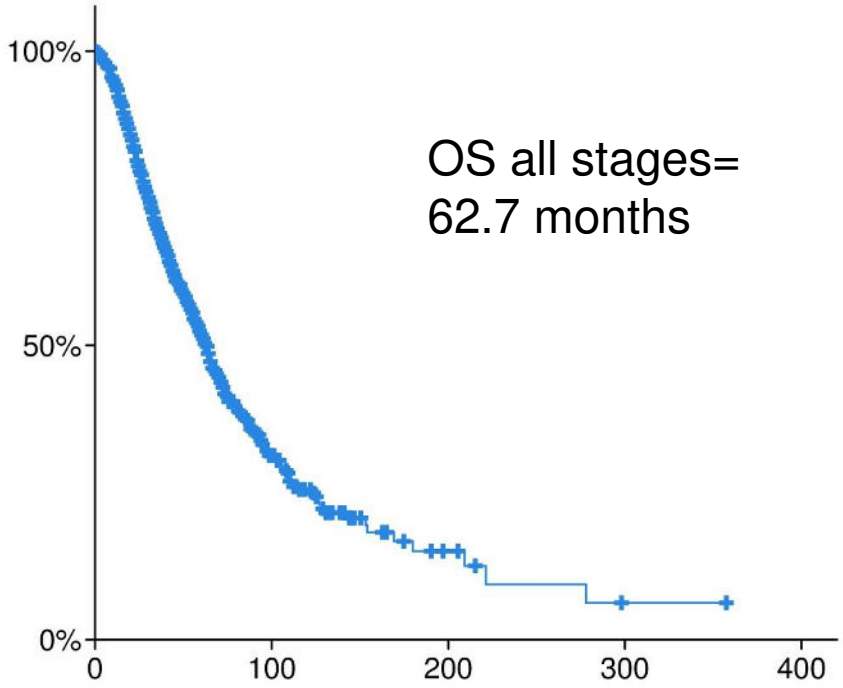
BPC CRC 2.0-public: OS by Stage





OS all stages= 62.7 months

*not adjusted for delayed entry

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GENIE BPC Acknowledgements

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