







# For Advanced Cancer Patients, Getting the Best Care Is a Nightmare

No one knows the optimal way to treat any cancer,
many patients can't get or pay for the drugs and technologies
they need

and treatment outcomes vary widely

Each year thousands die unnecessarily



## But we live in a very exciting time

Cheap "omics" and other 100s of exciting new oncology drugs and immunotherapies with diagnostic technologies enabling precision medicine strong scientific rationales Remarkable 1000s of non-cancer drugs that AI, Machine Learning, and data Convergence could be repurposed analytics coming of age of Events Favorable regulatory Clinical trial innovations: e.g., master protocols, RWE environment



## **Traditional Development Is In Trouble**

#### **CLINICAL TRIALS ARE UNSUSTAINABLE**

Too slow (5-10 years)

Too expensive (\$100M+)

Only 5% of patients can, or do participate

#### **TOO MANY OPTIONS, TOO FEW PATIENTS**

~3500 open IO trials in the US

Requiring ~600,000 patients

Only ~50,000 patients / year enroll in trials





## **Regulators Agree That Change Is Needed**

We must bridge clinical research and health care or the entire enterprise is going to fall down. J Janet Woodcock, Director, CDER. FDA

- Master protocols
- Adaptive designs
- Seamless trials
- Expanded access
- Real-world evidence (RWE)

Helpful but not enough to solve the existential problem: too many options, too few patients

We need a

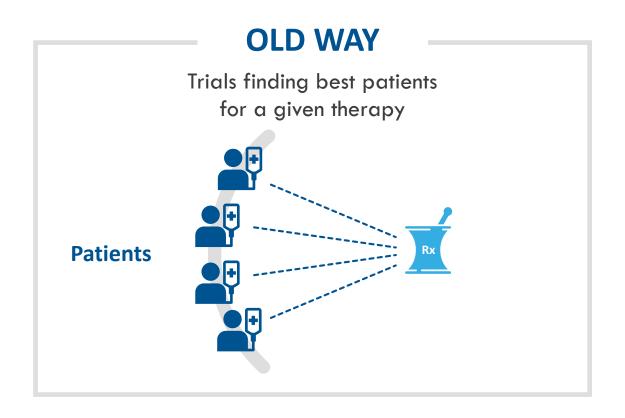
paradigm shift

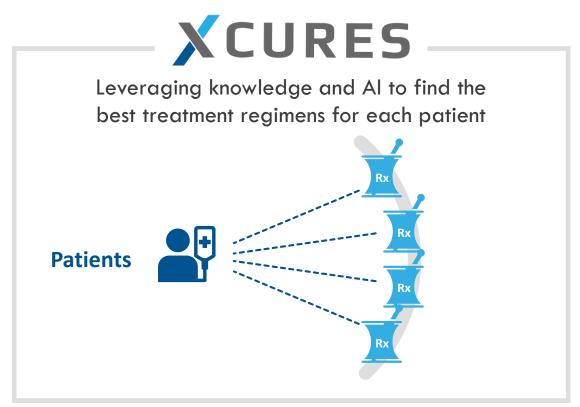
to integrate clinical research

and care



## **From Approving Products to Curing Patients**







## **xCures Platform:**



An Al-supported precision oncology platform that finds and recommends novel treatment options, facilitates access, informs decision-making, and records outcomes.

A perpetual trial that slashes site setup times and that continuously learns from all patients, all physicians, all therapies, all diagnostics, all the time.

### Creating value

- Faster, cheaper development of drugs and diagnostics
- Payers pay only for what works
- Patients get access to the most promising treatments



## We Have Partnered with Trusted Cancer Networks to Bring Patients and Oncology Experts into Our System



#### **RESPECTED NON-PROFIT**



- Network of world-class physicians and researchers
- 4,000+ patients who have benefitted from virtual tumor boards
- Multiple peer reviewed publications
- American Cancer Society collaborator

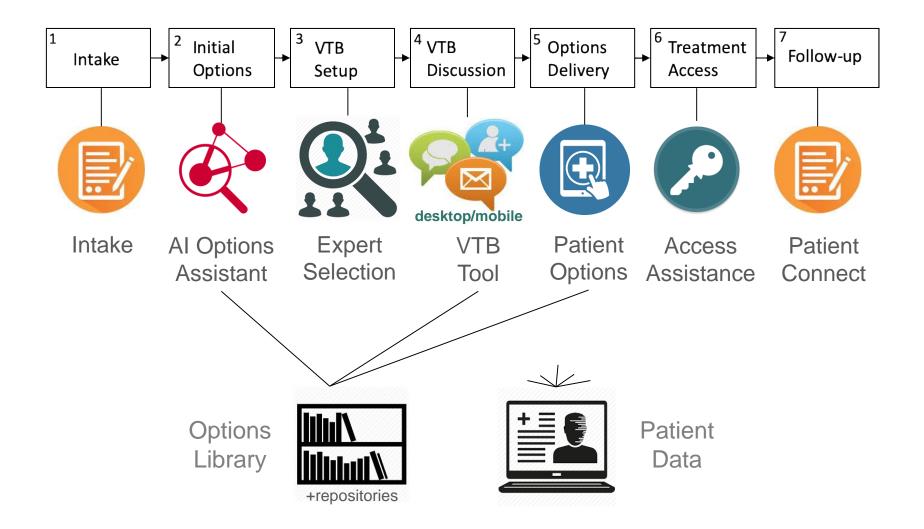
## XCURES

#### Software and Services

- Treatment options from virtual tumor boards, past cases, outcomes data
- Access to drugs needed to act on those recommendations
- Capture resulting real-world data
- Coordinate options across patients to optimize outcomes and learning



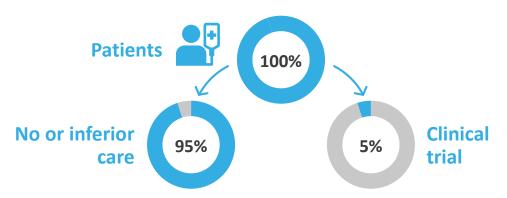
## **Applications / Systems**





## **Slashing the Time and Cost of Development**

#### **TRADITIONAL TRIALS**



- Inclusion/exclusion criteria
- Randomized control
- Geographic disparity

5-10 years, 200 patients @ \$50,000

Each site / phase starts anew New sites take months

#### **XCURES TRIALS**



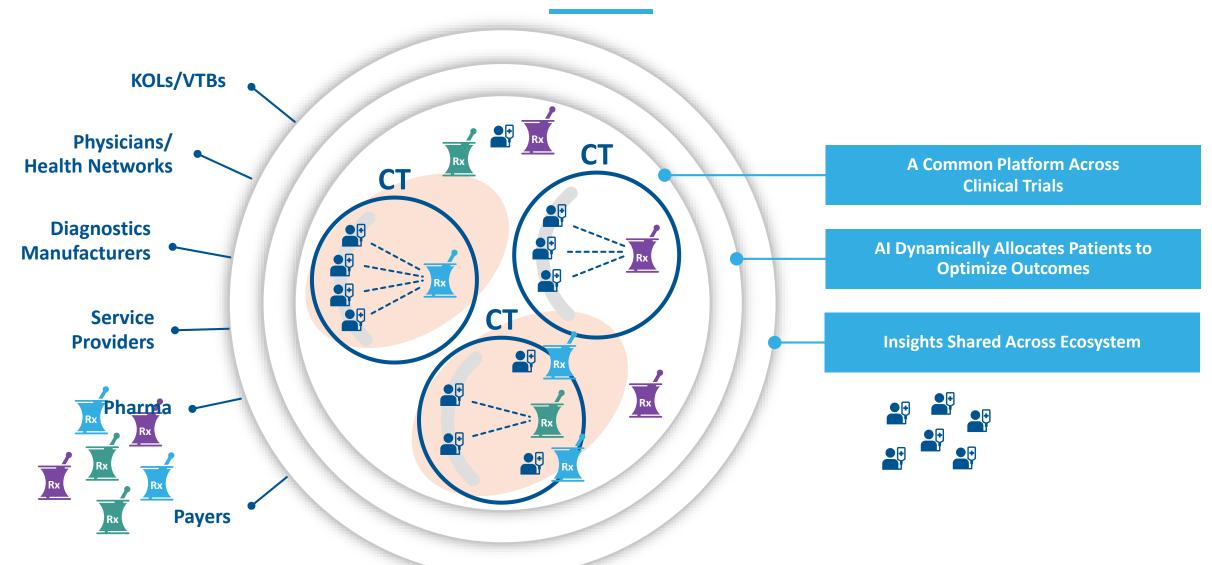
- No inclusion/exclusion
- No randomized control
- All geographies

1 year, 20 patients @ \$2,000

Always on and siteless
Costs amortized across
all therapies and diagnostics



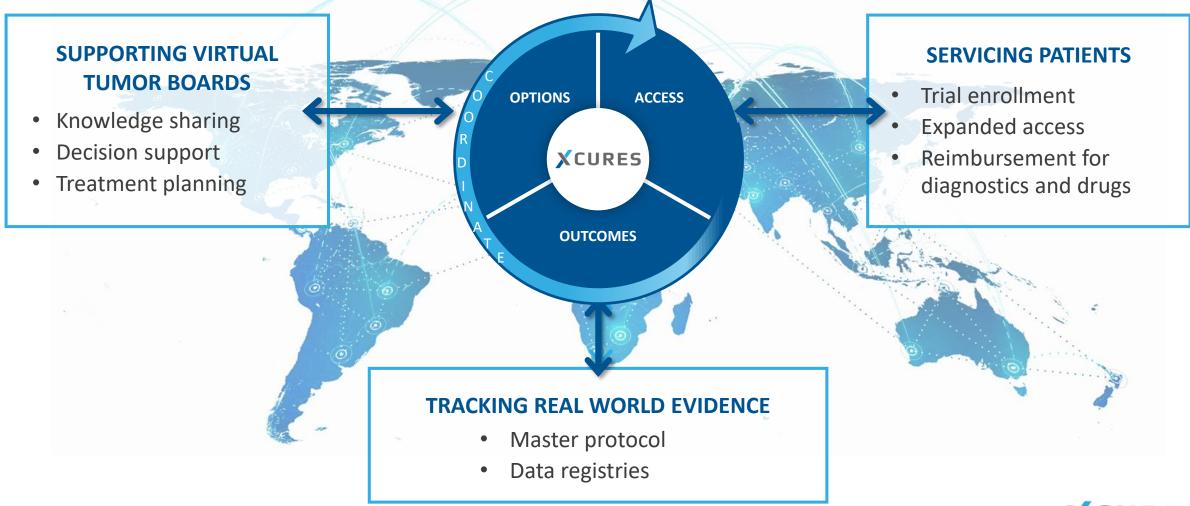
## **Creating Value Through a Master Platform and Al**





## xCures Platform: Options, Access and Outcomes

LEARNING FROM ALL PATIENTS. ALL PHYSICIANS. ALL THERAPIES. ALL DIAGNOSTICS. ALL THE TIME.



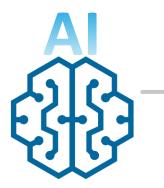


## **Options – Using Experts and AI to Optimize Care**



NLP to capture treatment options, recommendations, and rationales from literature, conferences, social media, and real-world evidence





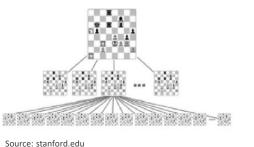
**Decision Support** 

Virtual Tumor Boards develop treatment options for each patient, balancing personal insights against outcomes data and new options injected by researchers and industry.



**Treatment Planning** 

Evaluating patient's treatment longitudinally with multiple drug regimens, to maximize shots on goal







## **Access – Getting the Right Care to Patients**

#### **xCures SERVICES**

- Trial matching and enrollment (ethical)
- Manage expanded access programs and trials
- Pay-for-performance program
- Clearinghouse for EA and off-label therapies
- Real world data gathering of impact of diagnostics use in decision making

#### **BENEFITS**

- Patients get access to the latest technologies
- xCures gets hot drugs on our platform for use by patients in Perpetual Trials
- Companies get real world data to accelerate approvals, label extensions, reimbursements
- Physicians get administrative support





## **Outcomes – Generating Real World Evidence**

### **XCELSIOR Study**

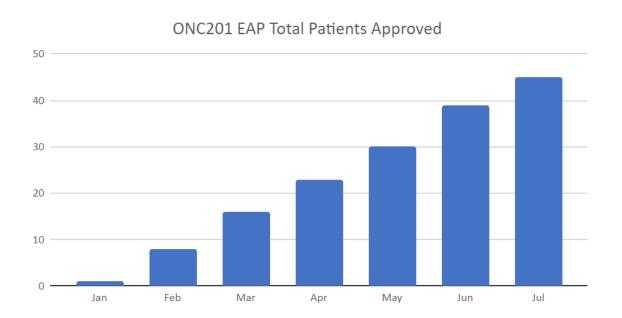
- IRB-approved Master Protocol
- Always-on: All patients and all treatments
- Add new sites, PIs, and drugs in days through amendments, sub-PIs, and subprotocols
- Patient-centric design: minimal inclusion / exclusion criteria; no randomized controls
- Level 1: Observational registry captures longitudinal, regulatory grade, treatment and outcomes data
- Level 2: Virtual Tumor boards and Virtual Trials seek to optimize individual outcomes and collective learning
- Innovative statistics for efficient signal generation from small data sets

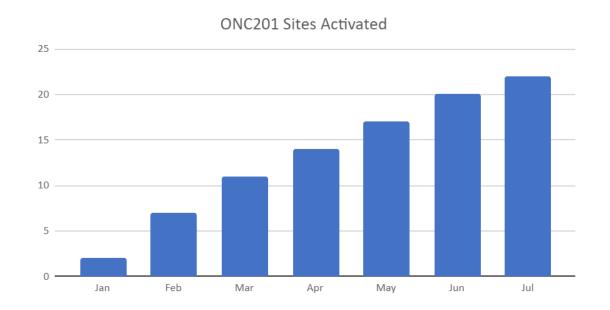


- 21 CFR Part 11 Validated, HIPAA & FISMA compliant, and WHODrug and MedDRA certified EDC system
- All access and activity in the system is tracked
- Audit trail shows who made a change, the date and time, and the old and new values
- Standardized data reporting forms support precision oncology studies for most solid tumors
- Reporting forms can be quickly customized to capture study-specific fields



## **Pilot with Expanded Access to ONC201 Shows Patient Interest**





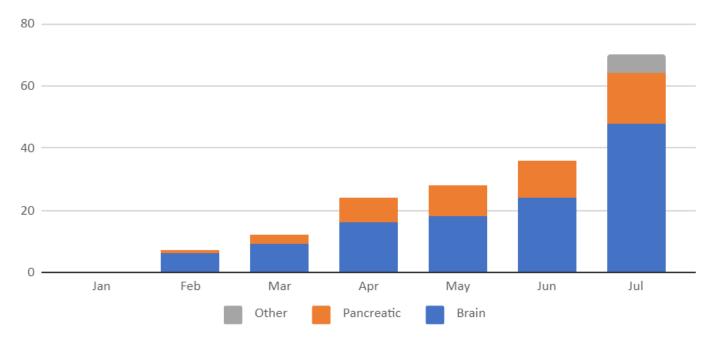
ONC201 EAP Patients	Jan	Feb	Mar	Apr	May	Jun	Jul	
Total Patients Approved		1	8	16	23	30	39	45
ONC201 Sites	Jan	Feb	Mar	Apr	May	Jun	Jul	
Sites Activated		2	7	11	14	17	20	22

- Average Site Activation Time 28 days
- Protocol was expanded in June
- Demand from EU strong evaluating expansion



## XCELSIOR – A Patient-Centric Platform Trial for Precision Oncology





- Platform release in early July resulting in accelerated enrollment
- Initial focus has been on Pancreatic and Brain cancer but starting to accrue other cancer types

XCELSIOR Patient Enrollment	Jan	Feb	Mar	Apr	May	Jun	Jul	
Brain		0	6	9	16	18	24	48
Pancreatic		0	1	3	8	10	12	16
Other		0	0	0	0	0	0	6
Total		0	7	12	24	28	36	70



## Initial results are promising

A Swedish patient spent significant resources to get assessed for the ONC201 pediatric glioma trial. He was not eligible.

We were able to get him onto the ONC201 expanded access protocol.

After 4 months of ONC201 use, the tumor has shown a decrease of 20 % on the latest MRI

We continue to monitor the outcomes and use the data for future decision making







