

# Paris Seminar for Patients & Caregivers: BSRI 2017— On the Path to a Cure

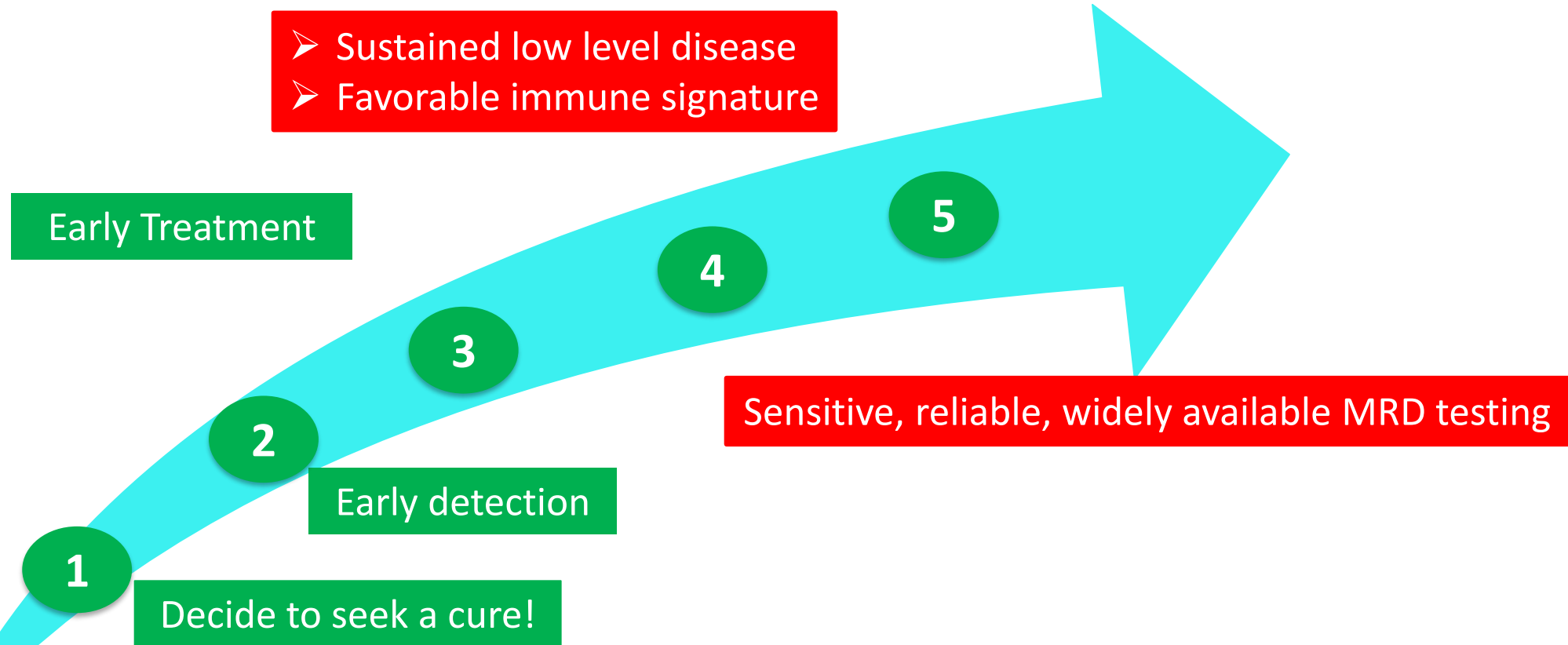


**Brian GM Durie**

**Saturday, June 10, 2017**

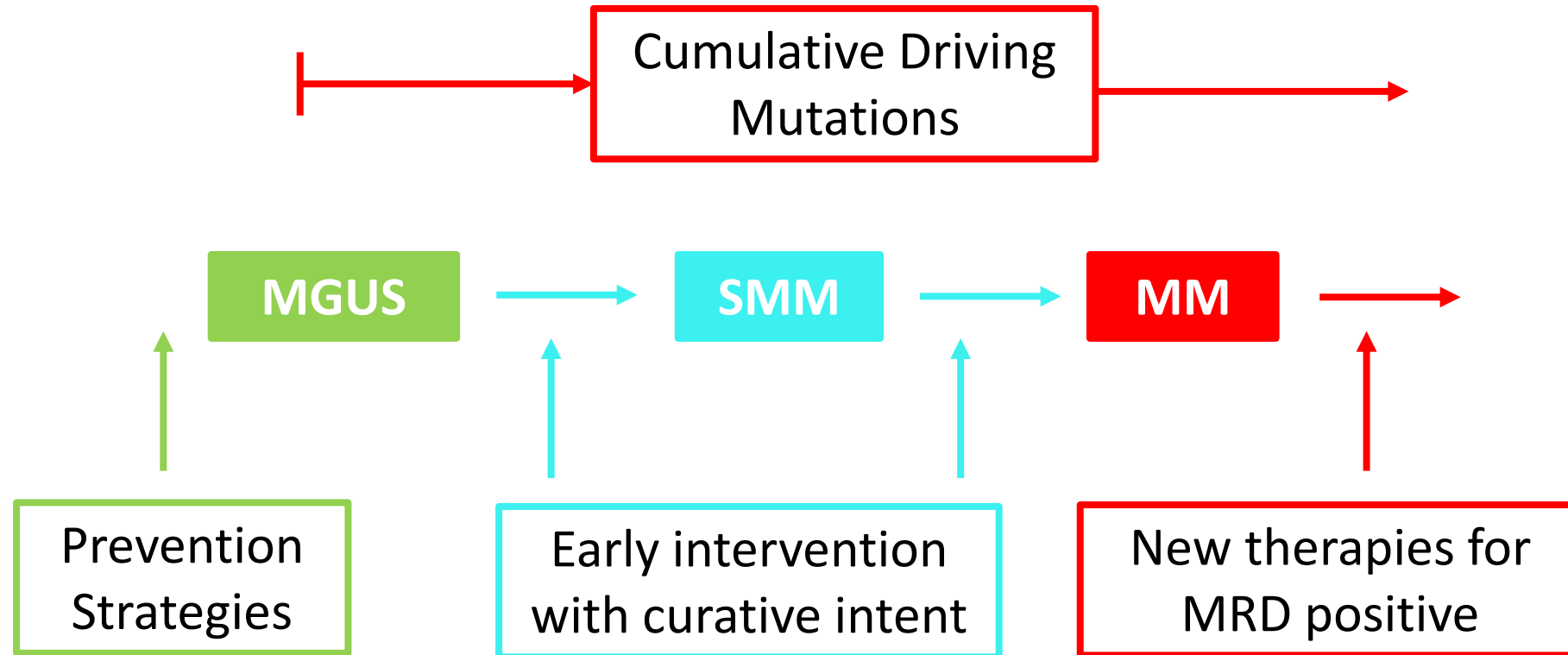


# Black Swan: on the way to a cure





# Black Swan Key Concepts



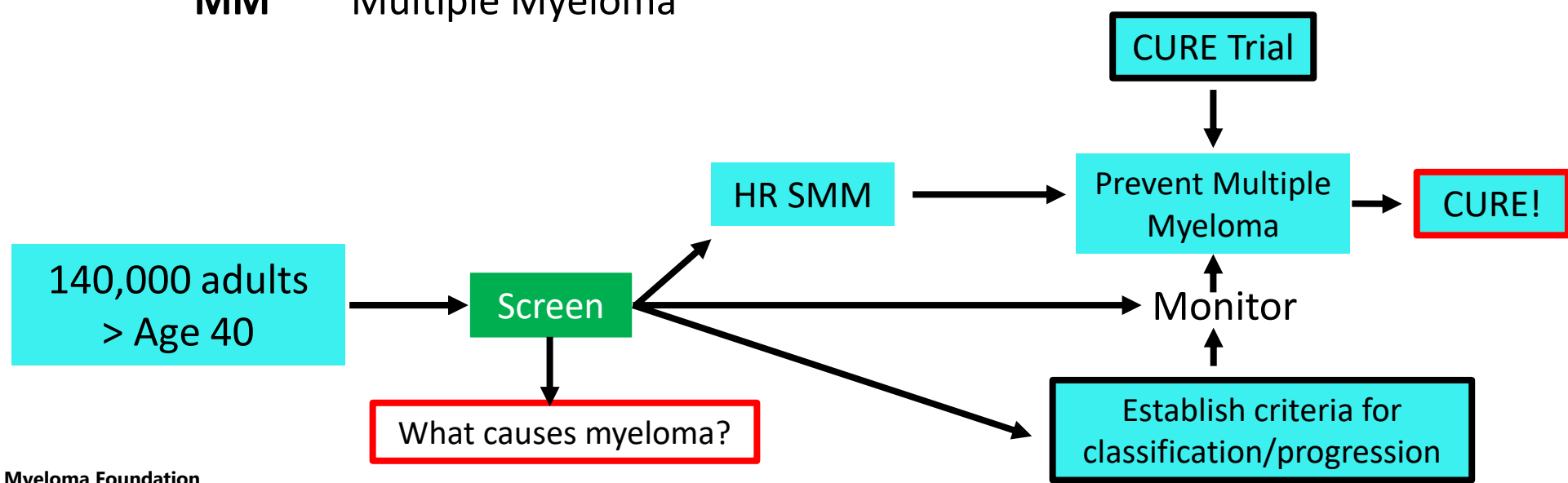


# iSTOPMM: Iceland Project

**i** Iceland  
**S** Screens  
**T** Treats  
**O** Or  
**P** Prevents  
**MM** Multiple Myeloma

## Partners

- Sigurdur Kristinsson & team, University of Iceland
- Binding Site





# iSTOPMM: Iceland Project

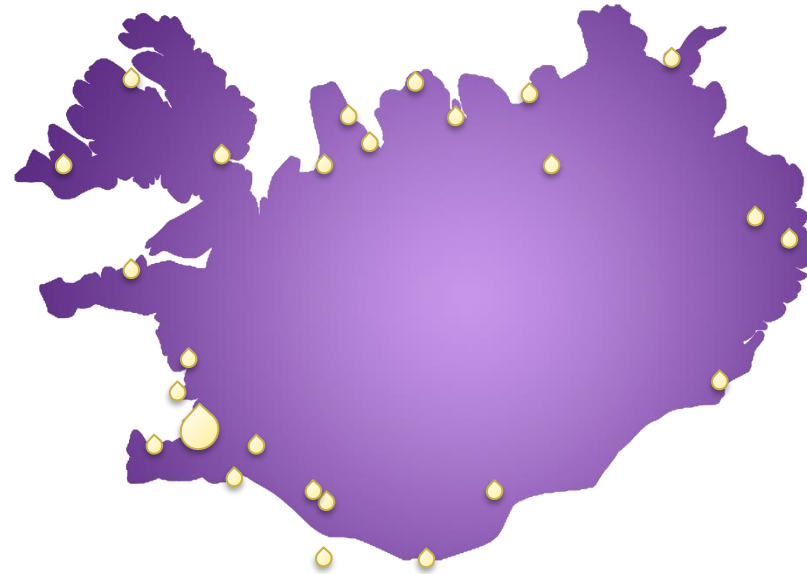


**iStopMM**

Iceland Screens,  
Treats and Prevents  
Multiple Myeloma

## iStopMM

Iceland Screens, Treats or Prevents Multiple Myeloma

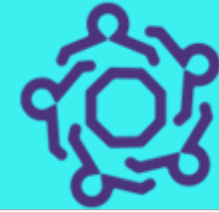


**All 35 laboratories in Iceland participate**





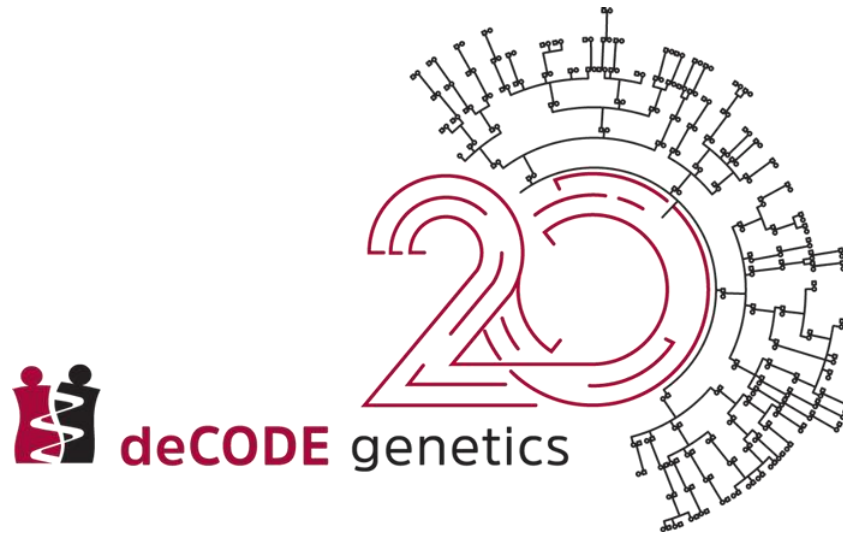
# Importance of deCODE Project



**iStopMM**  
Iceland Screens,  
Treats and Prevents  
Multiple Myeloma



deCODE's whole-genome sequencing project



**2,600 Icelanders sequenced**

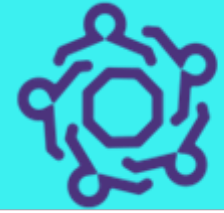
**DNA samples from 120,000  
Icelanders all chip typed**



<http://cnn.it/2mMFBi1>



# iSTOPMM Lab and “Red Tube”



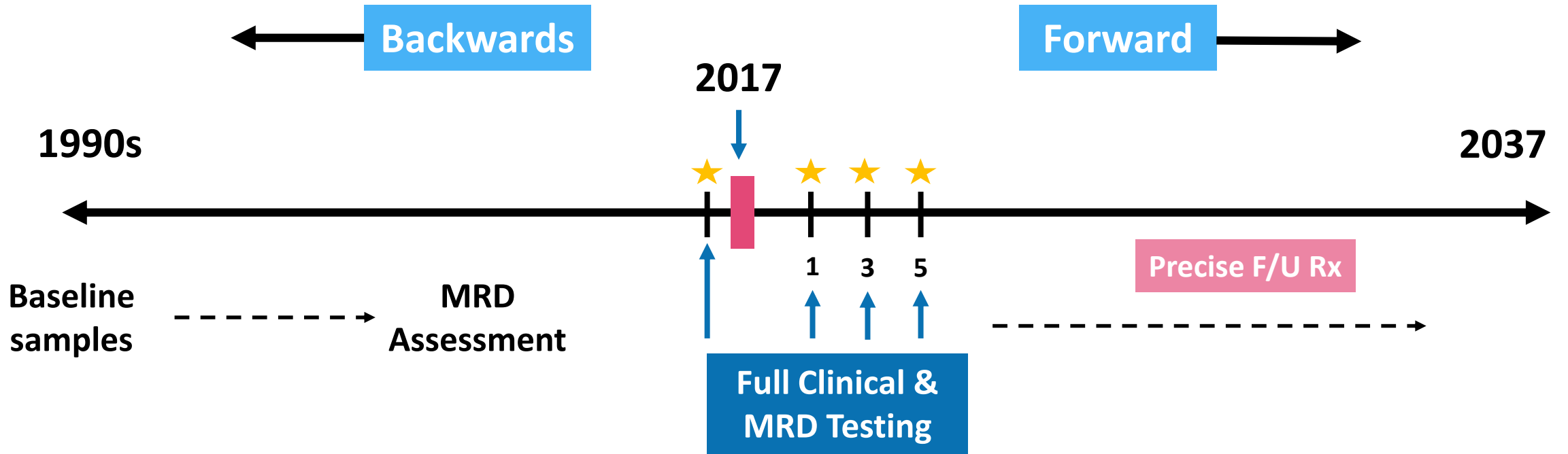
**iStopMM**

Iceland Screens,  
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# Understanding Cure

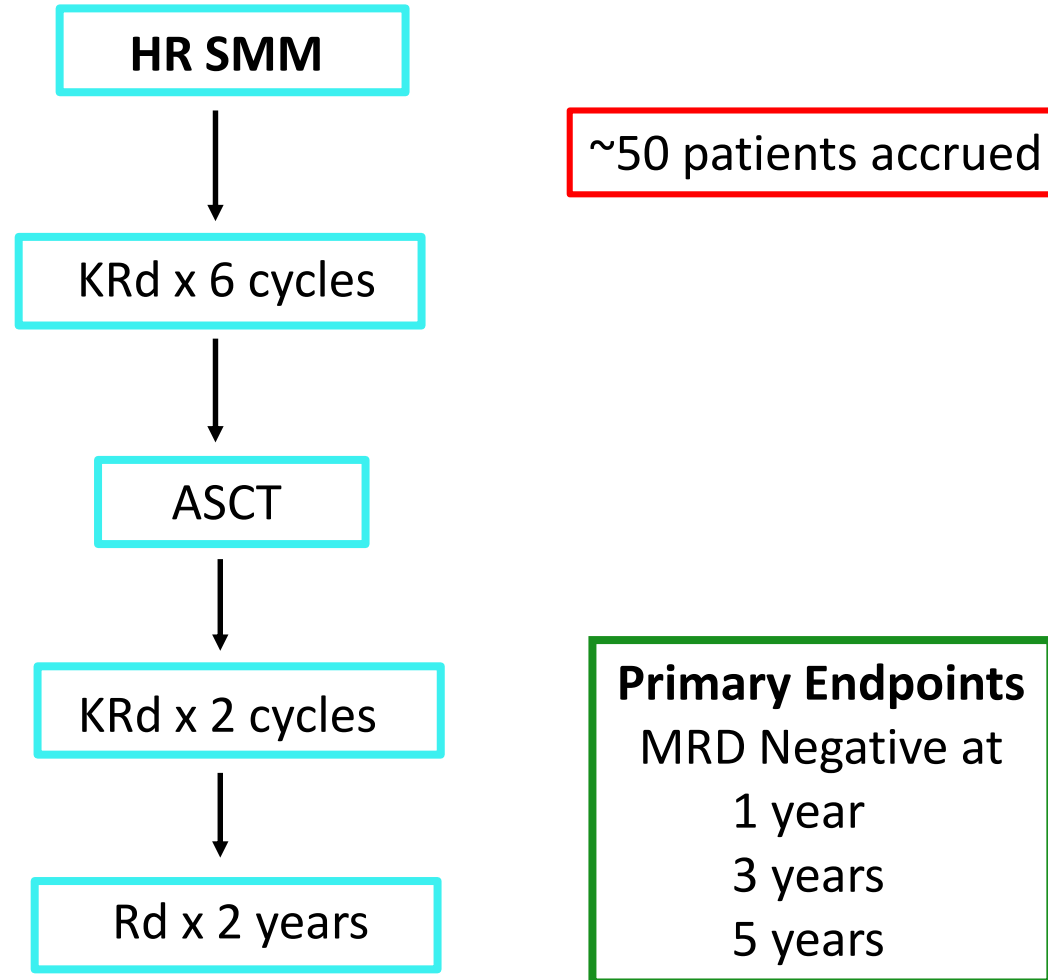






# CESAR Trial

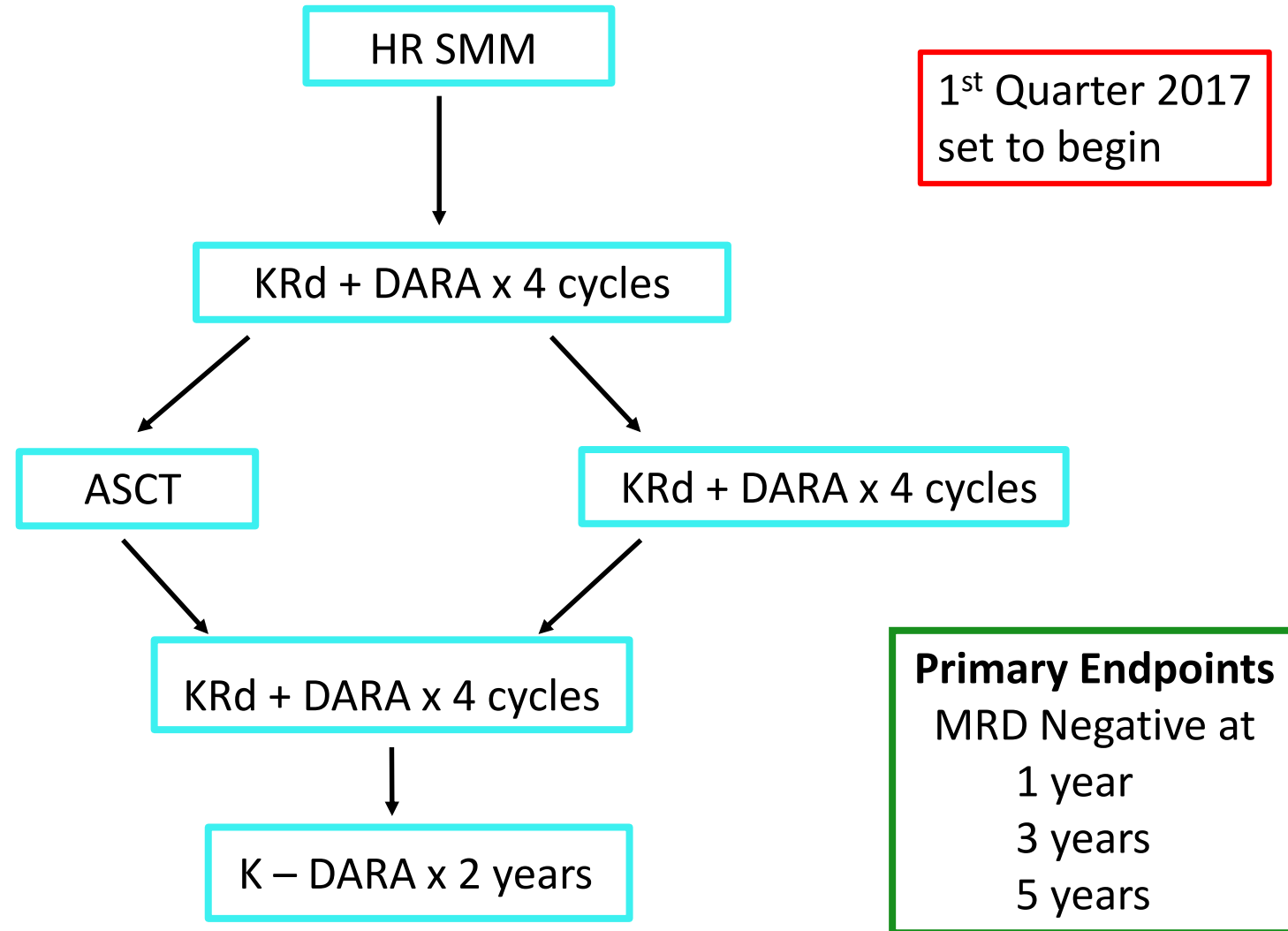
**C**urative **E**strategy **S**moldering **A**lto **R**isk





# ASCENT Trial

Aggressive Smoldering Cure Evaluating Novel Rx Transplant





# Launch of the NGF Method

**2<sup>nd</sup> International  
IMF-EuroFlow  
Workshop on  
Myeloma MRD**

*"Next Generation Flow MRD  
for Treatment Monitoring  
in Multiple Myeloma"*



**October 10<sup>th</sup> & 11<sup>th</sup>, 2016**



# NEXT GENERATION FLOW (NGF): IMF-EuroFlow NGF-MRD Approach



Tube	BV421	BV510	FITC	PE	PerCP Cy5.5	PECy7	APC	APCC750
1							CD117	CD81
2	CD138	CD27	CD38*	CD56	CD45	CD19	cyKappa	cyLambda



**Standardized** sample processing → systematic acquisition of  $\geq 10^7$



**Infinicyt** software  
PCA, file merge, automated gating

\* CD38 multi-epitope OK with dara

Flores-Montero, submitted 2016



# NEXT GENERATION FLOW

## Comparison with NGS

	NGF	NGS
Applicability	31/31 (100%)	27/31 (87%)
Positive	19/27 (70%)	13/27 (48%)

Less applicable



P < 0.001

P < 0.05

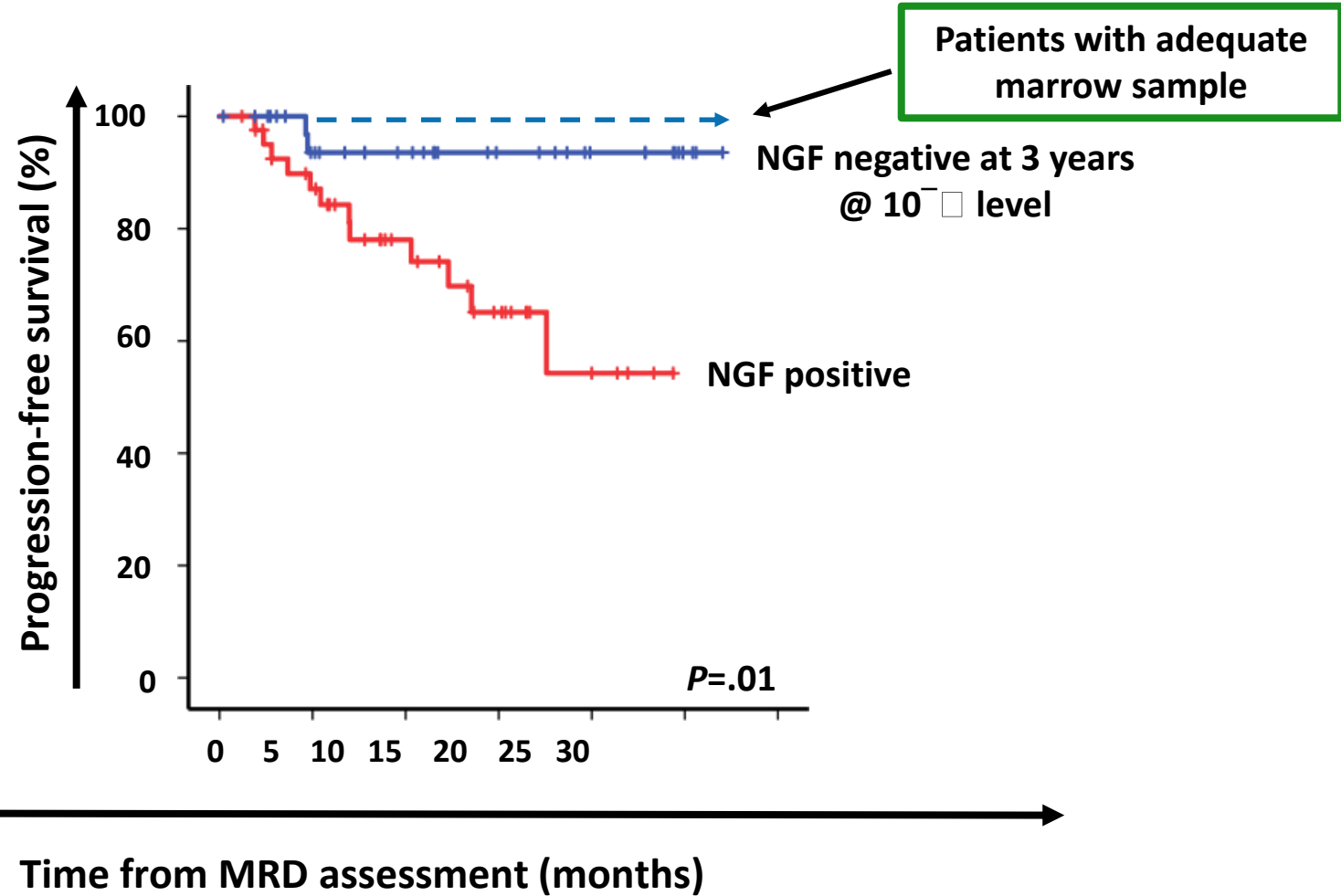
more sensitive





# NEXT GENERATION FLOW

## Excellent Outcome for MRD Negative Patients





# How About a Blood Test?

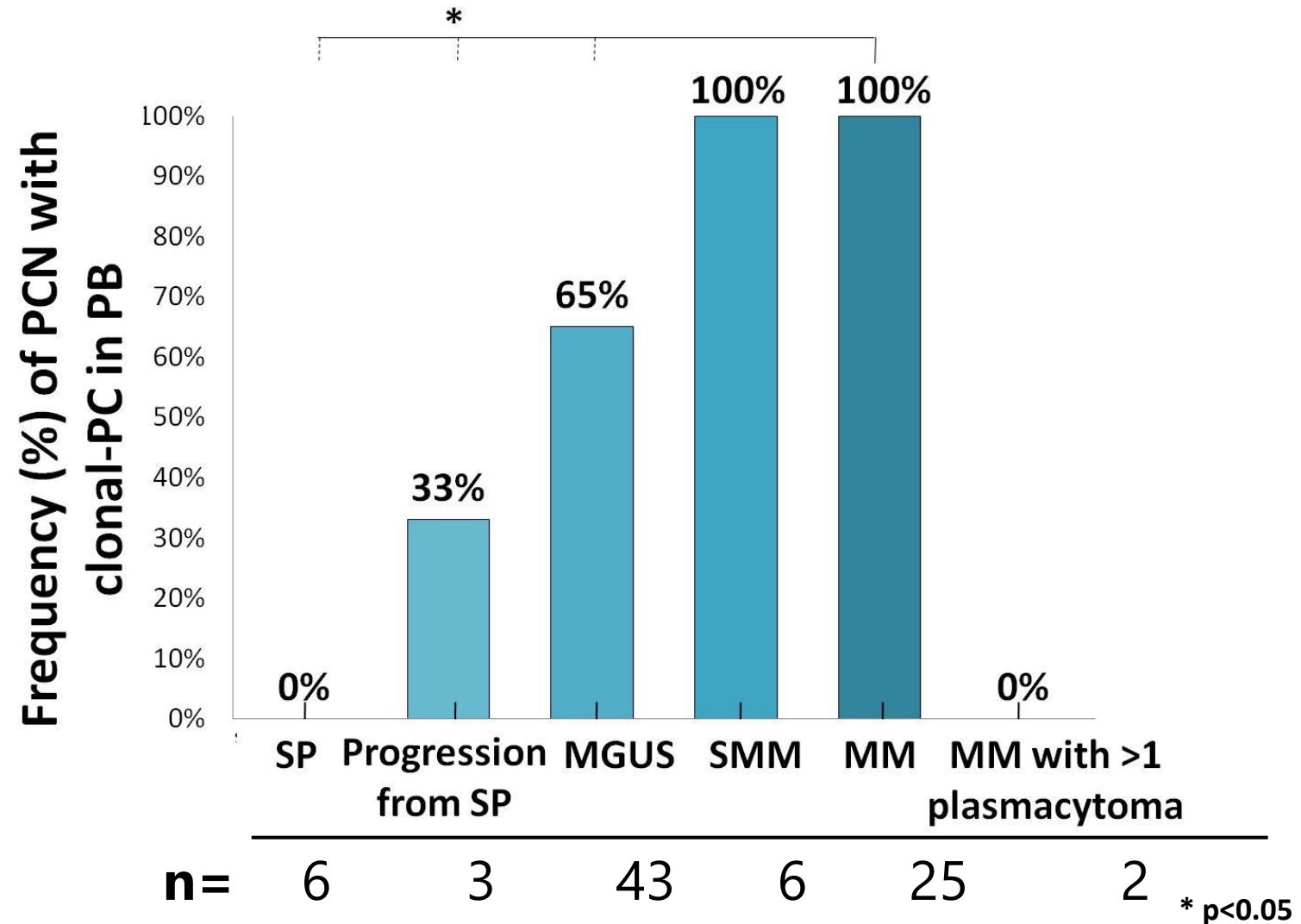
## Liquid biopsy

- NGF detects circulating myeloma cells in SMM and MM: molecular analyses are feasible
- Blood DNA also shows exact mutations and can guide treatment





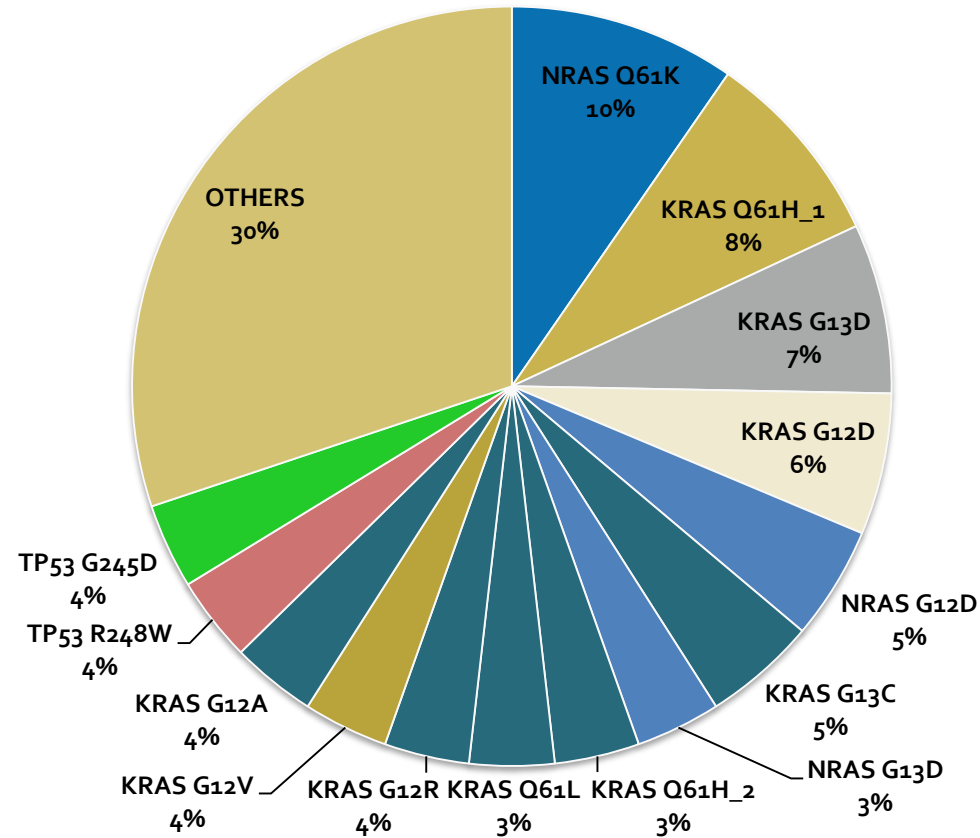
# NGF to Detect Blood Plasma Cells



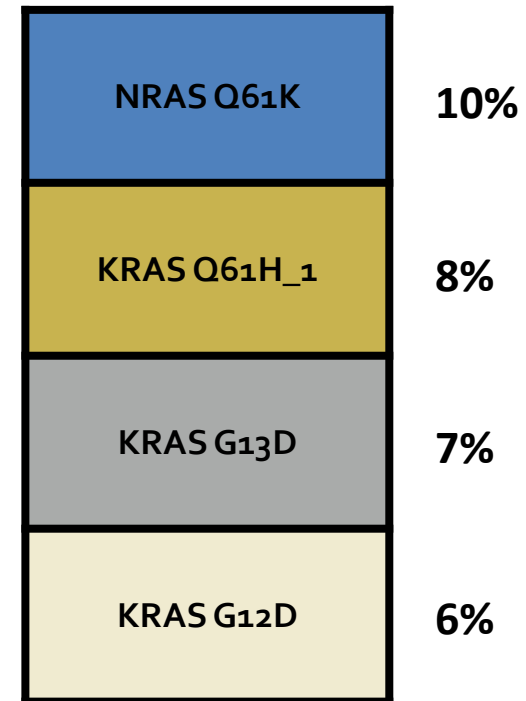




# Blood DNA Mutations



## Overall Distribution



**N or K RAS = 62% total**

Spencer, A et al. Leukemia (in press) 2016.





# Additional Piece of the Puzzle



**Make sensitive, standardized  
MRD testing available globally**



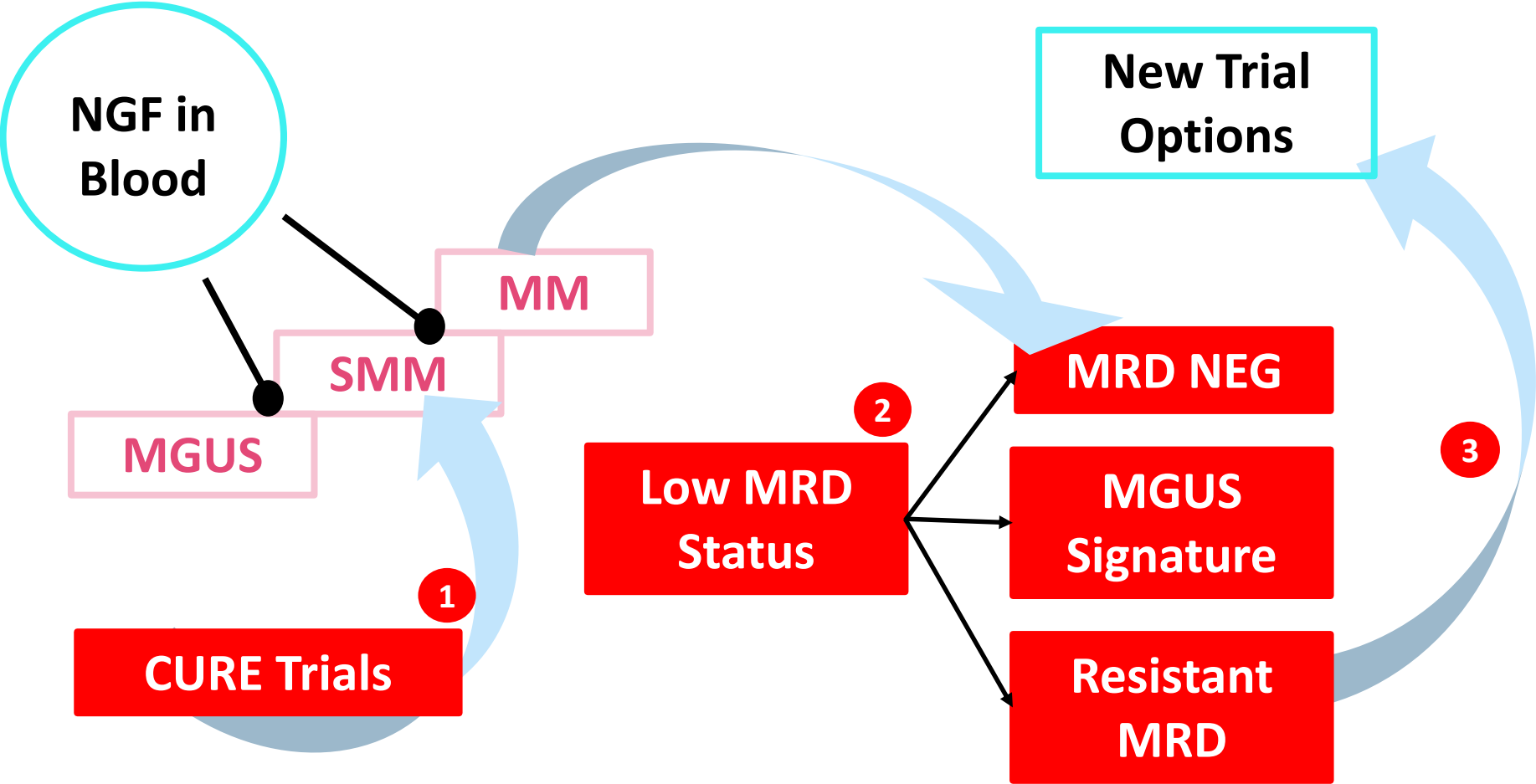
# Achieving a Global Standard for MRD Testing



**Over 50  
researchers  
in 22  
countries!**

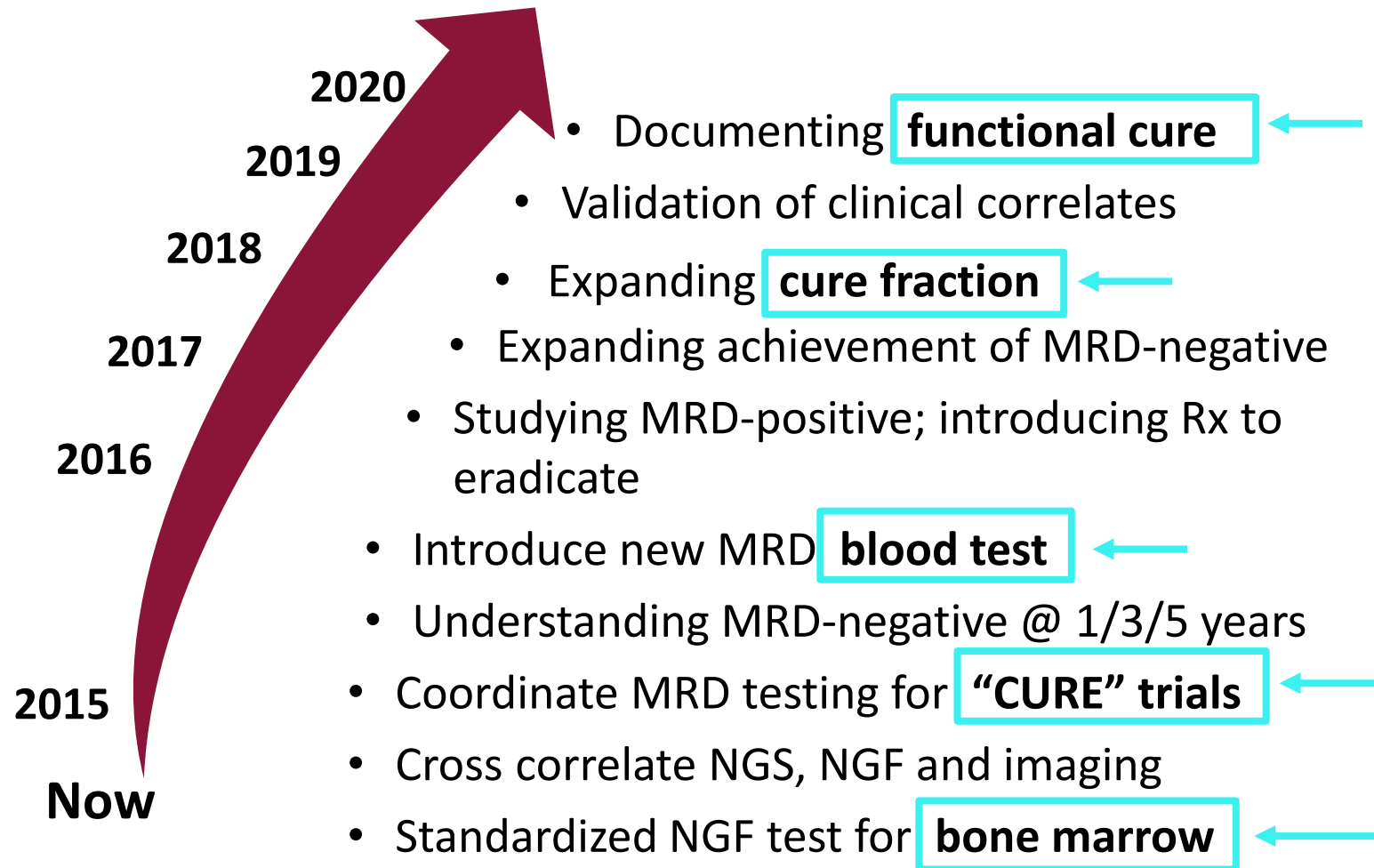


# Current Opportunities





# Forward Expectations and Plans





# Ongoing New Projects







International Myeloma Foundation