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10-17-2019

### **What's All the Fuss About? Day 2: The Nobel Prize in Economics, Medicine, and Peace**

Emma Leonard Boyle PhD

Jason Diaz PhD

Adam Pellillo PhD

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"FOR THE GREATEST  
BENEFIT TO HUMANKIND"

ALFRED NOBEL

The 2019 Nobel Prizes in Economics, Medicine and Peace

Dr. Adam Pellillo, Dr. Jason Diaz, and Dr. Emma Leonard Boyle



The Royal Swedish Academy of Sciences has decided to award  
the 2019 Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel to

**Abhijit Banerjee**  
**Esther Duflo**  
**Michael Kremer**

"for their experimental approach to alleviating global poverty"



THE SVERIGES RIKSBANK PRIZE  
IN ECONOMIC SCIENCES IN MEMORY  
OF ALFRED NOBEL 2019

Illustrations: Niklas Elmehed



Abhijit  
Banerjee

Esther  
Duflo

Michael  
Kremer

“for their experimental approach to alleviating global poverty”

THE ROYAL SWEDISH ACADEMY OF SCIENCES

# A New Approach to Development (Economics)

- A greater reliance on (richly detailed) micro-level data (instead of aggregated, country-level data)
- The use of field experiments to discover what works (and what doesn't) in development
- A more nuanced understanding of the causes (and consequences) of poverty
  - [The Economist](#) on Banerjee and Duflo: “They have spent countless hours observing and learning from the daily struggles of the world’s poor.”

# POOR ECONOMICS

A RADICAL RETHINKING OF THE  
WAY TO FIGHT GLOBAL POVERTY

ABHIJIT V. BANERJEE  
AND ESTHER DUFLO

FINANCIAL TIMES / GOLDMAN SACHS  
BUSINESS BOOK OF THE YEAR

"Engrossing....intrepid research and a store of personal anecdotes  
illuminate the lives of the 865 million people who, at the last count,  
live on less than \$0.99 a day." —*THE ECONOMIST*





## Can Microfinance Unlock a Poverty Trap for Some Entrepreneurs?

Abhijit Banerjee, Emily Breza, Esther Duflo, Cynthia Kinnan

**NBER Working Paper No. 26346**

**Issued in October 2019**

**NBER Program(s):** **The Corporate Finance Program, The Development Economics Program, The Labor Studies Program, The Productivity, Innovation, and Entrepreneurship Program**

Can microcredit help unlock a poverty trap for some people by putting their businesses on a different trajectory? Could the small microcredit treatment effects often found for the average household mask important heterogeneity? In Hyderabad, India, we find that “gung ho entrepreneurs” (GEs), households who were already running a business before microfinance entered, show persistent benefits that increase over time. Six years later, the treated GEs own businesses that have 35% more assets and generate double the revenues as those in control neighborhoods. We find almost no effects on non-GE households. A model of technology choice in which talented entrepreneurs can access either a diminishing-returns technology, or a more productive technology with a fixed cost, generates dynamics matching the data. These results show that heterogeneity in entrepreneurial ability is important and persistent. For talented but low-wealth entrepreneurs, short-term access to credit can indeed facilitate escape from a poverty trap.

## The Efficient Deployment of Police Resources: Theory and New Evidence from a Randomized Drunk Driving Crackdown in India

Abhijit Banerjee, Esther Duflo, Daniel Keniston, Nina Singh

**NBER Working Paper No. 26224**

**Issued in September 2019**

**NBER Program(s):** [The Development Economics Program](#)

Should police activity be narrowly focused and high force, or widely-dispersed but of moderate intensity? Critics of intense “hot spot” policing argue it primarily displaces, not reduces, crime. But if learning about enforcement takes time, the police may take advantage of this period to intervene intensively in the most productive location. We propose a multi-armed bandit model of criminal learning and structurally estimate its parameters using data from a randomized controlled experiment on an anti-drunken driving campaign in Rajasthan, India. In each police station, sobriety checkpoints were either rotated among 3 locations or fixed in the best location, and the intensity of the crackdown was cross-randomized. Rotating checkpoints reduced night accidents by 17%, and night deaths by 25%, while fixed checkpoints had no significant effects. In structural estimation, we show clear evidence of driver learning and strategic responses. We use these parameters to simulate environment-specific optimal enforcement policies.





## On the New Development Economics

By focusing more on the effects of local interventions, do we miss out on the macro-level (e.g., political, institutional, macroeconomic, macro-policy) determinants of poverty and prosperity?

OPINION | COMMENTARY

## *Nobel Laureates Aim Too Low on Global Poverty*

Immigration and growth would help more than addressing the winners' 'manageable questions.'

By David R. Henderson  
Oct. 14, 2019 6:56 pm ET







EKONOMIPRISET 2019  
THE PRIZE IN ECONOMIC SCIENCES 2019



Abhijit Banerjee, MIT



Esther Duflo, MIT



Michael Kremer, Harvard University

- have played key roles in transforming research on global poverty alleviation
- development economics is now a largely experimental field



PETER FREDRIKSSON



GORAN K. HANSSON



JAKOB SVENSSON

# Learning about Development

- Angus Deaton (2010, p. 426): “...*under ideal circumstances*, randomized evaluations of projects are useful for obtaining a convincing estimate of the average effect of a program or project. The price for this success is a focus that is too narrow and too local to tell us ‘what works’ in development, to design policy, or to advance scientific knowledge about development processes.”
- “...the analysis of projects needs to be refocused toward the investigation of potentially generalizable mechanisms that explain why and in what contexts projects can be expected to work.”



Is the focus really “...too narrow and too local...” to design policy?



On External  
Validity and  
Scalability

Can successful micro-level interventions be scaled up to the regional (or national) level in a country (e.g., through changes in education policy, health programs, etc.)?

## *RICHARD T. ELY LECTURE*

### The Economist as Plumber<sup>†</sup>

*By* ESTHER DUFLO\*

Economists are increasingly getting the opportunity to help governments around the world design new policies and regulations. This gives them a responsibility to get the big picture, or the broad design, right. But in addition, as these designs actually get implemented in the world, this gives them the responsibility to focus on many details about which their models and theories do not give much guidance.

There are two reasons for this need to attend to details. First, it turns out that policymakers rarely have the time or inclination to focus on them, and will tend to decide on how to address them based on hunches, without much regard for evidence. Figuring all of this out is therefore not something that economists can just leave to policymakers after delivering their report: if they are taking on the challenge to influence the

real world, not only do they need to give general prescriptions, they must engage with the details.

Second, details that we as economists might consider relatively uninteresting are in fact extraordinarily important in determining the final impact of a policy or a regulation, while some of the theoretical issues we worry about most may not be that relevant. This sentiment is well summarized by Klemperer (2002, p. 170), who presents his views on what matters for practical auction design, based on his own experience designing them and advising bidders: “in short,” he writes, “good auction design is mostly good elementary economics, [whereas] most of the extensive auction literature is of second-order importance for practical auction design.”

It seems appropriate to open an essay on plumbing with an actual plumbing example that illustrates the two points I made above (Devoto



## The Entertaining Way to Behavioral Change: Fighting HIV with MTV

Abhijit Banerjee, Eliana La Ferrara, Victor H. Orozco-Olvera

**NBER Working Paper No. 26096**

**Issued in July 2019**

**NBER Program(s):** [The Development Economics Program](#), [The Health Economics Program](#)

We test the effectiveness of an entertainment education TV series, MTV Shuga, aimed at providing information and changing attitudes and behaviors related to HIV/AIDS. Using a simple model we show that "edutainment" can work through an individual or a social channel. We conducted a randomized controlled trial in urban Nigeria where young viewers were exposed to MTV Shuga or to a placebo TV series. Among those exposed to MTV

Shuga, we created additional variation in the social messages they received and in the people with whom they watched the show. We find significant improvements in knowledge and attitudes towards HIV and risky sexual behavior. Treated subjects are twice as likely to get tested for HIV eight months after the intervention. We also find reductions in STDs among women. These effects are stronger for viewers who report being more involved with the narrative, consistent with the psychological underpinnings of edutainment. Our experimental manipulations of the social norm component did not produce significantly different results from the main treatment. The individual effect of edutainment thus seems to have prevailed in the context of our study.

## The Challenges of Universal Health Insurance in Developing Countries: Evidence from a Large-scale Randomized Experiment in Indonesia

Abhijit Banerjee, Amy Finkelstein, Rema Hanna, Benjamin A. Olken, Arianna Ornaghi, Sudarno Sumarto

**NBER Working Paper No. 26204**

**Issued in August 2019**

**NBER Program(s):** **The Development Economics Program, The Health Care Program, The Health Economics Program, The Public Economics Program**

To assess ways to achieve widespread health insurance coverage with financial solvency in developing countries, we designed a randomized experiment involving almost 6,000 households in Indonesia who are subject to a nationally mandated government health insurance program. We assessed several interventions that simple theory and prior evidence suggest could increase coverage and reduce adverse selection: substantial temporary price subsidies (which had to be activated within a limited time window and lasted for only a year), assisted registration, and information. Both temporary subsidies and assisted registration increased initial enrollment. Temporary subsidies attracted lower-cost enrollees, in part by eliminating the practice observed in the no subsidy group of strategically timing coverage for a few months during health emergencies. As a result, while subsidies were in effect, they increased coverage more than eightfold, at no higher unit cost; even after the subsidies ended, coverage remained twice as high, again at no higher unit cost. However, the most intensive (and effective) intervention – assisted registration and a full one-year subsidy – resulted in only a 30 percent initial enrollment rate, underscoring the challenges to achieving widespread coverage.

## Universal Basic Income in the Developing World

Abhijit Banerjee, Paul Niehaus, Tavneet Suri

**NBER Working Paper No. 25598**

**Issued in February 2019**

**NBER Program(s): [The Development Economics Program](#)**

Should developing countries give everyone enough money to live on? Interest in this idea has grown enormously in recent years, reflecting both positive results from a number of existing cash transfer programs and also dissatisfaction with the perceived limitations of piecemeal, targeted approaches to reducing extreme poverty. We discuss what we know (and what we do not) about three questions: what recipients would likely do with the incremental income, whether this would unlock further economic growth, and the potential consequences of giving the money to everyone (as opposed to targeting it).



Economist Radio

Podcasts



Money talks

## An interview with the Nobel prize-winning economists

*Our weekly podcast on the markets, the economy and the world of business*



# THE NOBEL PRIZE IN PHYSIOLOGY OR MEDICINE 2019



Illustrations: Niklas Elmehed

William G.  
Kaelin Jr.

Sir Peter J.  
Ratcliffe

Gregg L.  
Semenza

“for their discoveries of how cells sense  
and adapt to oxygen availability”

THE NOBEL ASSEMBLY AT KAROLINSKA INSTITUTET



Why do endurance runners sometimes train at high altitudes?





# Why do endurance runners sometimes train at high altitudes?

- Animals need oxygen for metabolism
- Red blood cells carry oxygen
- In low oxygen environments, erythropoietin (EPO) is released
- EPO stimulates more red blood cell growth
- **How do cells sense low oxygen?**



# PHYSIOLOGY

Metabolism

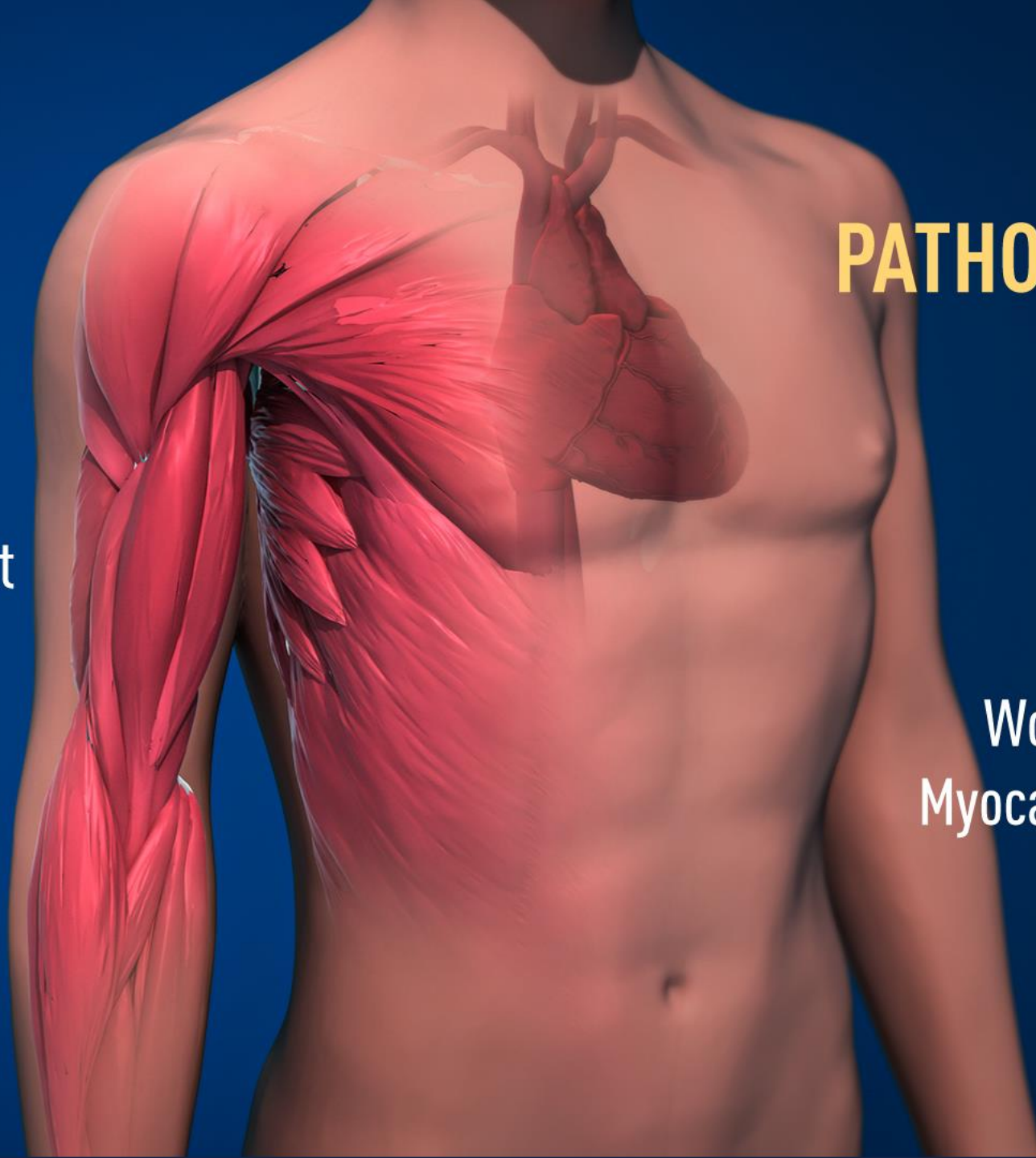
Exercise

Embryonic development

Immune response

Altitude adaptation

Respiration



# PATHOPHYSIOLOGY

Anemia

Cancer

Stroke

Infection

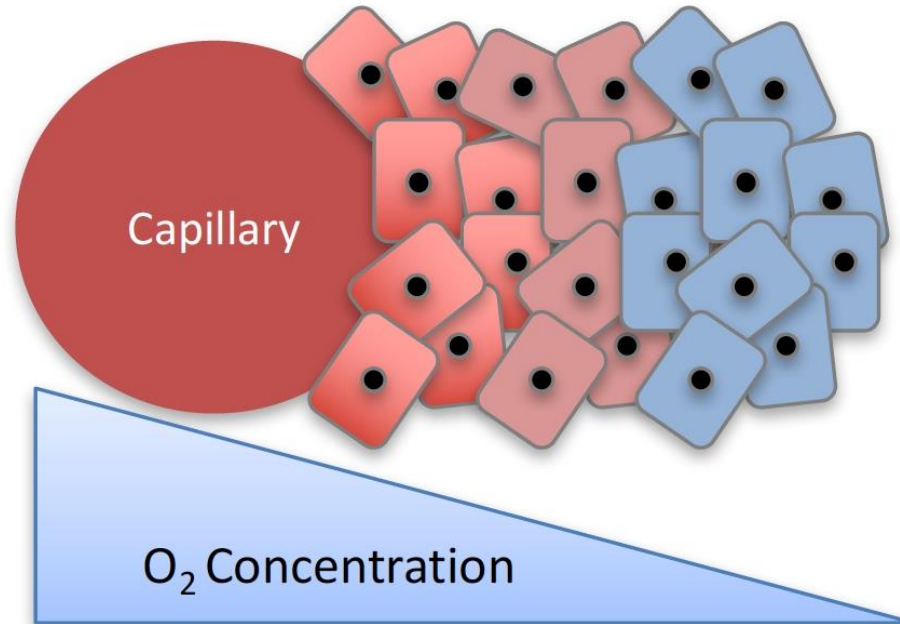
Wound healing

Myocardial infarction

# Hypoxia in the Tumor Microenvironment

## Normoxic Cancer Cells

- Near blood vessel (1)
- Low HIF1-alpha expression (2)
- More susceptible to chemotherapy and radiation therapy (1)

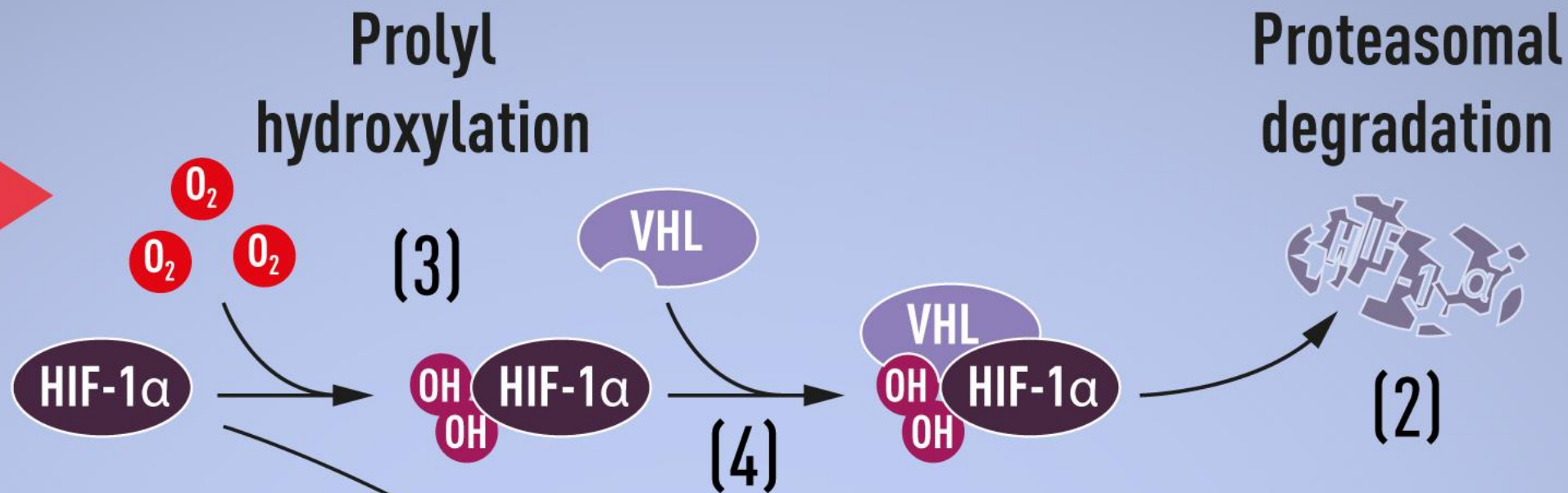


## Hypoxic Cancer Cells:

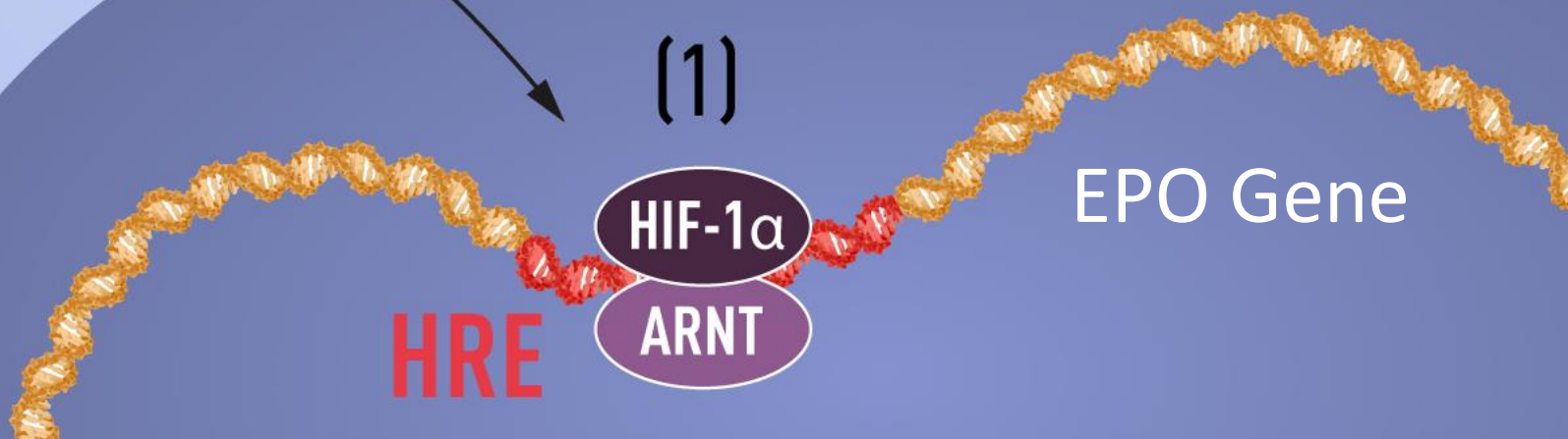
- Increased genetic instability (3)
- Poor immune response (2)
- Influence ECM Remodeling/Stiffness (2)
- HIF1-alpha expression results in altered angiogenesis (2,3)
- Less susceptible to chemotherapy and radiation therapy (1,3)



**Normoxia**



**Hypoxia**



# THE NOBEL PEACE PRIZE 2019



Abiy Ahmed Ali

“for his efforts to achieve peace and international cooperation, and in particular for his decisive initiative to resolve the border conflict with neighbouring Eritrea”

# Nobel Peace Prize: Prime Minister Abiy Ahmed Ali

- For bringing an end to the conflict with Eritrea
- For lifting the state of emergency in Ethiopia, granting amnesty to 1000s of political prisoners, discontinuing media censorship, legalizing outlawed opposition groups, dismissing leaders suspected of corruption, increasing the role of women in political life
- For contributing to the normalization of diplomatic relations between Ethiopia and Djibouti
- For playing a key mediation role in the conflicts between Somalia and Kenya, and the Sudanese Govt and opposition groups





# Ethiopia-Eritrea Conflict



# Domestic Reform

