



Faculty of Design

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## How do we Deliberate about our Health? An investigation into the decision aid as a service system inflection point

Mages, Michael Arnold and Holmes, Joli

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# When do we deliberate about our health?

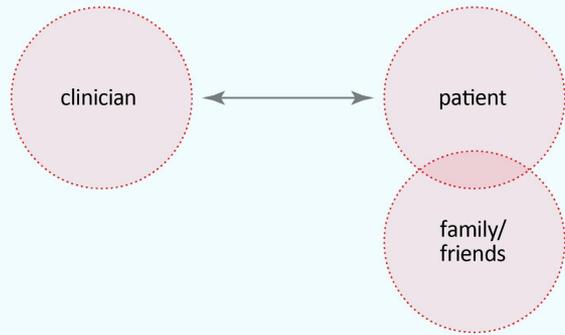
Michael Arnold Mages & Joli Holmes



# one-option decision

Creative commons photo courtesy Pexel user Tara Winstead

# decision-making models



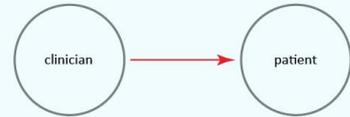
# paternalistic decision-making model

## paternalistic

### assumptions

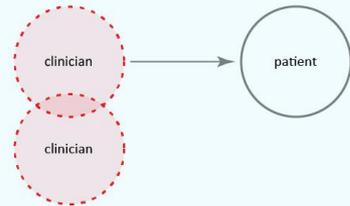
- **clinician knows best and will make the best decisions for the patient**
- a single best treatment exists
- clinician is knowledgeable of best treatment
- clinician is in the best position to evaluate tradeoffs between treatments and make the treatment decision
- clinicians have a legitimate concern for the welfare of their patients

### information exchange



- natural history of the condition
- risks and benefits of treatments or screenings
- description of procedure
- community resources

### deliberation network



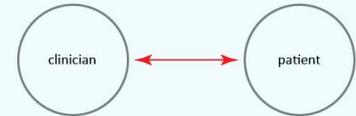
# shared decision-making model

## shared

### assumptions

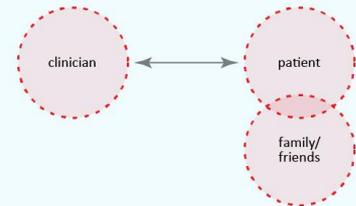
- **best decision will be made through deliberation between patient and clinician sharing of information, risks, values, etc.**
- a single best treatment does not necessarily exist, but is situated for each individual
- clinician is knowledgeable of medical/scientific information as well as social and psychological aspects of each treatment or screening option
- patient has valuable information to add to the decision such as values, preferences, lifestyle

### information exchange



- natural history of the condition
- risks and benefits of treatments or screenings
- description of procedure
- community resources
- health history
- lifestyle
- social context
- beliefs/preferences/values
- emotions such as fear, anxiety, guilt

### deliberation network

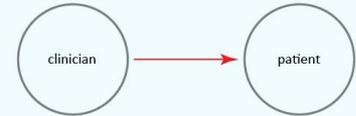


# informed decision-making model

## assumptions

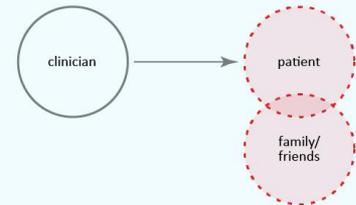
- informed**
- patient is the best position to be able to make a decision for themselves if they are fully informed
  - a single best treatment does not necessarily exist, but is situated for each individual
  - clinician is knowledgeable of possible screenings or treatments
  - clinician is the primary provider of medical/scientific information
  - clinician's role is to inform patient of treatment options
  - clinician does not play a role in decision-making beyond information transfer

## information exchange

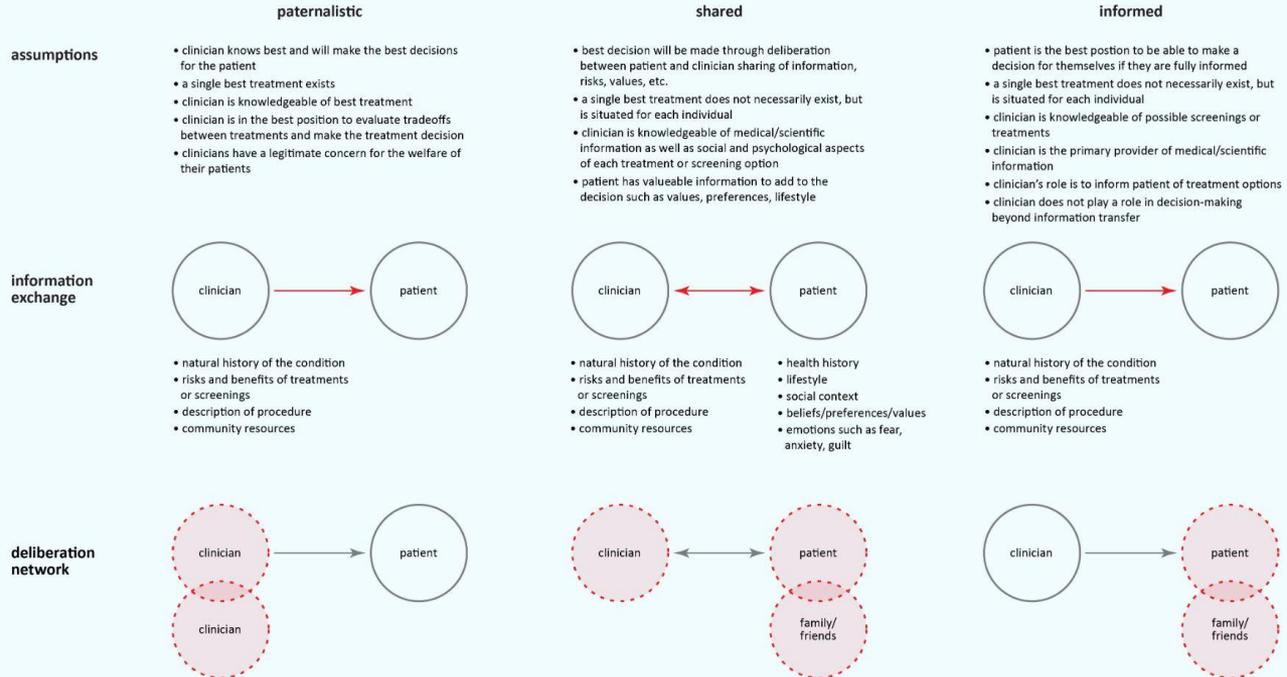


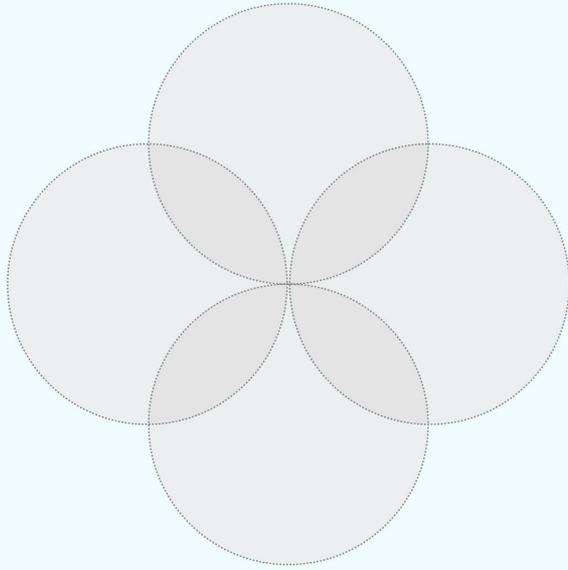
- natural history of the condition
- risks and benefits of treatments or screenings
- description of procedure
- community resources

## deliberation network



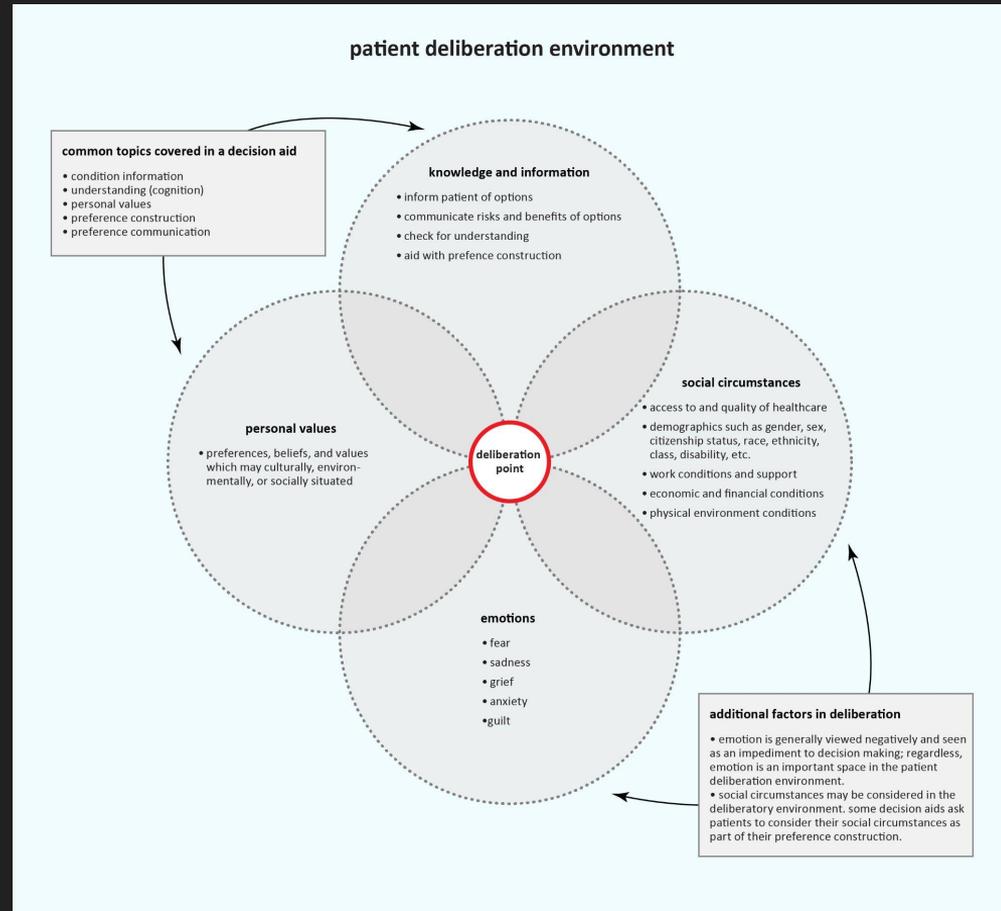
## decision-making models in the clinician-patient encounter





# decisional conflict

# patient deliberation environment



has to stop taking the drug. There are reports of pain in the abdomen that may be caused by inflammation of the pancreas with these agents.

### Sulfonylureas

Glipizide, Glimepiride, Glyburide

Some patients get nausea, rash and/or diarrhea when they first start taking Sulfonylureas. This type of reaction may force them to stop taking the drug.

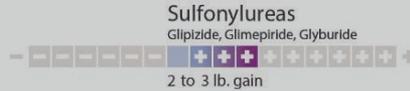
### Gliptins

A few patients may get nose and sinus congestion, headaches, and perhaps be at risk of problems with their pancreas.

### SGLT2 Inhibitors

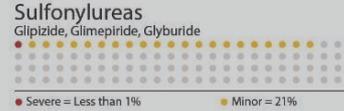
Urinary tract infections and yeast infections are more common among patients taking this medication.

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No Severe Risk Minor = 0 – 1%



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**Sulfonylureas** 1 – 2%  
Glipizide, Glimepiride, Glyburide

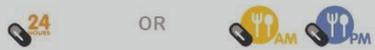
**Gliptins** 0.5 – 1%

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# decision aid

## Daily Routine

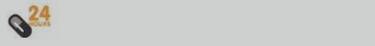
### Metformin



### Insulin



### Pioglitazone



## Daily Sugar Testing (Monitoring)

### Metformin



### Insulin



### Pioglitazone



## Cost

These figures are estimates and are for comparative reference only. Actual out-of-pocket costs vary over time, by pharmacy, insurance plan coverage, preparation and dosage. Under some plans name brands may be comparable in cost to generics.

### Metformin (Generic available)

\$0.10 per day \$9 / 3 months

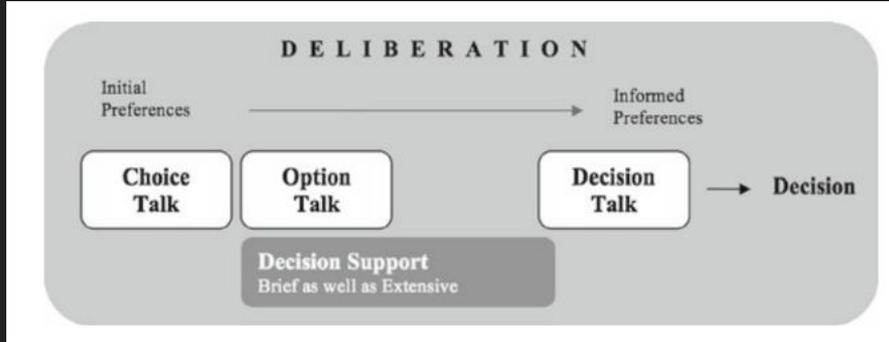
### Insulin (No generic available – price varies by dose)

Lantus :	Vial, per 100 units:	\$26
	Pen, per 100 units:	\$26
NPH:	Vial, per 100 units:	\$2.50
	Pen, per 100 units:	\$28
Short acting analog insulin :	Vial, per 100 units:	\$25
	Pen, per 100 units:	\$30

### Diabetes Medications

Drug Category	Generic Name	Brand Name
Metformin	Metformin	Glucophage®
Insulin	RAPID ACTING:	
	Aspart	NovoLog®
	Glulisine	Apidra®
	Insulin (regular)	Humulin® R
		Novolin® R
Lispro	Humalog®	
INTERMEDIATE ACTING:		
Human NPH	Humulin® N	
LONG ACTING:		
Degludec	Tresiba®	
Detemir	Levemir®	
Glargine	Lantus®	
Glargine U300	Toujeo®	

Decision Aid designed by the Research and Evaluation Unit at Mayo Clinic



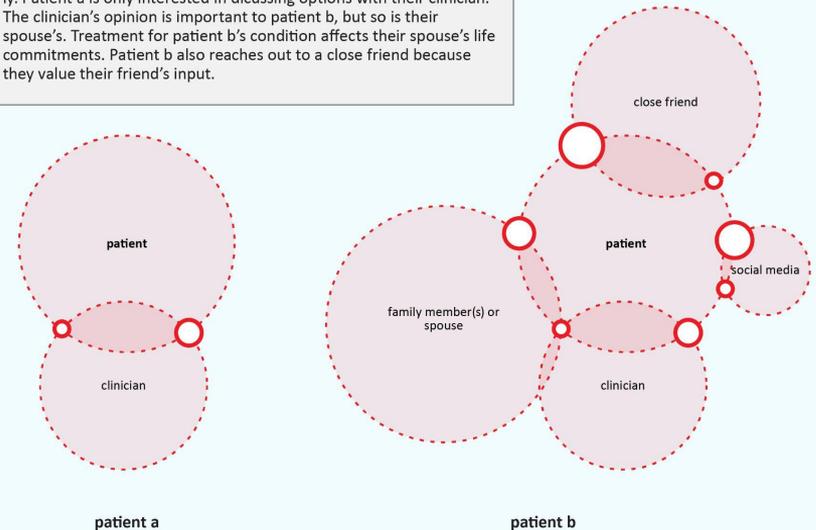
DEIs [Decision Support Interventions] help people think about choices they face: they describe where and why the choice exists; they provide information about options, including, where reasonable, the option of taking no action. These interventions help people to deliberate, independently or in collaboration with others, about options, by considering relevant attributes; they support people to forecast how they might feel about short, intermediate and long-term outcomes which have relevant consequences, in ways in which help the process of constructing preferences and eventual decision making, appropriate to their individual situation. This definition introduces new issues, not least that **the intervention cannot be viewed as a leaflet, video or website alone: the intervention is inevitably part of a social interaction.**

Glen Elwyn, 2010

# patient deliberation network

## patient deliberation network

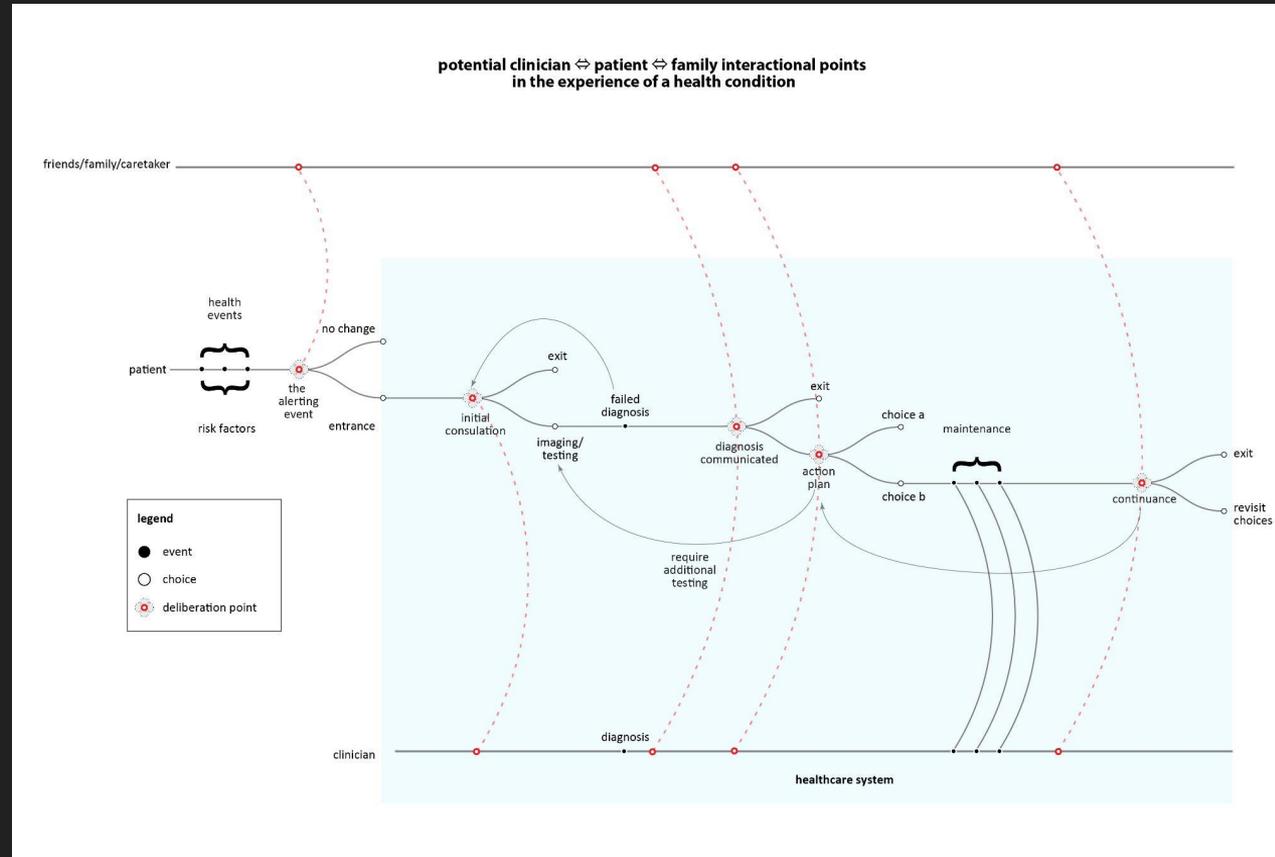
Patient a and patient b are diagnosed with the same condition and being treated at the same medical center. Although they have similar medical cases, their social deliberation environments differ significantly. Patient a is only interested in discussing options with their clinician. The clinician's opinion is important to patient b, but so is their spouse's. Treatment for patient b's condition affects their spouse's life commitments. Patient b also reaches out to a close friend because they value their friend's input.

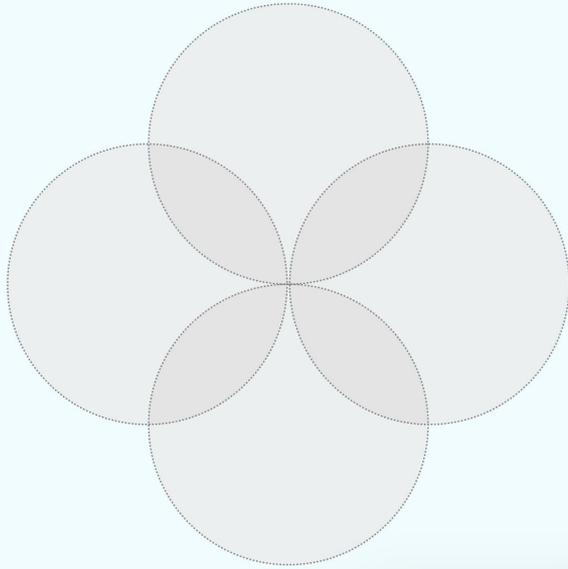


- value/preference/belief
- individual/group involved in deliberation

# decisional conflict in the healthcare system

# model of the healthcare system





# decisional conflict

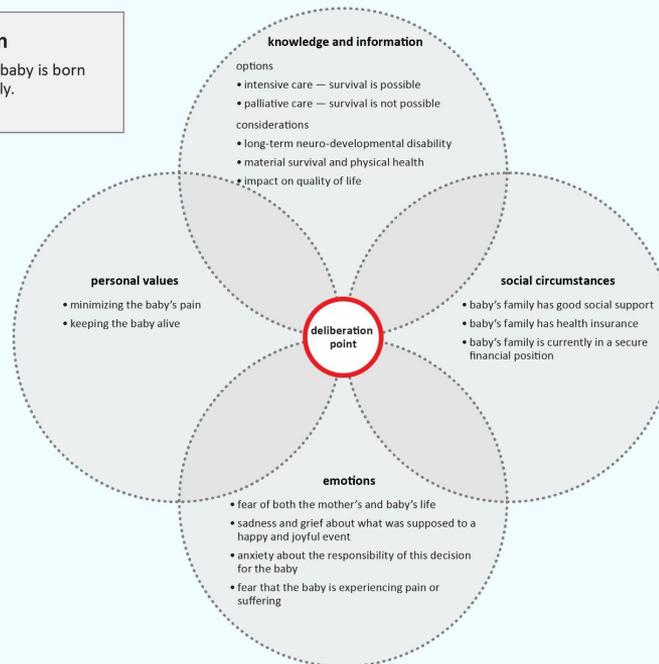
## premature baby example

# patient deliberation environment

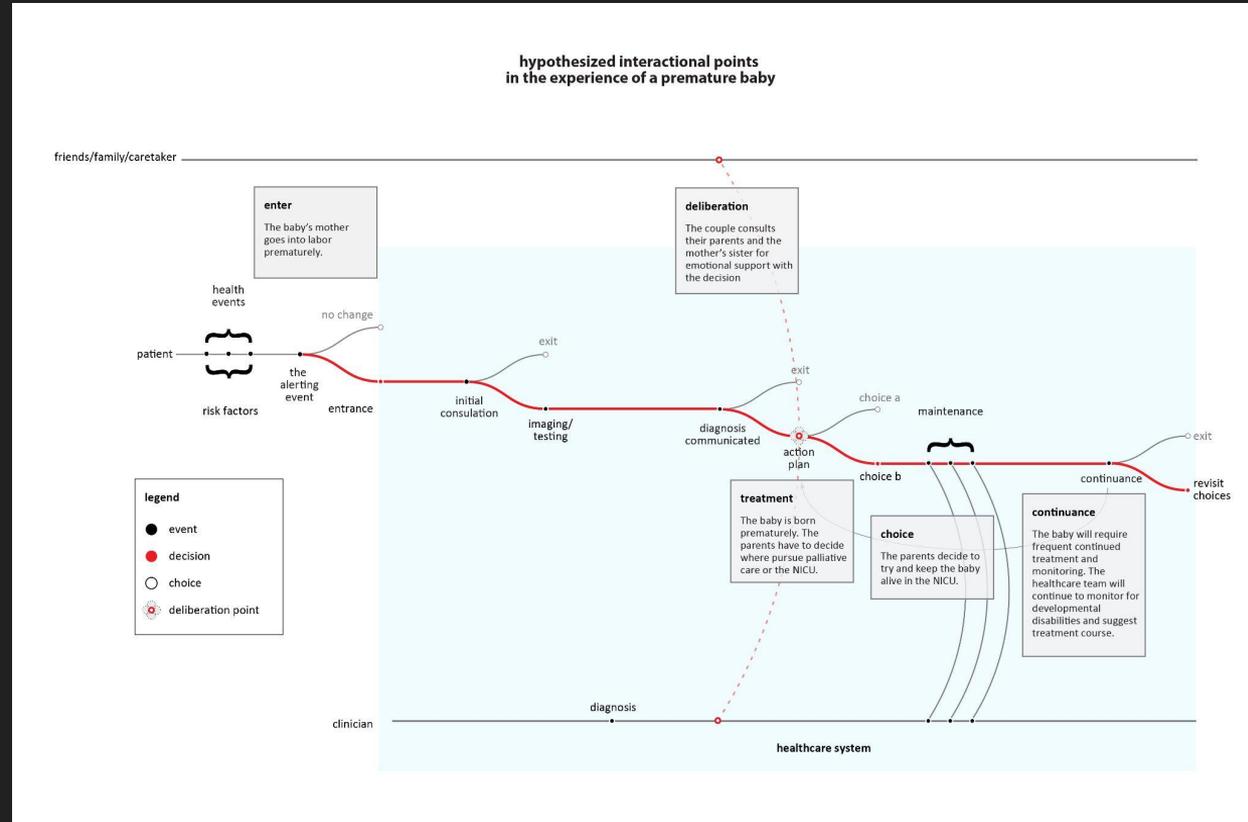
## patient deliberation environment

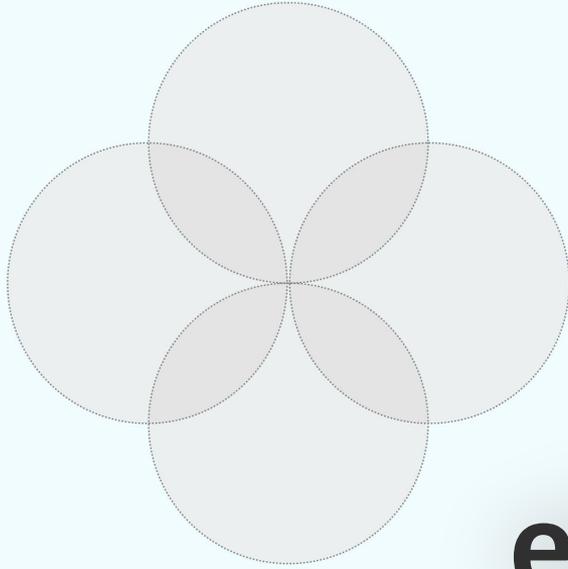
### situation

A couple's baby is born prematurely.



# decision-making in the healthcare system





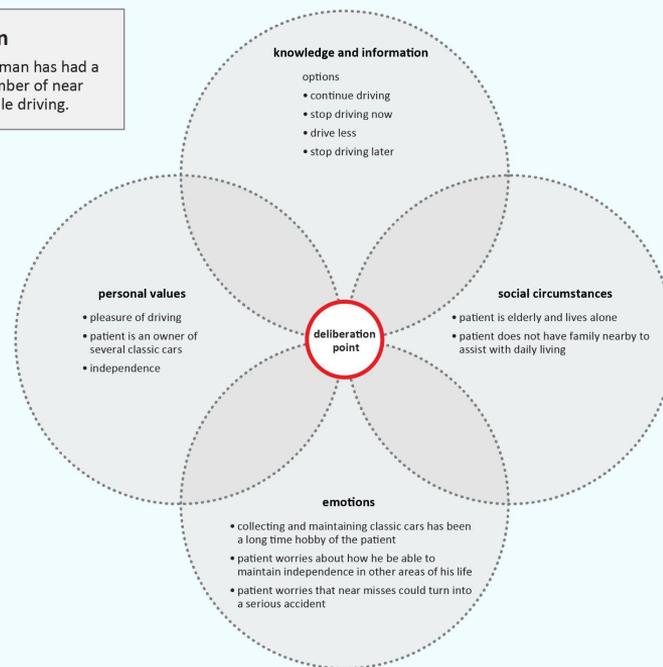
# decisional conflict elderly driver example

# patient deliberation environment

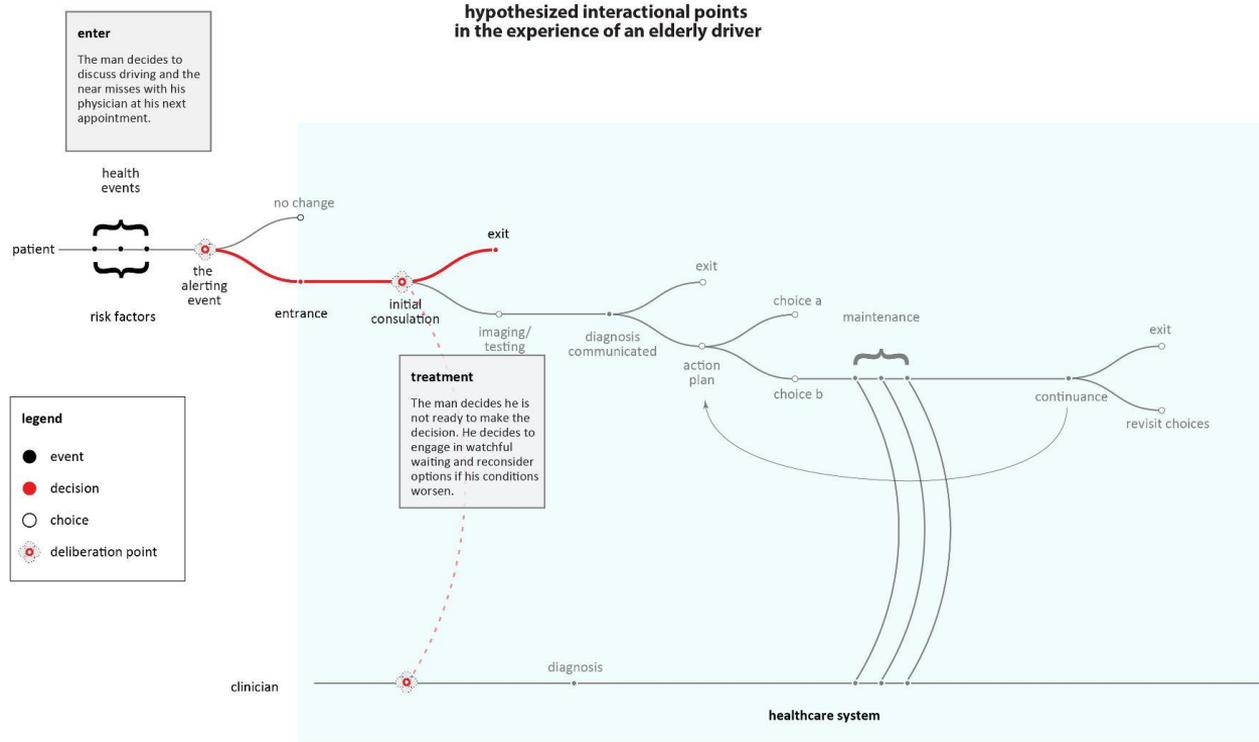
## patient deliberation environment

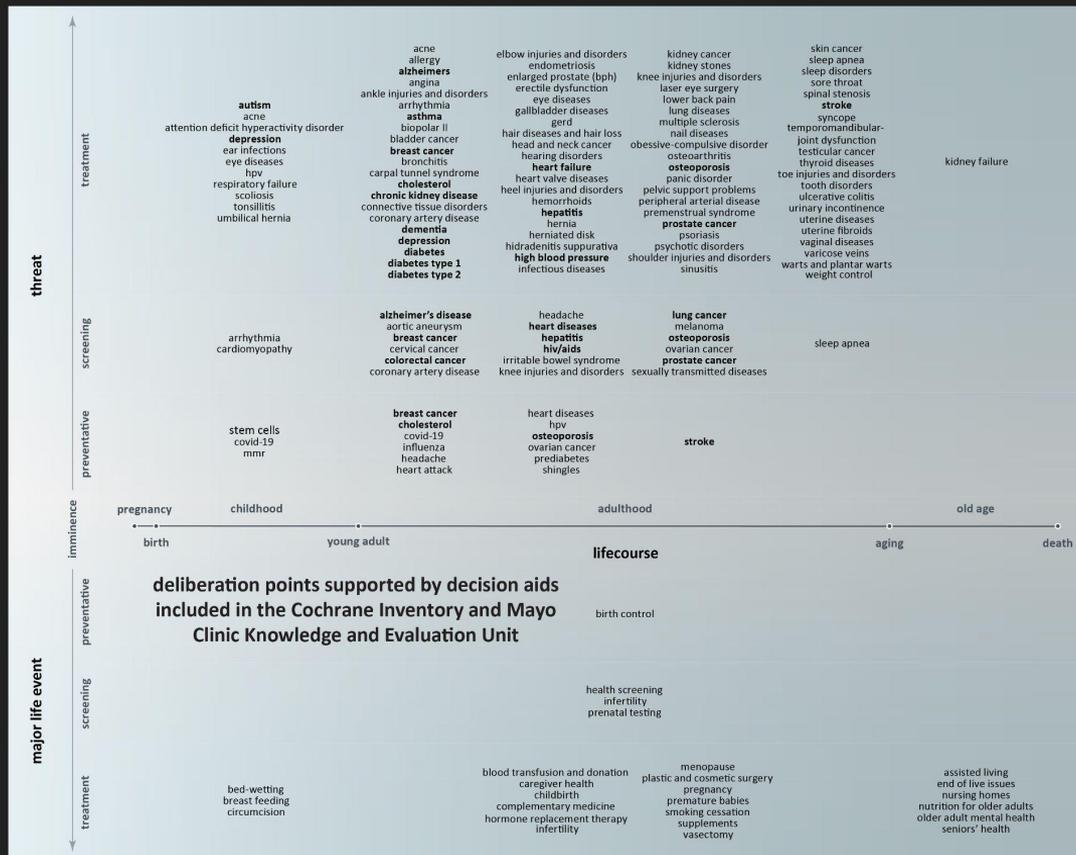
### situation

an elderly man has had a recent number of near misses while driving.



# decision-making in the healthcare system





Chronic conditions are in bold

Where could the expanded use of decision aids aid deliberation?

Preventative treatment and screening points

Ages outside of adults, particularly children, adolescents, and elderly patients

Lifecourse events rather than just health threats

**Michael Arnold Mages**

Asst Professor, Design  
Northeastern University  
Boston, USA

@mmages

[m.arnoldmages@northeastern.edu](mailto:m.arnoldmages@northeastern.edu)

**Joli Holmes**

Graduate Research Assistant, Design  
Northeastern University  
Boston, USA

[holmes.jol@northeastern.edu](mailto:holmes.jol@northeastern.edu)