

PATIENT-CENTERED RESEARCH SERVICES

"Exploring Factors explaining Treatment Acceptance in Patients Suffering from a Chronic Disease"

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Patient Centered Outcome, Mapi & Carenity Online Community

6 November 2017

APTEO Study

"Patient acceptance of their treatment: online survey"

Objectives of APTEO Study

- **To evaluate, for a variety of chronic diseases, the level of patients' acceptance of their medication in real life using a patient online community (Carenity platform)**
- Which level of acceptance and adherence to treatment patients achieved?
- What are the specific issues experienced by patients with their treatment acceptance?
- How do adherence and acceptance correlate?
- Which factors influence acceptance?



APTEO Study: a Very Simple and Economic Design

- Observational, cross-sectional study
- Conducted in the top 5 EU countries using Carenity platform
 - France, UK, Germany, Italy and Spain
- Patient inclusion criteria
 - Age \geq 18 years old
 - Member of Carenity platform
 - Suffering from a chronic disease
 - Currently receiving a treatment for their chronic disease
 - Living in one of the involved country
 - Agreeing to participate in the study i.e. completing the online questionnaire



APTEO Data Collection – Focus on Key Questions

- Anonymous self reported data collection by patients
 - Demographic characteristics
 - age, gender, occupational status, geographic location
 - Clinical characteristics
 - chronic disease, date of diagnosis, current treatment, comorbidities
 - Patient Reported Outcomes (PRO) questionnaires
 - ACCEPT questionnaire (25 items)
 - Morisky Medication Adherence Scale – 8 items (MMAS-8)



APTEO Data Collection – ACCEPT questionnaire: 5 treatment-attribute multi-item specific dimensions ...

Treatment-attribute specific dimension	Number of items	E.g. item label	E.g. response choice
<u>Acceptance/ Medication Inconvenience</u>	5	Q1: Do you find it inconvenient to prepare your medication?	<ul style="list-style-type: none"> ▪ "Yes, and I don't find this easy to accept" ▪ "Yes, but I find this easy to accept" ▪ "No"
<u>Acceptance/ Long-term Treatment</u>	3	Q5: Will you have to take your medication for a long time?	
<u>Acceptance/ Regimen Constraints</u>	5	Q6: Do you find that having to remember to take your medication is inconvenient?	
<u>Acceptance/ Side Effects</u>	5	Q16: Are these side effects unpleasant?	
<u>Acceptance/ Effectiveness</u>	3	Q20: Do you find that your medication is effective for you?	



APTEO Data Collection – ACCEPT questionnaire: ... + 1 general acceptance dimension

General Acceptance dimension	Number of items	Item labels	Response choice (Likert-type scales)
Acceptance/General	3	Q23: Do you agree with the following statement: "My medication has more advantages than disadvantages "?	"Totally disagree" "Somewhat disagree" "Somewhat agree" "Totally agree" "I don't know"
		Q24: Given the advantages and disadvantages of your medication, do you consider it to be an acceptable solution ?	"Not at all acceptable" "Not very acceptable" "Somewhat acceptable" "Totally acceptable" "I don't know"
		Q25: Are you convinced that in the long term , it is worth taking your medication ?	"Not at all convinced" "Not really convinced" "Somewhat convinced" "Totally convinced" "I don't know"



APTEO Data Collection – Morisky Medication Adherence Scale (MMAS)

- Reference tool to assess adherence: MMAS – 8 items
 - Generic self-administered questionnaire to measure adherence
 - Widespread utilization
 - 8 YES/NO questions on situations leading to not taking treatment
 - Scores from 0 to 8 → easy interpretation

MMAS-8 Score	Adherence Level
< 6	Low Adherence
6 to <8	Medium Adherence
= 8	High Adherence

Krousel-Wood, M., et al., *New medication adherence scale versus pharmacy fill rates in hypertensive seniors*. The American Journal of Managed Care, 2009. **15**(1): p. 59-66.

Morisky, D.E., et al., *Predictive validity of a medication adherence measure in an outpatient setting*. J Clin Hypertens (Greenwich), 2008. **10**(5): p. 348-54.

Morisky, D.E. and M.R. DiMatteo, *Improving the measurement of self-reported medication nonadherence: Response to Authors*. Journal of Clinical Epidemiology, 2011. **64**(3): p. 255-263.



APTEO 2 Study Results

Patient population

Variables	Population (N=3,011)
Age	
years: mean (SD)	53.7 (12.8)
Gender	
Female: n(%)	2,027 (67.3%)
Professional status	
Employed: n(%)	1,309 (43.5%)
Non employed: n(%)	747 (24.8%)
Retired: n(%)	951 (31.6%)
Time since diagnosis	
[0-2[years: n(%)	370 (12.3%)
[2-5[years: n(%)	592 (19.7%)
[5-10[years: n(%)	701 (23.3%)
≥ 10 years: n(%)	1,348 (44.8%)

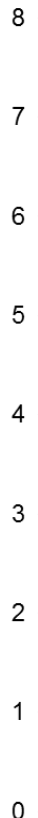


Patient population – chronic disease distribution

Diabetes (Type 2)	946
Multiple sclerosis	542
Fibromyalgia	417
Diabetes (Type 1)	267
Osteoporosis	218
Rheumatoid arthritis	215
COPD	117
Asthma	124
Crohn's disease	88
Psoriasis	77



MMAS-8 Adherence Score



Box = inter-quartile range (Q3-Q1)

+ = mean

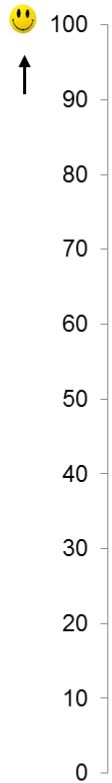
— = median

upper & lower bars = observed max & min values

- Mean MMAS adherence score is around 6
 - These patients adhere lowly to moderately to their treatment



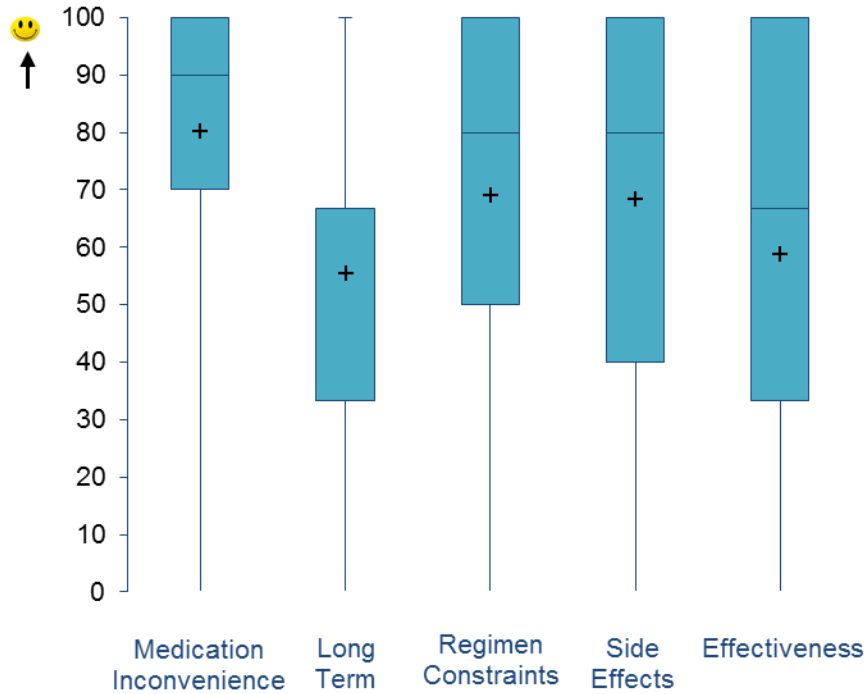
ACCEPT General Score



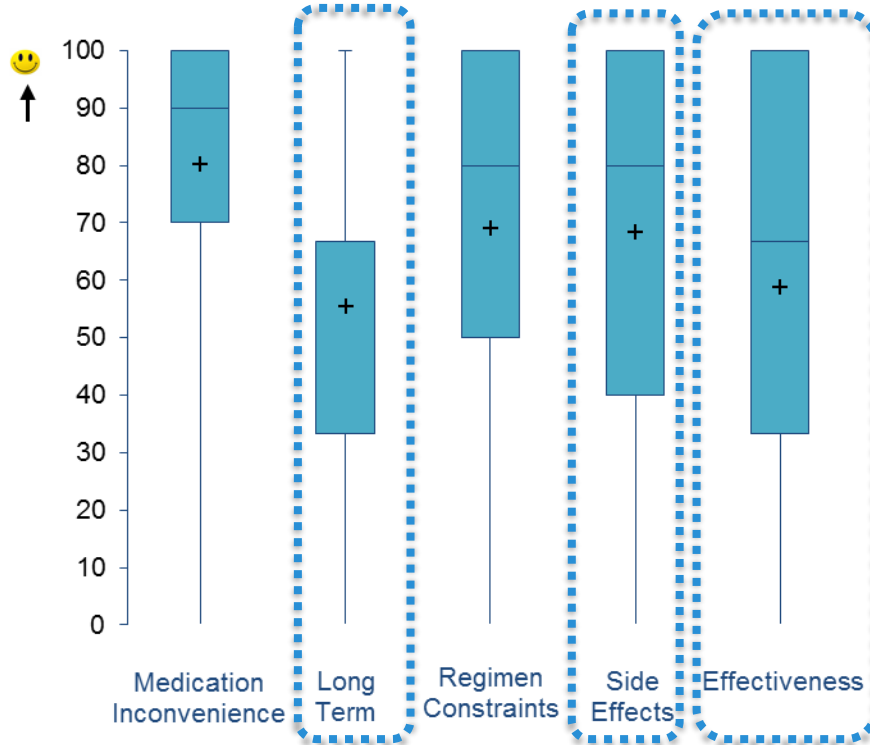
- General Acceptance is low
 - Around 50 in mean



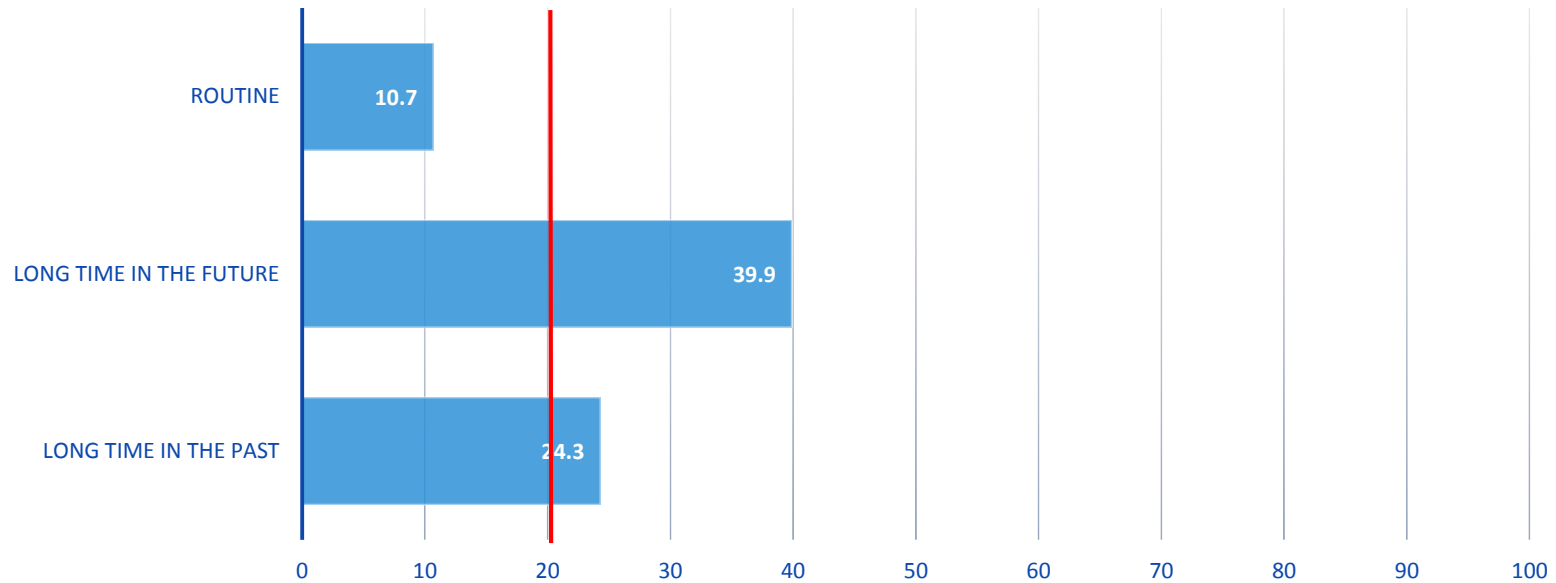
ACCEPT treatment-attributes



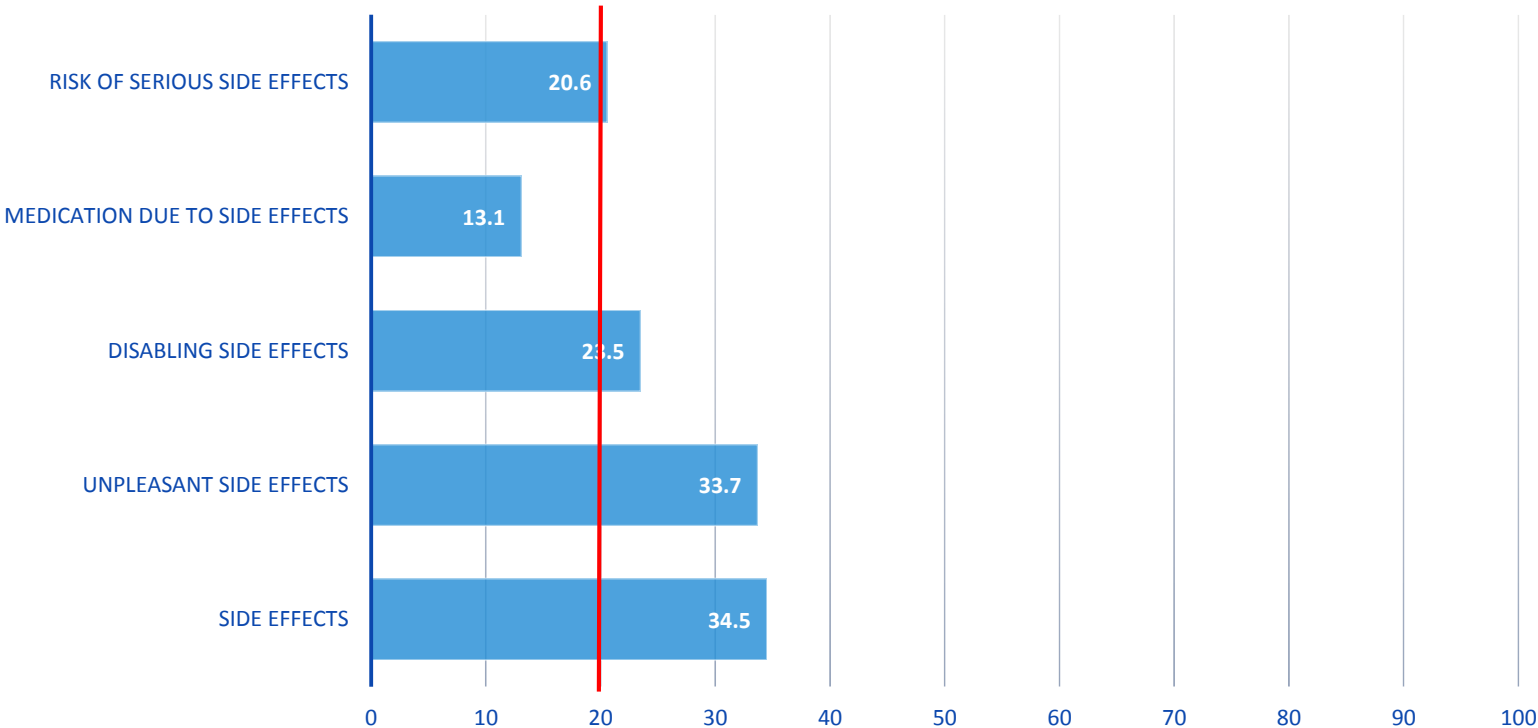
ACCEPT treatment-attributes



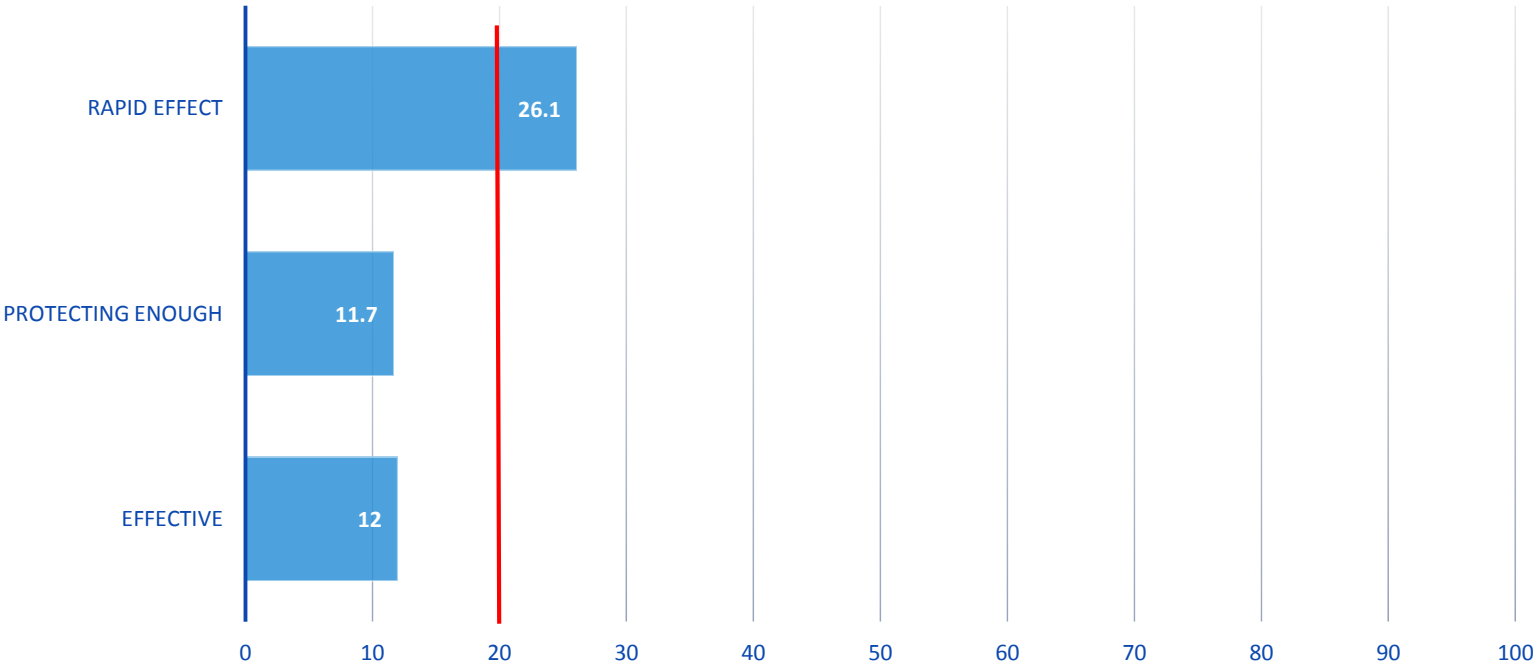
What do patients not easily Accept in terms of **Long-term** treatment?



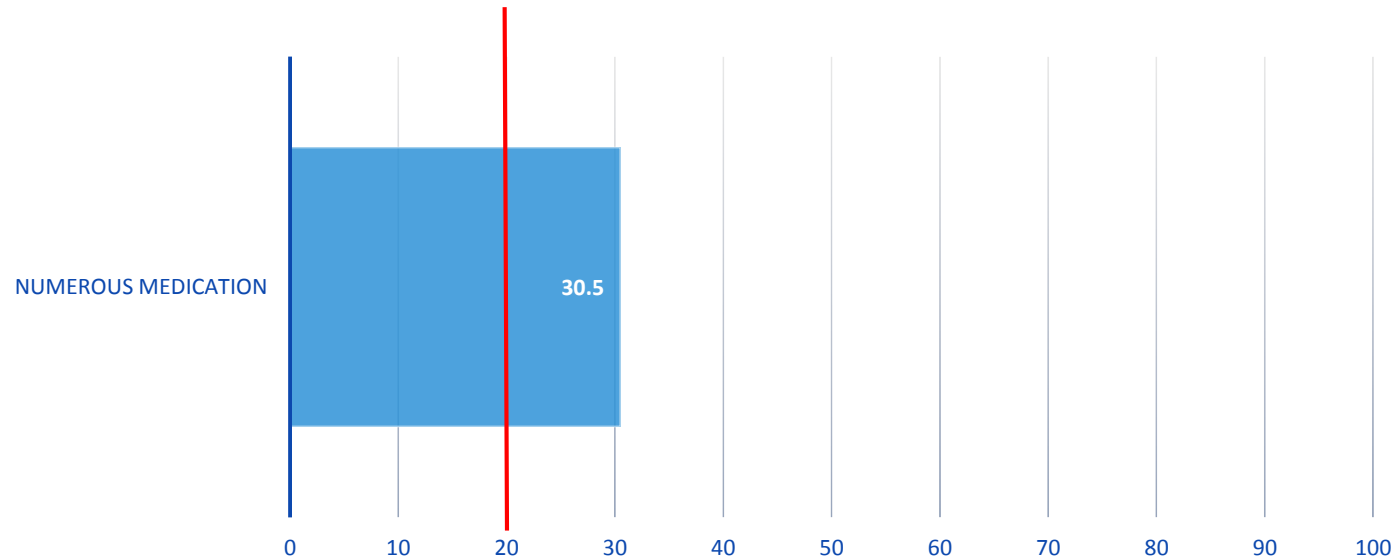
What do patients not easily Accept in terms of **Side effects**?



What do patients not easily Accept in terms of **Effectiveness**?



What do patients not easily Accept in terms of **Numerous** medications?



What is the Link Between Acceptance and Adherence?

Main Correlations

	Acceptance/Medication Inconvenience	Acceptance/ Long Term	Acceptance/Regimen Constraints	Acceptance/Side Effects	Acceptance/ Effectiveness	Acceptance/ General Score	Adherence Score
Acceptance/General Score	R = 0.07 p<0.0001	R = 0.24 p<0.0001	R = 0.23 p<0.0001	R = 0.32 p<0.0001	R = 0.61 p<0.0001	1	R = 0.28 p<0.0001
Adherence Score	R = 0.15 p<0.0001	R = 0.32 p<0.0001	R = 0.38 p<0.0001	R = 0.20 p<0.0001	R = 0.19 p<0.0001	R = 0.28 p<0.0001	1



At the End of the Day, What are the Factors
Explaining Acceptance ?

Final multivariate model – Factors explaining Acceptance

- **Acceptance/Effectiveness ($p < 0.001$)**
- **Acceptance/ Side Effects ($p < 0.001$)**
- **Acceptance/Long Term Treatment ($p < 0.001$)**
- **Having numerous medications ($p = 0.003$)**
- Time since diagnosis ($p < 0.001$)
- Being younger than 40 compared to being aged 60+ ($p = 0.04$)
- Speaking French or English compared to others ($p < 0.001$)



Positive
association



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- Being employed or unemployed compared to being retired ($p = 0.01$ and $p < 0.001$ respectively)



Positive
association



Negative
association



Final multivariate model – Factors explaining Acceptance

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- **Acceptance/Long Term Treatment ($p < 0.001$)**
- **Having numerous medications ($p = 0.003$)**
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- Being younger than 40 compared to being aged 60+ ($p = 0.04$)
- Speaking French or English compared to others ($p < 0.001$)
- Being employed or unemployed compared to being retired ($p = 0.01$ and $p < 0.001$ respectively)
- **43% of the variance of the Acceptance/General score explained**



Positive
association



Negative
association



Conclusions

Summary of Key findings

- Link between acceptance and adherence:
 - Significant but small correlation
 - General Acceptance is primarily driven by Acceptance of limitations in Efficiency
 - Secondarily by Acceptance of Side Effects, Acceptance of Constraints and Acceptance of Long-term
 - MMAS Adherence more correlated to Acceptance of Constraints and Long-term than to Acceptance of Side-effects and Acceptance of limitations in Efficiency

- Factors explaining Treatment Acceptance in Patients Suffering from a Chronic Disease:
 - Long-term treatment
 - Side effects
 - Effectiveness
 - Number of medications
 - Clinical/socio-demographic factors



Discussion

- Several chronic diseases grouped in the population
 - Analysis to be performed by disease as well
- Socio-demographic factors
 - Age:
 - Is it explained by the population distribution by disease? Some diseases impact more often old patients...
 - Is it explained because the patient behavior regarding acceptance of treatment attributes depends on the age?



To be determined



Thank You!



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Any questions? Email our presenter!

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