Asthma Control Infographics 2017 – 2018

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Adriana Arcia & Nicole Spiegel-Gotsch for Columbia Nursing
Introduction

The purpose of the Asthma Control Infographics research project was to develop infographics that make personal health information about asthma easy to understand.

The infographics are intended to be tailored with the viewer's own health information.

The two tailorable infographics developed through this project can be used to display an asthma control score and the results of a pulmonary (lung) function test.

Our team used a participatory design process to incorporate feedback from adults with asthma. The images in this packet are grouped according to the design sessions held during that process. Additional details, including full methods, will be reported in forthcoming scientific publications.

The final designs, shown on pages 3 – 4 and in more detail on pages 19 and 33 are the end-products of our design process. The other prototype designs are NOT recommended for use and are provided here only to document the design process.

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Today, you answered some questions about your asthma symptoms.

Here are your results.

JENNY’S LEVEL OF ASTHMA CONTROL

Your asthma is not in control

Your score is 2.5
You made good progress!

Visit on: August 21, 2018
Seen by: J. Cardozo, FNP
What do the results of my lung function test mean?

Today, you blew out **3.1 liters** of air in one second.

That's about as much air as would fit in one-and-a-half 2-liter bottles of soda.

This means that you have only **72%** of your expected lung function, which is classified as **Moderate Asthma**.

Men like you should be able to blow out at least **4.3 liters** of air in one second.

This is called FEV1 % PREDICTED.

SAME age, height, & race/ethnicity

This is called FEV1, (Forced Expiratory Volume)

**YOU HAVE ONLY 72% OF YOUR LUNG FUNCTION**

- **Mild Asthma**: 80% or more lung function
- **Moderate Asthma**: 60–79% lung function
- **Severe Asthma**: 59% or less lung function

This is called FEV1, PREDICTED
Plan for **you**:

- ____________________
- ____________________
- ____________________
- ____________________
- ____________________
Asthma Control Report

Patient: Victor Benson
Date: April 2, 2017
Provider: J. Gordon, FNP

Level of Asthma Control

What do the results of my lung function test mean?

The amount of air you blew out in 1 second. 
FEV, pre-bronchodilator

2.7 Liters

The amount of air that patients like you* are expected to be able to blow out in 1 second. 
FEV, predicted

3.8 Liters

You blew out 71% of the amount of air expected for patients like you*. 
FEV, % predicted

*Guidelines are based on sex, age, height, and race/ethnicity.
Victor’s Level of Asthma Control

Your score is 3.2
Your asthma is not in control.

Visit on: January 2, 2018
Seen by: J. Cardozo, FNP
Victor’s Level of Asthma Control

Your score is 3.2
Your asthma is not in control.

Visit on: January 2, 2018
seen by: J. Cardozo, FNP
Victor’s Level of Asthma Control

Your score is 3.2
Your asthma is not in control.
Victor’s Level of Asthma Control

Visit on: January 2, 2018
Seen by: J. Cardozo, FNP
Nivel de control del asma de Victor

Su asma no está bajo control. Su puntuación es 3.2
Nivel de control del asma de Victor

Su asma no está bajo control. Su puntuación es 3.2

Fecha de visita: 2 de enero, 2018
Atendido por: J. Cardozo, FNP
Nivel de control del asma de Victor

Su asma no está bajo control. Su puntuación es 3.2

Fecha de visita: 2 de enero, 2018
Atendido por: J. Cardozo, FNP
Nivel de control del asma de Victor

Fecha de visita: 2 de enero, 2018
Atendido por: J. Cardozo, FNP
Your asthma is not in control.
Your score is 3.2

Visit on: January 2, 2018
Seen by: J. Cardozo, FNP
**VICTOR'S LEVEL OF ASTHMA CONTROL**

Your score is 3.2.
Your asthma is not in control.

Visit on: January 2, 2018  
Seen by: J. Cardozo, FNP
Your asthma is not in control

Your score is 3.8
It has gotten worse since your last visit

How to get in control:

- **Take Symbicort daily**
- **Use albuterol before workouts**
- **Take control measures**

Your asthma is not in control

Your score is 3.0
It is about the same as at your last visit

How to get in control:

- **Take Symbicort daily**
- **Use albuterol before workouts**
- **Take control measures**
JENNY’S LEVEL OF ASTHMA CONTROL

Your asthma is not in control

Your score is 2.5
You made good progress!

How to get in control:

- **Take Symbicort daily**
- **Use albuterol before workouts**
- **Take rescue control measures**

MARK’S LEVEL OF ASTHMA CONTROL

Great job - your asthma is in control!

Your score is 1.3

How to get in control:

- **Take Symbicort daily**
- **Use albuterol before workouts**
- **Take rescue control measures**
Today, you answered some questions about your asthma symptoms.

Here are your results.

Plan for you:

- **Take Symbicort daily**
- **Use albuterol before workouts**
- **Take rescue control measures**

---

**VICTOR’S LEVEL OF ASTHMA CONTROL**

**Your asthma is not in control**

Your score is 3.0
It is about the same as at your last visit
What do the results of my lung function test mean?

**FEV1 PRE-BRONCHODILATOR**
The amount of air you blew out in 1 second.

- **2.7 LITERS**
- **71%**

**FEV1 PREDICTED**
The amount of air patients like you are expected to be able to blow out in 1 sec.

- **3.8 LITERS**
- **71%**

**FEV1 % PREDICTED**
You blew out 71% of the amount of air expected for patients like you.

**YOU HAVE ONLY**

- **71% OF YOUR LUNG FUNCTION**
- **Mild Asthma** 80% or more lung function
- **Moderate Asthma** 60–79% lung function
- **Severe Asthma** 59% or less lung function

**Understanding Your Numbers**
Guidelines are based on sex, age, height, and race/ethnicity.
What do the results of my lung function test mean?

**YOU HAVE ONLY**

71% OF YOUR LUNG FUNCTION

<table>
<thead>
<tr>
<th>Condition</th>
<th>FEV1 Pre-Bronchodilator</th>
<th>FEV1 Predicted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild Asthma</td>
<td>2.7 LITERS</td>
<td>3.8 LITERS</td>
</tr>
<tr>
<td>Moderate Asthma</td>
<td>2.7 LITERS</td>
<td>3.8 LITERS</td>
</tr>
<tr>
<td>Severe Asthma</td>
<td>2.7 LITERS</td>
<td>3.8 LITERS</td>
</tr>
</tbody>
</table>

Understanding Your Numbers

Guidelines are based on sex, age, height, and race/ethnicity.
What do the results of my lung function test mean?

**Mild Asthma**
- 80% or more lung function

**Moderate Asthma**
- 60–79% lung function

**Severe Asthma**
- 59% or less lung function

**Understanding Your Numbers**

<table>
<thead>
<tr>
<th>FEV, PRE-BRONCHODILATOR</th>
<th>2.7 LITERS</th>
<th>71%</th>
</tr>
</thead>
<tbody>
<tr>
<td>FEV, PREDICTED</td>
<td>3.8 LITERS</td>
<td></td>
</tr>
</tbody>
</table>

**You blew out 71% of the amount of air expected for patients like you.**

**Your FEV₁ % predicted**

- **71% MODERATE ASTHMA**

**Guidelines Based On: Sex • Age • Height • Race/Ethnicity**
What do the results of my lung function test mean?

### Understanding Your Numbers

<table>
<thead>
<tr>
<th>Mild Asthma (80% or more lung function)</th>
<th>Moderate Asthma (60–79% lung function)</th>
<th>Severe Asthma (59% or less lung function)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount of air you blew out in 1 sec.</td>
<td>Amount of air patients like you are expected to be able to blow out in 1 sec.</td>
<td>The amount of air you blew out compared to what is expected for patients like you</td>
</tr>
</tbody>
</table>

\[
\frac{2.7 \text{ Liters}}{3.8 \text{ Liters}} = 71\% \text{ Lung Function}
\]

GUIDELINES BASED ON: SEX • AGE • HEIGHT • RACE/ETHNICITY
¿Qué significan los resultados de mi prueba del funcionamiento pulmonar?

Hoy, usted sopló 2.1 litros de aire en un segundo.

Eso es alrededor del volumen de aire que cabría en una botella de soda de 2 litros.

Mujeres como usted deben poder soplar alrededor de 2.9 litros de aire en un segundo.

Esto significa que usted solo tiene 72% del funcionamiento pulmonar esperado, lo cual se clasifica como Asma Moderada.
¿Qué significan los resultados de mi prueba del funcionamiento pulmonar?

Usted tiene 72% del funcionamiento pulmonar esperado, lo cual se clasifica como Asma Moderada.

Esto se llama Volumen Espiratorio Forzado (FEV1 por sus siglas en Inglés)

Mujeres como usted deben poder soplar alrededor de 2.9 litros de aire en un segundo.

Esto significa que usted solo tiene 72% del funcionamiento pulmonar esperado, lo cual se clasifica como Asma Moderada.
Este tipo de gráfica se llama **Gráfica de Curva Flujo-Volumen**.

La línea punteada muestra cuánto aire una persona como usted debe poder soplar.

La forma azul muestra qué tan bien entró y salió el aire de sus pulmones.

Cuanto más pequeña sea la curva, y más vacía se encuentre, más grave es su asma.

**Su** Gráfica de Curva Flujo-Volumen de la prueba de hoy muestra que su asma es **moderada**.

Tomar su medicamento de control y evitar los desencadenantes del asma puede ayudarle a acercarse a la línea punteada.

Hable con su médico o enfermera sobre lo que puede hacer para respirar mejor.
What do the results of my lung function test mean?

Today, you blew out 2.1 liters of air in one second.

That's about as much air as would fit in a 2-liter bottle of soda.

Women like you should be able to blow out about 2.9 liters of air in one second.

This means that you have only 72% of your expected lung function, which is classified as Moderate Asthma.

Women like you should be able to blow out about 2.9 liters of air in one second.

This is called FEV1 (Forced Expiratory Volume) 72% of your lung function.

Women like you should be able to blow out about 2.9 liters of air in one second.

This is called FEV1 PREDICTED.
What do the results of my lung function test mean?

Today, you blew out **2.1 liters** of air in one second.

That's about as much air as would fit in a 2-liter bottle of soda.

Women like you should be able to blow out about **2.9 liters** of air in one second.

This means that you have only **72%** of your expected lung function, which is classified as **Moderate Asthma**.

Women like you should be able to blow out about **2.9 liters** of air in one second.

This is called **FEV1 % PREDICTED**.

80% or more lung function

60–79% lung function

59% or less lung function

Mild Asthma

Moderate Asthma

Severe Asthma
This type of graph is called a Flow Volume Loop.

The dotted line shows how much air someone like you should be able to blow out.

The blue shape shows how well the air moved in and out of your lungs.

The smaller your loop, and the more scooped out it is, the more severe your asthma.

Your Flow Volume Loop from today’s test shows that your asthma is moderate.

Taking your controller medicine and avoiding triggers can help get you closer to the dotted line.

Here are your tips for breathing easier:

- **Take Symbicort daily**
- **Use albuterol before workouts**
- **Sign up for exterminator**

— J. Cardozo, FNP
What do the results of my lung function test mean?

Today, you blew out **3.1 liters** of air in one second.

That's about as much air as would fit in one-and-a-half 2-liter bottles of soda.

**You have only 72% of your lung function,** which is classified as **Moderate Asthma.**

This is called **FEV1 (Forced Expiratory Volume).**

**72% OF YOUR LUNG FUNCTION**

SAME age, height, & race/ethnicity

**Mild Asthma**
- 80% or more lung function

**Moderate Asthma**
- 60–79% lung function

**Severe Asthma**
- 59% or less lung function

**Men like you should be able to blow out about 4.3 liters of air in one second.**

What do the results of my lung function test mean?

Today, you blew out **2.1 liters** of air in one second.

That's about as much air as would fit in a 2-liter bottle of soda.

**You have only 72% of your expected lung function,** which is classified as **Moderate Asthma.**

This is called **FEV1 % PREDICTED.**

**72% OF YOUR LUNG FUNCTION**

SAME age, height, & race/ethnicity

**Mild Asthma**
- 80% or more lung function

**Moderate Asthma**
- 60–79% lung function

**Severe Asthma**
- 59% or less lung function

**Women like you should be able to blow out about 2.9 liters of air in one second.**
This type of graph is called a **Flow Volume Loop**.

The dotted line shows how much air someone like you should be able to blow out.

The smaller your loop, and the more scooped out it is, the more severe your asthma.

The blue shape shows how well the air moved in and out of your lungs.

Your **Flow Volume Loop** from today’s test shows that your asthma is **moderate**.

Here are your tips for breathing easier:

- **Take Symbicort daily**
- **Use albuterol before workouts**
- **Take rescue control measures**

Taking your controller medicine and avoiding triggers can help get you closer to the dotted line.
Your Flow Volume Loop from today's test shows that your asthma is **mild**.

Taking your controller medicine and avoiding triggers can help you stay close to the dotted line.

Here are your tips for staying in control:

- **Take Symbicort daily**
- **Use albuterol before workouts**
- **Takerouch control measures**

- J. Gardner, FNP

This type of graph is called a **Flow Volume Loop**.

The dotted line shows how much air someone like you should be able to blow out.

The blue shape shows how well the air moved in and out of your lungs.

The smaller your loop, and the more scooped out it is, the more severe your asthma.
What do the results of my lung function test mean?

Plan for you:

- **Take** Symbicort daily
- **Use** albuterol before workouts
- **Take** cough control measures

Today, you blew out **3.1 liters** of air in one second. This is called FEV1 (Forced Expiratory Volume)

That’s about as much air as would fit in one-and-a-half 2-liter bottles of soda.

Men like you should be able to blow out about **4.3 liters** of air in one second.

What do the results of my lung function test mean?

- **YOU HAVE ONLY 72% OF YOUR LUNG FUNCTION**
- **YOU HAVE ONLY 72% OF YOUR LUNG FUNCTION**

This means that you have only **72%** of your expected lung function, which is classified as **Moderate Asthma**.
Asthma Control Infographics

This pedigree chart traces the development of the infographics from initial concept sketch to the final two pamphlets. Zoom in to see the designs at full resolution.

Initial Concept Sketch

Session 1

Session 2 (Spanish)

Session 3

Session 4

Session 5

Final Pamphlet Design

Final Pamphlet Design

Points of Interest

A. Order of sentences flipped
B. The four types of outcomes possible with two data points, addition of care plan
C. Conversion to pamphlet format
D. Format changed from data display to visual explanation
E. These three designs differ only in color scheme
F. Conversion to pamphlet format, addition of care plan
G. Tutorial page added before result page
H. Discontinued because participants comprehended the information but did not find the design personally meaningful

Designs with lines through them were discontinued.

Repetitions of some designs have been omitted for clarity.