

Tendencias en la percepción de salud y su impacto en la productividad y competitividad de las empresas. Una reflexión global.

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Associate Chief Medical Officer,
Worldwide Market Development Executive
IBM Watson Health

Cartagena, 12.November 2019



Watson Health™

Propósito de esta presentación

Motivarles a moverse hacia:

„La persona primero“

- Si no se conocen, pregúntense nombre y qué hacen?
- Si se conocen, pregúntense hace cuánto se conocen?

La adherencia a tratamientos de largo plazo en el caso de enfermedades crónicas en países desarrollados es de :

- 30%
- 50%
- 70%

Fuente: Adherence to long-term therapies: evidence for action. WHO, 2003

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El nivel promedio de alfabetismo en salud en algunos países de Europa (Alemania España, Irlanda, Holanda...) fue cercano a:

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Fuente. European Journal of Public Health, Vol. 25, No. 6, 1053–1058, 2015

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En Andalucía (España) la edad media de tener 3 enfermedades crónicas al mismo tiempo es de:

- 53,2 años de edad
- 64,7 años de edad
- 72,3 años de edad

Fuente. Plan Andaluz de atención Integrada a Pacientes con Enfermedades Crónicas, 2012-2016

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En una revisión sistemática de 67 países encontraron que el tiempo de duración promedio de una consulta médica general en más de la mitad de los países analizados es:

- Menos de 10 minutos
- Entre 10 y 12 minutos
- Más de 12 minutos

Fuente. Irving G, Neves AL, Dambha-Miller H, et al. International variations in primary care physician consultation time: a systematic review of 67 countries. *BMJ Open* 2017;7:e017902. doi:10.1136/bmjopen-2017-017902

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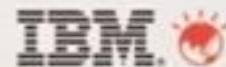
Fuente. Irving G, Neves AL, Dambha-Miller H, et al. International variations in primary care physician consultation time: a systematic review of 67 countries. *BMJ Open* 2017;7:e017902. doi:10.1136/bmjopen-2017-017902

“El problema del mundo de hoy no solo es el cambio, sino su velocidad y complejidad. Antes el cambio era entre generaciones, ahora sucede muchas veces en la vida de una persona y es muy veloz y complejo. Esto ya es muy difícil de administrar por el ser humano”

prof. Dr. Radermacher.
World Congress on Safety and Health, 2013



La complejidad se ha vuelto más visible...



- El cambio en la percepción del servicio y la exigencia de inmediatez
- Las presiones demográficas
- Las presiones sobre los costos
- Los cambios de riesgos tradicionales a no tradicionales
- Hacia la sociedad socio-espiritual *
- La democratización del conocimiento y del pseudo-conocimiento



*Hector Upegui, Revista Empresarial, 1997

Sistemas de riesgos laborales

proporciona coberturas para ayudar al asegurado y a su familia a soportar la carga que representa sufrir un accidente de trabajo o una enfermedad profesional.

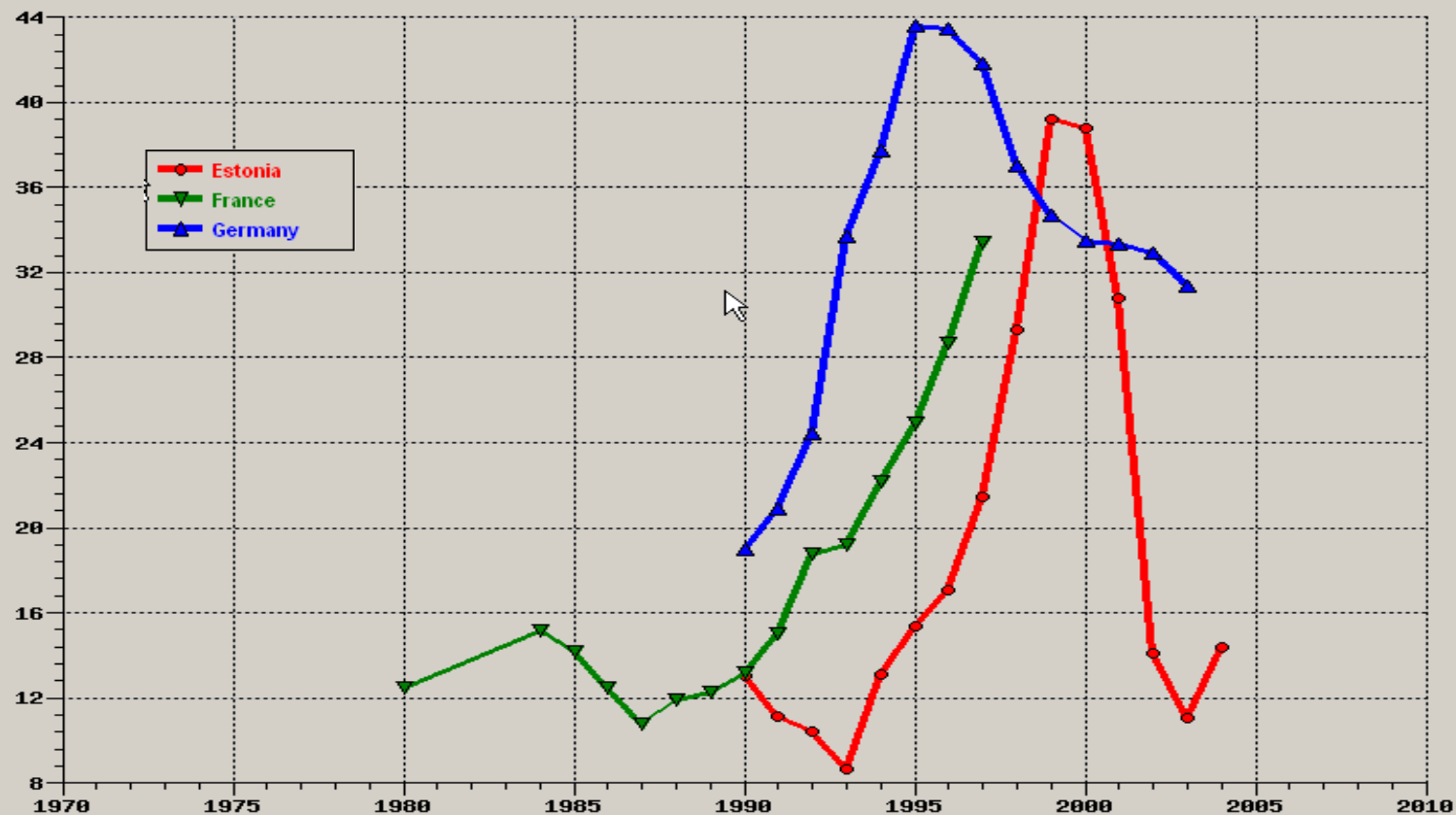
Proporciona beneficios económicos (IT, pensiones o montos únicos) y/o beneficios asistenciales (salud, prevención, rehabilitación)

Algunas características generales :

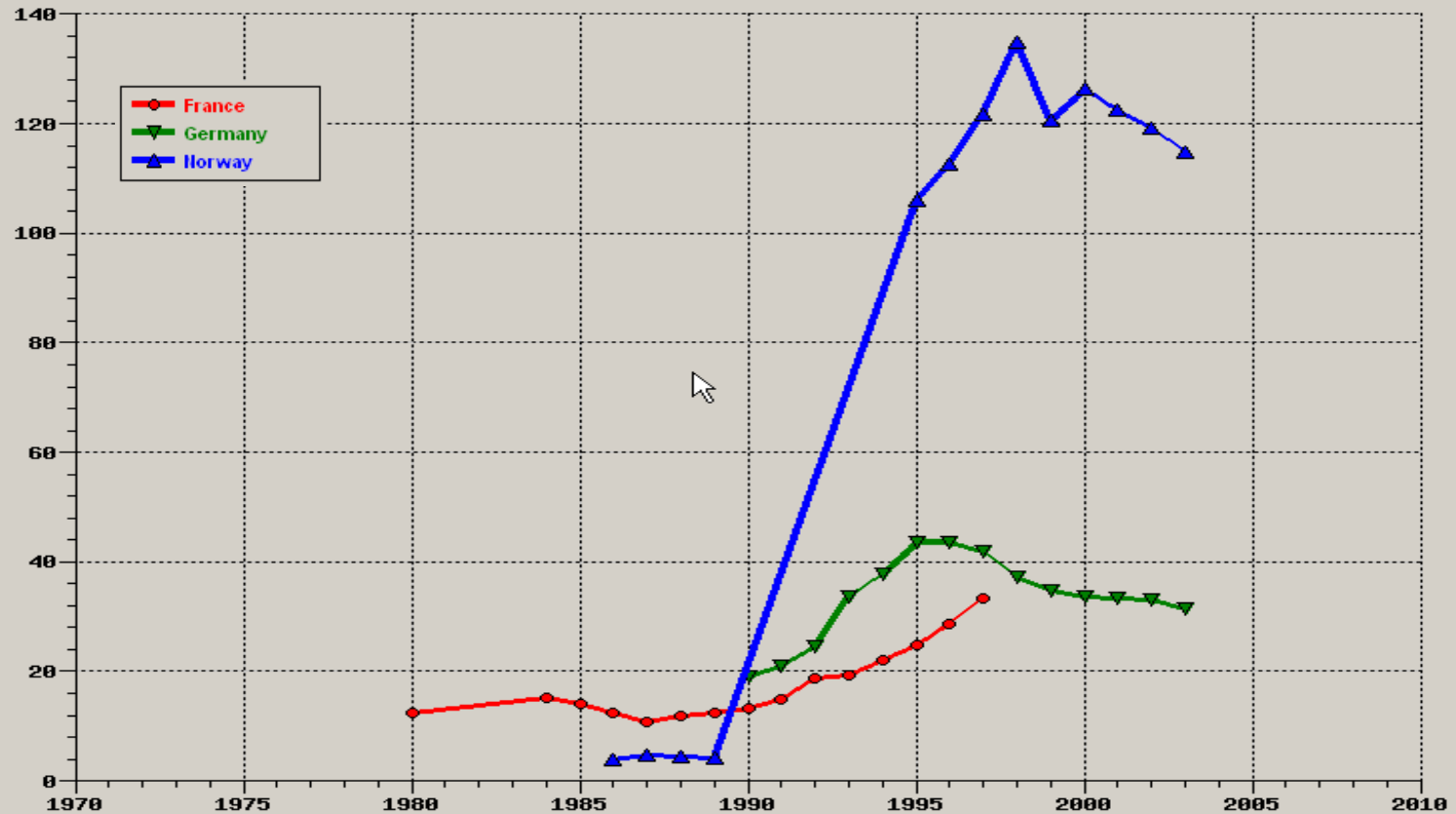
Están basados en sistemas de “no culpa”
obligatorios,
altamente **regulados** y

el empleador es normalmente responsable del pago del seguro

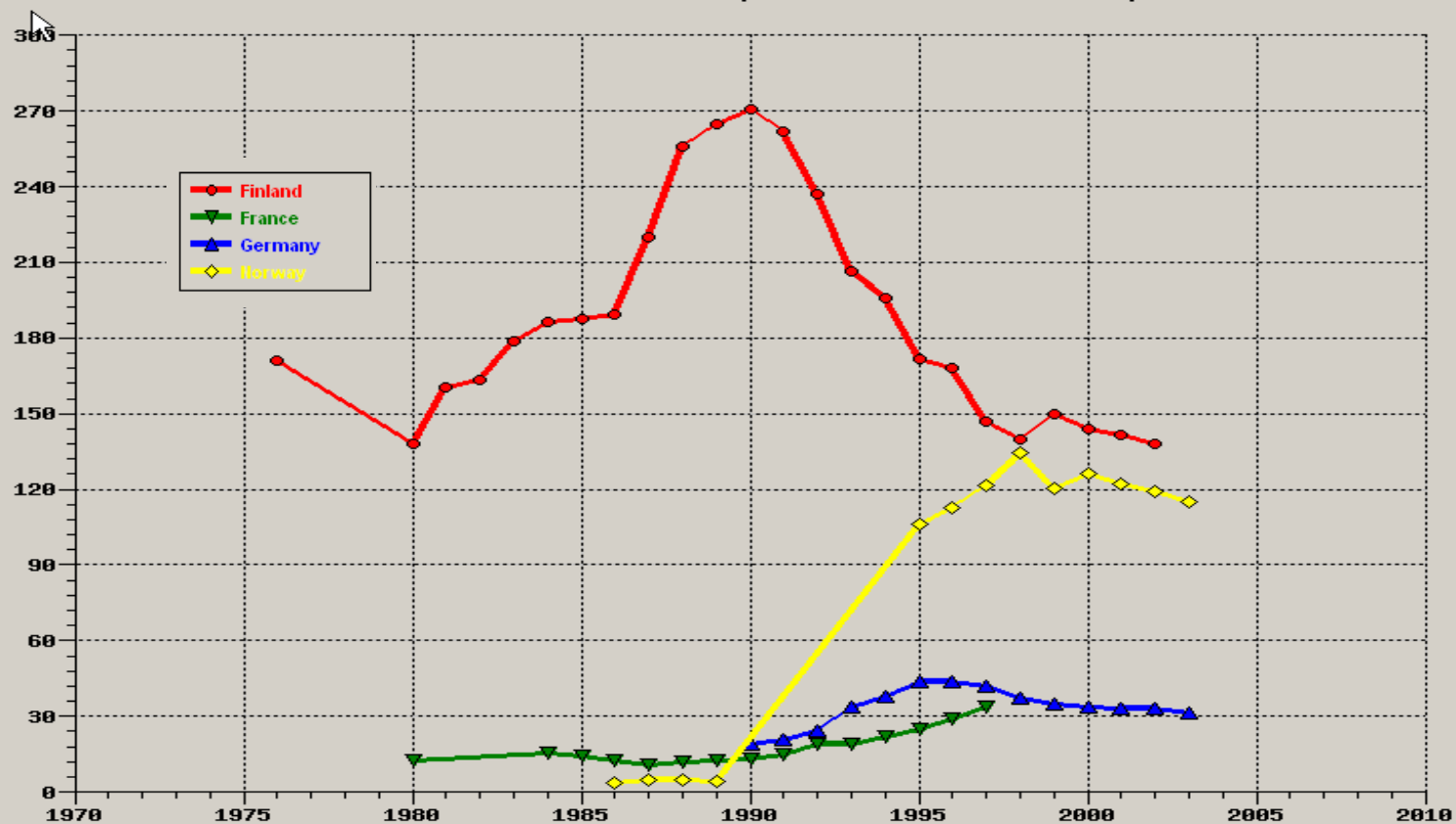
New cases of occupational diseases per 100000



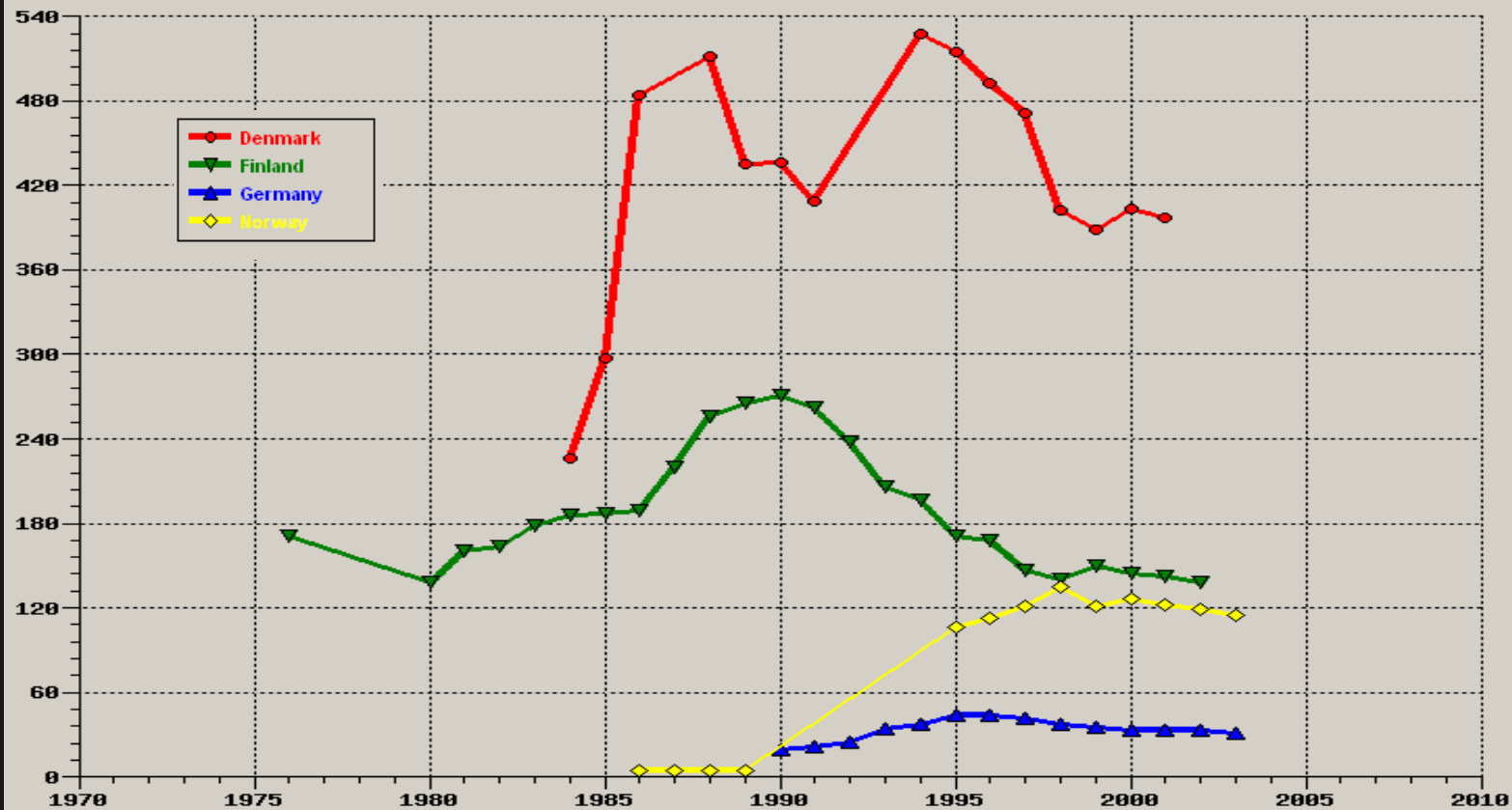
New cases of occupational diseases per 100000



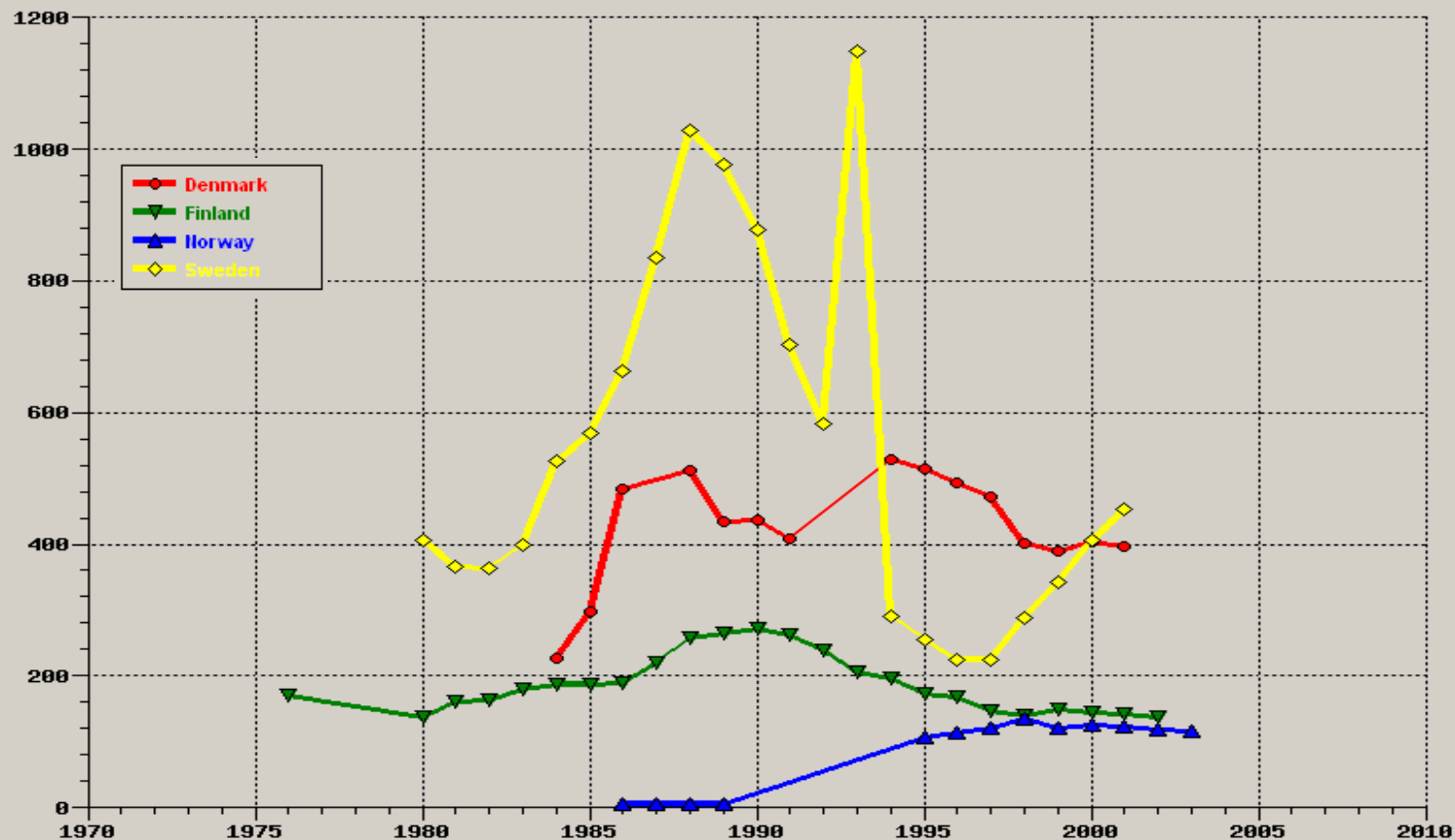
New cases of occupational diseases per 100000



New cases of occupational diseases per 100000



New cases of occupational diseases per 100000



Público

Germany, France, UK,
Canada, USA*, China
(Continental), Italy,
Luxembourg, Austria,
Eastern Europe, New
Zealand, Venezuela,
Central America,
Australia*

Spain, USA*

Monopolio -

+ Competitivo

Australien*

Denmark, Finland,
Norway, Belgium,
Portugal, USA*,
China (Hong Kong),
Argentina,
Columbia, Chile,
Australia*

Participación de privados

Supongamos que podemos viajar en el tiempo y hablar con un profesional de SST :Cuál sería la conversación alrededor de enfermedades profesionales?

Nivel de exigencia del asegurado

- Cancer
- Enf. pulmonares
- Alergias
- Enf. De la piel
- Hipoacusia inducida por ruido

- Muscuoloesquel.
- Cancer
- Enf. pulmonares
- Alergias
- Enf. De la piel
- Hipoacusia inducida por ruido

- Sicológicas
- Muscuoloesquel.
- Cancer
- Enf. pulmonares
- Alergias
- Enf. De la piel
- Hipoacusia inducida por ruido

- ?????????
- Multi-morbilidad
- Sicológicas
- Muscuoloesquel.
- Cancer
- Enf. pulmonares
- Alergias
- Enf. De la piel
- Hipoacusia inducida por ruido



20 a 30 años hacia atrás

Baby Boomers



4 a 19 años hacia atrás

Generation X



4 años hacia atrás

Generation Y (Millennia)



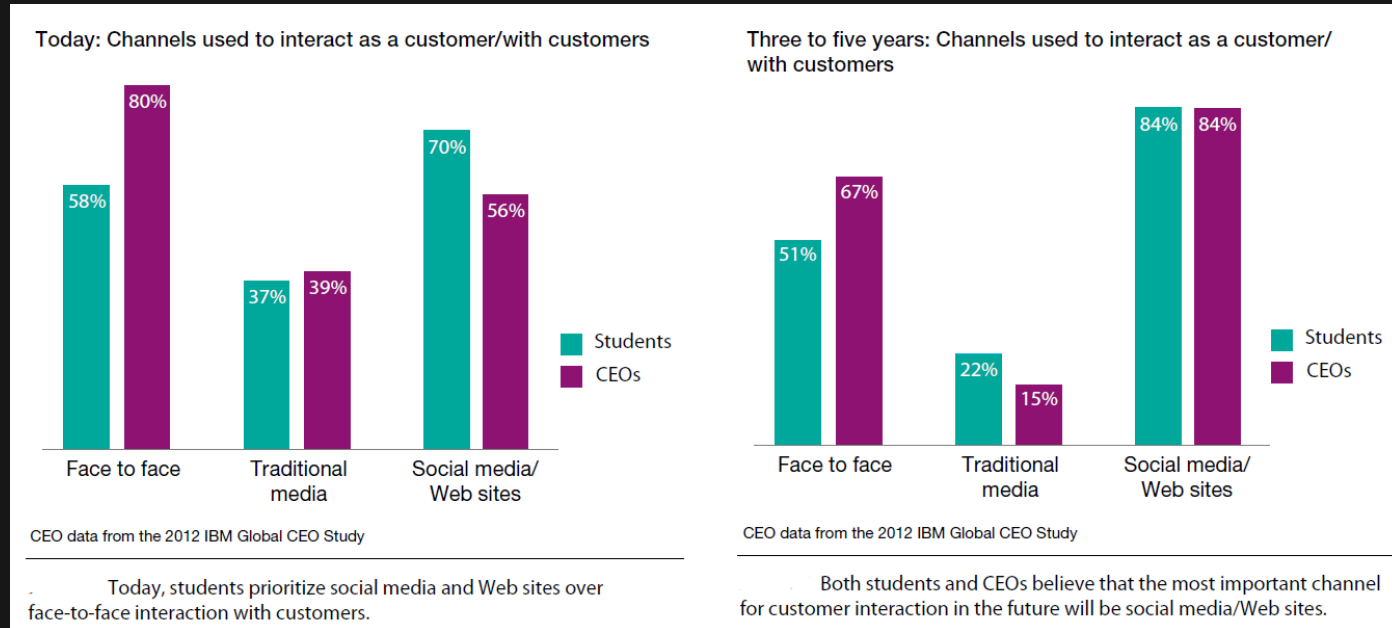
Varios años hacia adelante

Generation Z

Generaciones y gestión empresarial - expectativas

IBM condujo el Segundo estudio bi-anual: "IBM Global Student Study in conjunction with the 2012 IBM Global CEO Study".

3,400 estudiantes de institutos de educación superior a nivel mundial fueron entrevistados para entender mejor las opiniones, percepciones y aspiraciones de los futuros empleados, clientes, líderes y ciudadanos (publication: IBM - Connected generation, 2013)



Si ya sabemos que esto es lo
que está pasando, puede
haber una respuesta?

Más innovación radical

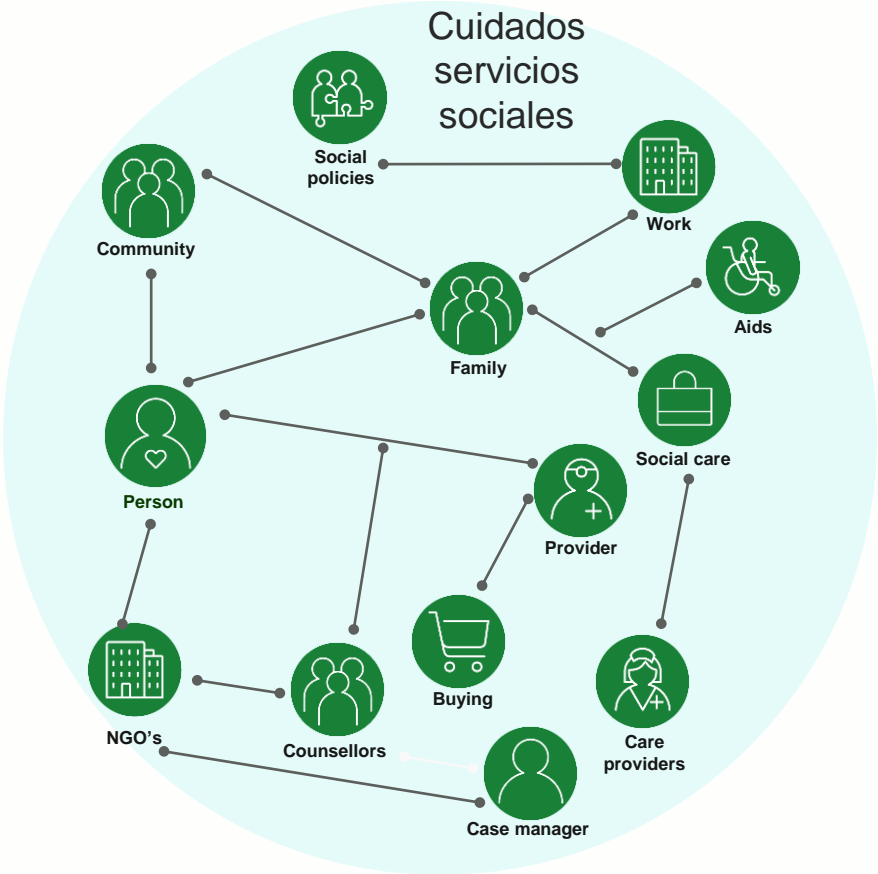
Si los riesgos laborales se están moviendo de tradicionales a no tradicionales, la SST debería incluir más innovación radical



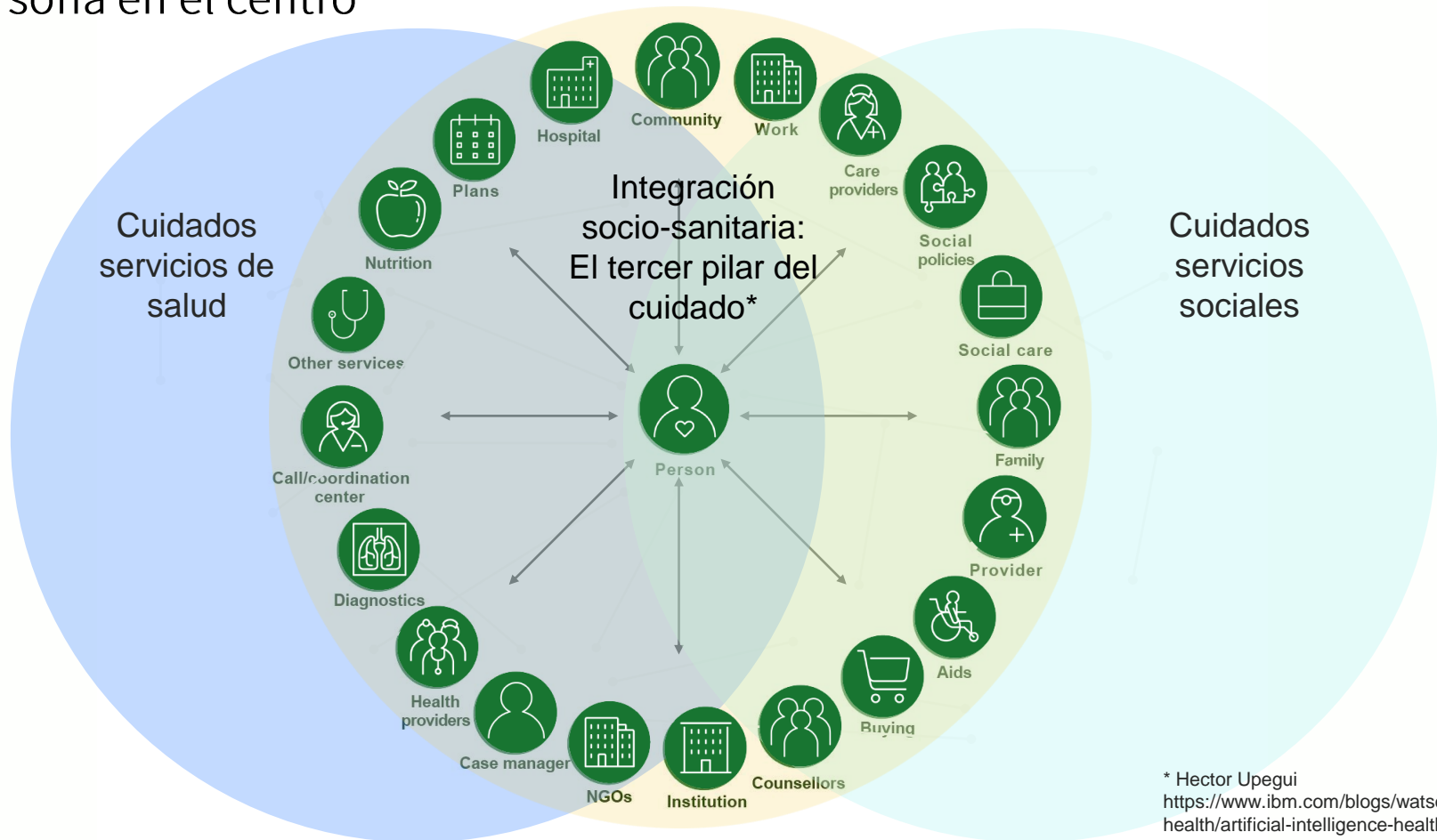
La persona en el centro



La persona en el centro

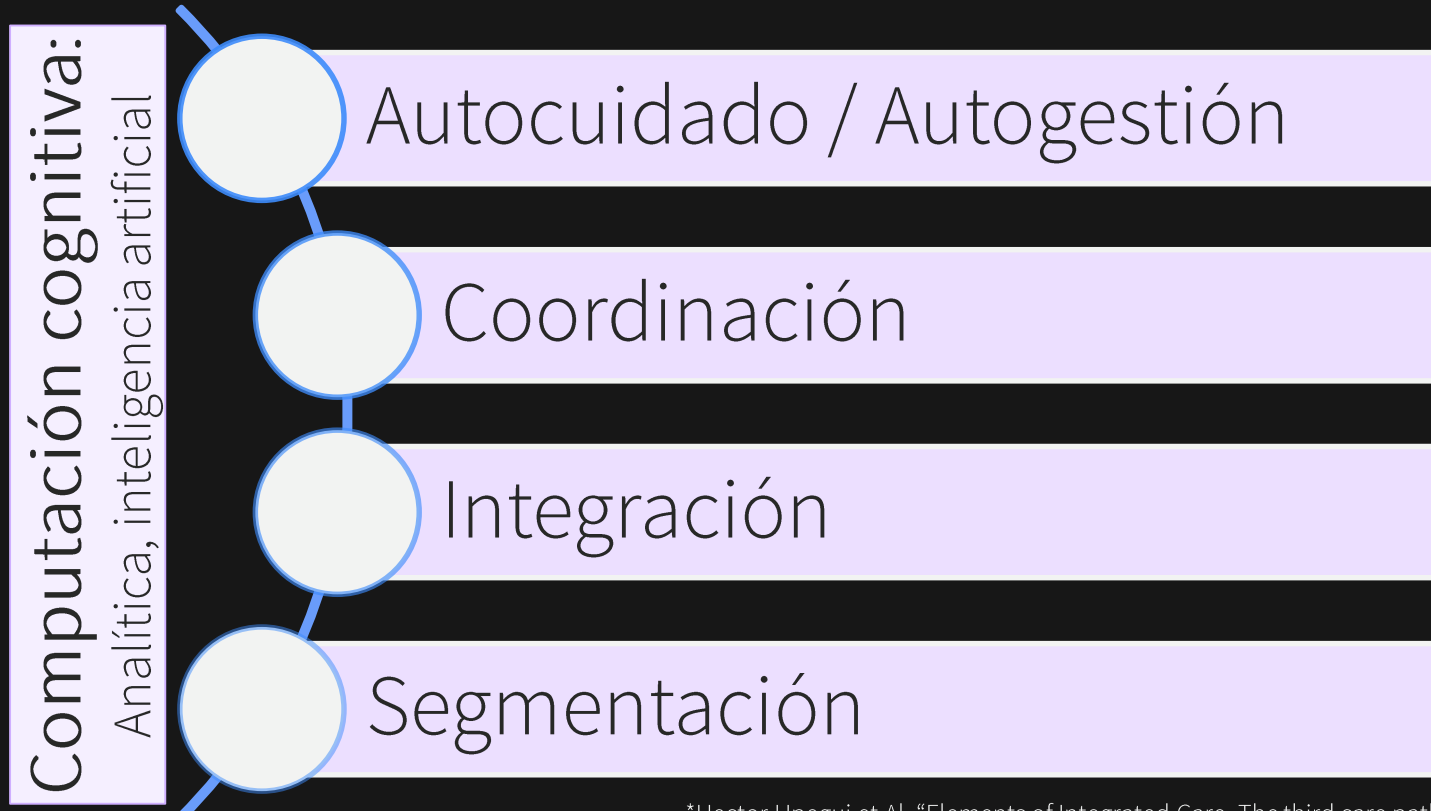


La persona en el centro



* Hector Upegui
<https://www.ibm.com/blogs/watson-health/artificial-intelligence-health-social-improvements/>, IBM, May, 2019 “

Los 5 Elementos de la integración socio-sanitaria, pero que también aplican para riesgos laborales



Tres grupos de estrategias comunmente encontrados para afrontar los retos en los riesgos laborales

Servicios

- Mejorar la experiencia del usuario interno y externo, respondiendo a las exigencias del mundo actual

Conocimiento

- Al interior (trabajadores), y a los asegurados, empleadores, empleados, familia y comunidad en general
- Asi mismo a otros actores del sistema, como el gobierno

Legislación


- Clarificar la visión del modelo, alineando la legislación que garantice los compromisos sociales y de sostenibilidad

Estamos
nadando en
datos



Watson ganó Jeopardy en Febrero de 2011



A close-up photograph of a person's hand touching a tablet. The tablet screen shows a stylized sun icon with rays. The background is a blurred blue and white.

Watson: 200
millones de páginas
en 3 segundos*

Source: IBM DeveloperWorks
Study – 26th February 2014

Computadores con capacidades cognitivas pueden leer, entender, razonar, aprender e interactuar con humanos y otras máquinas



Summary

Plan

Programs

Data

History

Team

Summary

Notes

x

Context	Subject	Updated	Created by
▼ General	Laurie's Counseling	03/03/2017	Anne Alton

I had a brief discussion this morning with Laurie, I think she is lonely and perhaps even mildly depressed since her divorce 3 years back and her onset of diabetes and congestive heart failure. I suspect she needs to get out more we discussed how her kids don't visit her that often and she is a bit scared about being diagnosed with heart disease. Our local team were not aware of her depression so we should reach out to Laurie. Laurie used to be an English teacher and perhaps would like to help run a book club at a local community centre, we should look into that.

Laurie had complained about being stuck at home and was having difficulty preparing meals and she wanted to get out more, she likes to be seen as independent so would not admit it easily.



Laurie
Thompson

Female • 64 years

Alerts (1)

Actions

Address

55 St. Anne Road,
Harrow,
HA1 2XY

Phone

014 7548 3010

Programs

Cornerstone Program

Summary

Plan

Programs

Data

History

Team

Summary

Programs

Notes Highlights

Goals

Care Team

Notes

×

Context	Subject	Updated	Created by
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Susan Brown
Care Coordinator

Dr. James Wilson
Primary Care Physician

Candice Parks
Psychiatric Social Worker

Jean Thompson
Daughter

Companion Care
Community Service

Conditions

Diabetes
Depression
Congestive Heart Failure

Total Health

Disposition: Home

C/P Rt shoulder fracture post fall, dx fractured humerus S/P fall
See More...

Risks

97th: Total Risk Score

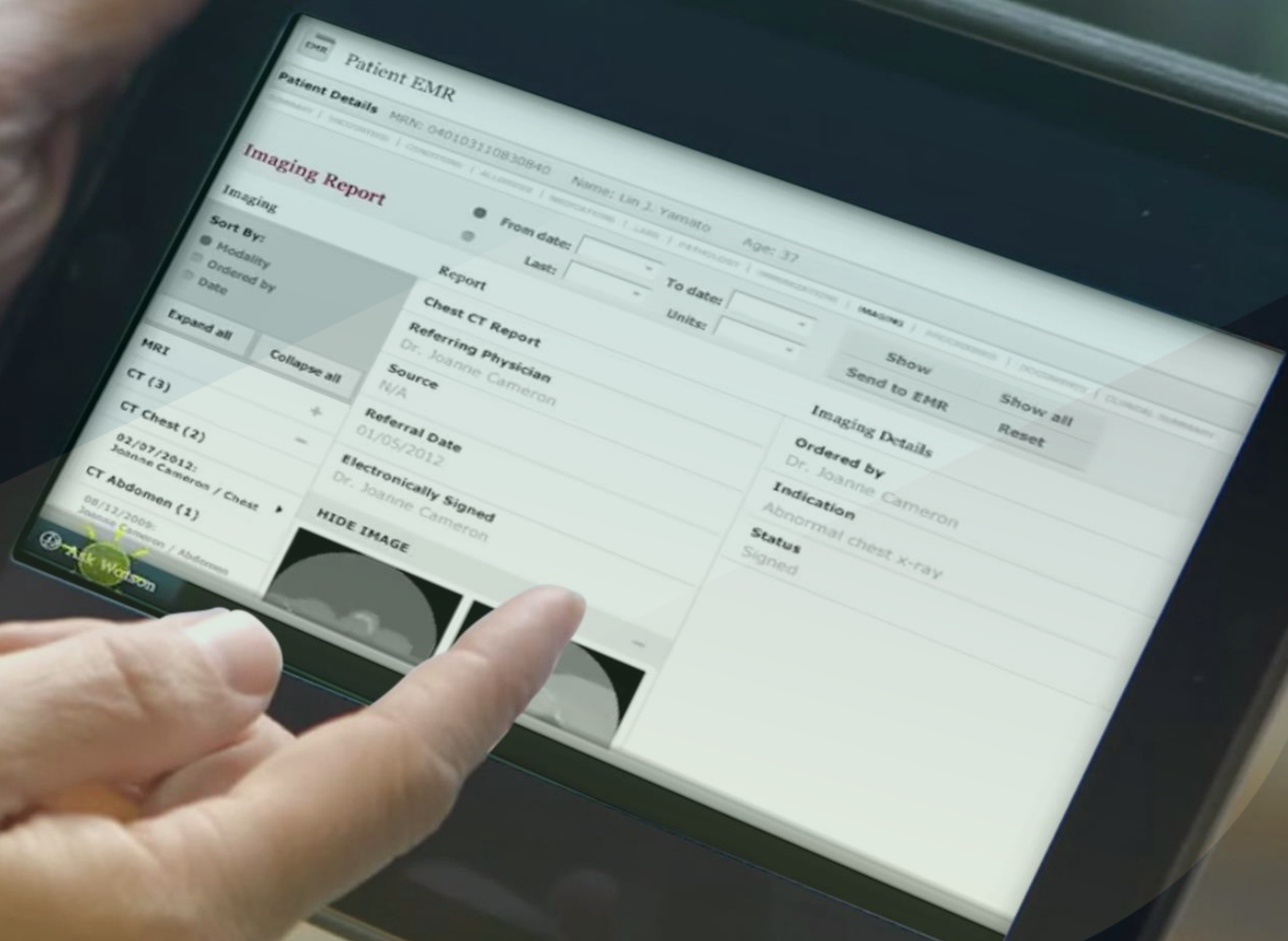
75th: Total Risk Score

98th: PH Risk Score

Personal Budget

Total: £200

Client Contribution: £30



In 17 seconds

Watson has analyzed:

- 3,469 Textbooks
- 69 Guidelines
- 247,460 Journal articles
- 61,540 Clinical trials
- 106,054 Other clinical documents

IBM WATSON

Watson for Oncology and breast cancer treatment recommendations: agreement with an expert multidisciplinary tumor board.

Somashekhar S, et al. Ann Oncol. 2018;29(2):418-423.



93%

Watson for Oncology demonstrated 93%
concordance for breast cancer rates (N = 638)

“This study demonstrates that the AI clinical decision-support system WFO may be a helpful tool for breast cancer treatment decision making, especially at centers where expert breast cancer resources are limited.”



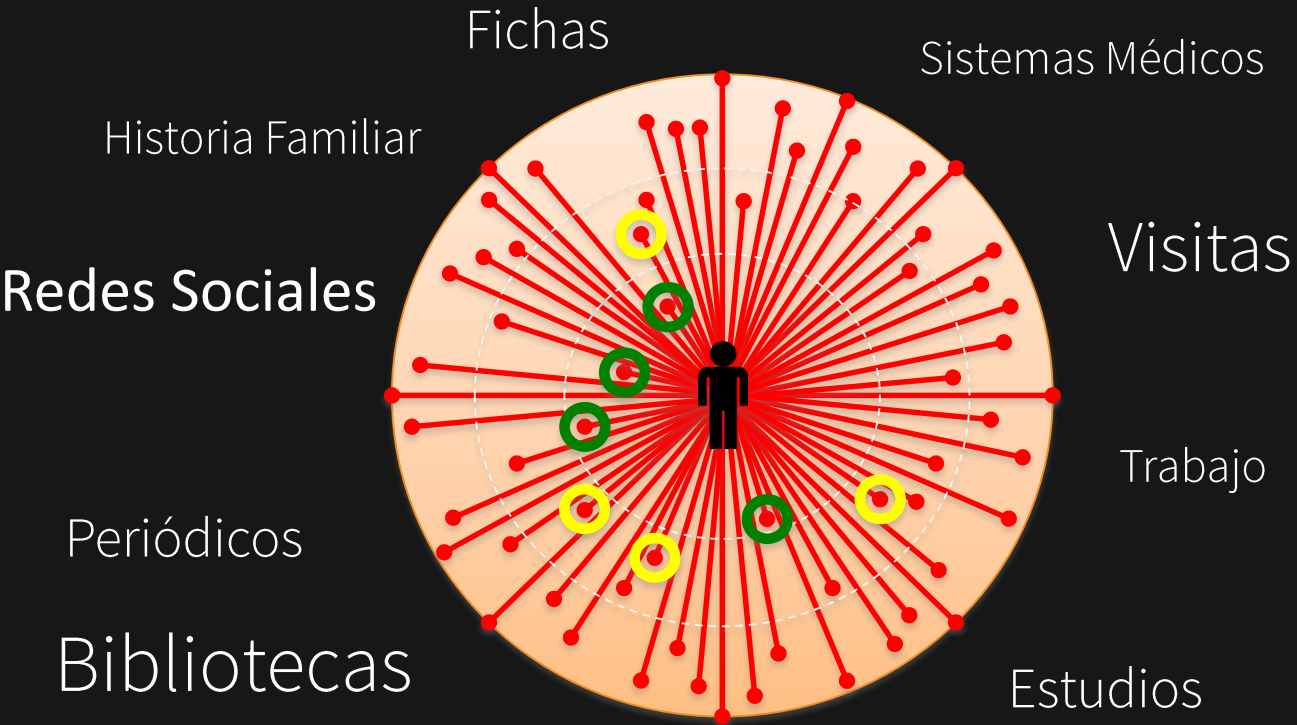
IBM principios para la inteligencia artificial

Propósito

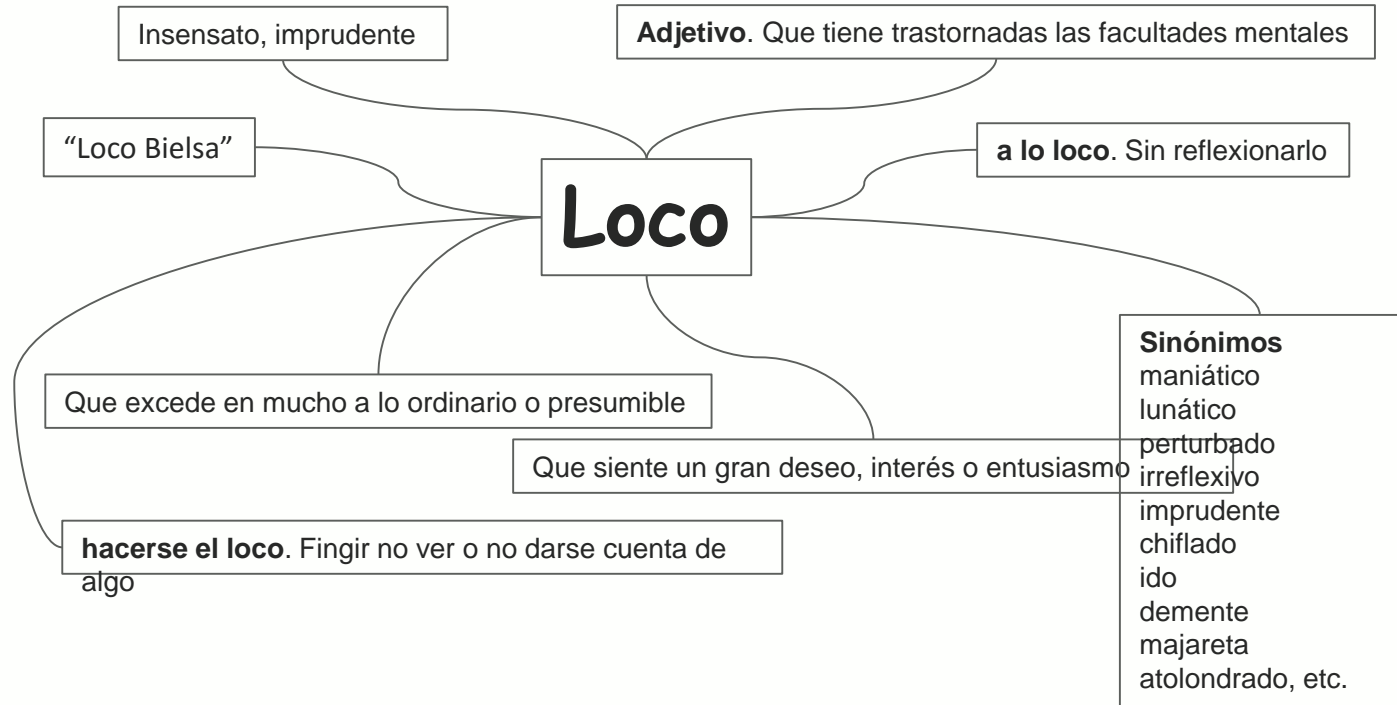
Transparencia

Habilidades

Orígenes de información



Análisis de Información



Capturar y Analizar Información

The screenshot displays the IBM Content Analytics Studio interface. The main window shows a document titled 'Wellpoint.txt' with several paragraphs of text. Yellow callout boxes are placed over specific phrases in the text, each containing an ICD9 code. The codes are: 272.4, 414.00, 244.9, 780.79, 787.03, 401.9, 780.79, 455.3, 562.10, 780.79, 441.4, 787.03, 780.79, 300.00, and 784.0. The text includes medical details such as '83-year-old female with multiple medical conditions including coronary artery disease, hypertension, hypothyroidism, as well as hypercholesterolemia' and 'metastatic carcinoma'. A 'Problems' panel at the bottom left shows a table of properties for the document.

Property	Value
icd9	@ 414.00
modifiers	@
normalized	@ coronary arteriosclerosis
origin	@ disease
Rule identifier	@ D9B45C50D4FC6220B88AE6A842DEB502

Múltiples vistas de los datos

IBM DISPLAYED_NAME

Collection: NHTSA (change)

Logged in as: Not log... | Preferences | My Profile | Help | About

Show query input area... / Show query tree area...

Documents Facets Time Series Deviations Trends Facet Pairs Connections Dashboard Reports

575366/575366 results matched

Facet Navigation

Default order

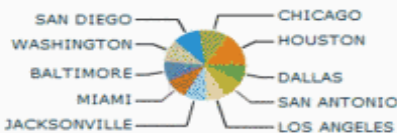
Filter:

Clear

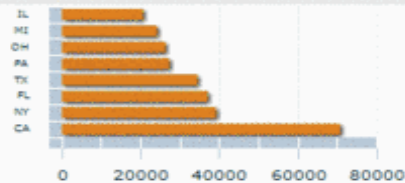
- ▶ Part of Speech
- ▶ Phrase Constituent
- ▶ Named entity
- ▶ Troubles
- ▶ Category for Auto

- State
- City
- Vehicle/Equipment Corp
- Vehicle/Equipmant Make
- Model
- Model Year
- Component Description
- Date of Manufacture
- Date of Purchase
- Date of Fail
- Anti-Lock Brakes?

City (Top10)



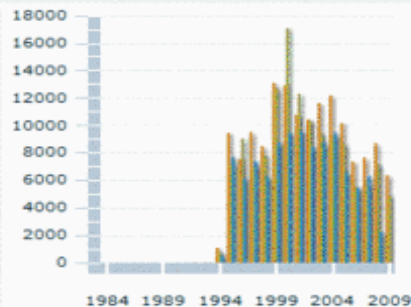
State (Top8)



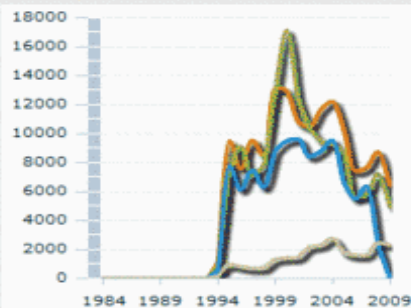
Part of Speech (Top6)



Maker/Year (Top3)



Maker/Year (Top4)



Maker/TransType (Top5/2)

First Column	AUTO	MAN
GENERAL MOT 147553	59781/1.1	4310/0.5
FORD MOTOR 135141	49260/1.0	5834/0.8
DAIMLERCHRY 103237	44614/1.2	3441/0.6
HONDA (AMER 24196	8879/1.0	1858/1.4
TOYOTA MOTI 19424	8558/1.2	967/0.9

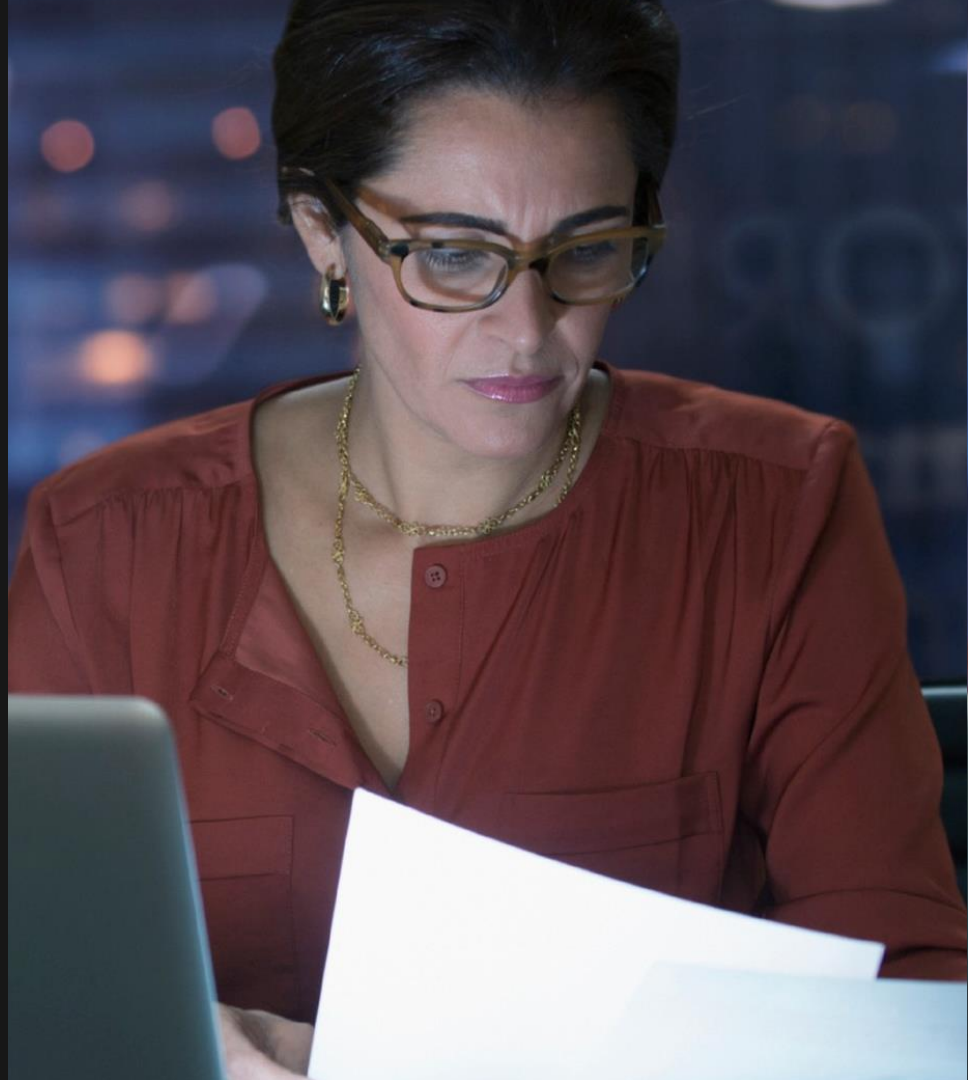
State/Flag (Top5/2)

First Column	Important	Confidential
CA 70666	6	3
NY 39102		
FL 36932	✓	
TX 34368		
PA 27217	✓	

„En el 2014 para codificar respuestas sobre siniestralidad laboral, el BLS inició el uso de inteligencia artificial.

Empezó asignando el 5% de códigos, iniciando con las ocupaciones. Para el 2016 pasó al 50%, no solo relacionado con ocupaciones, pero con naturaleza del accidente*

*The future has begun: using artificial intelligence to transform government. Partnership for public service & IBM Center for the business of Government, 2017.





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Menu 



Say Hello to Watson

Cognitive computing enables a new partnership between people and computers that enhances and scales human expertise.

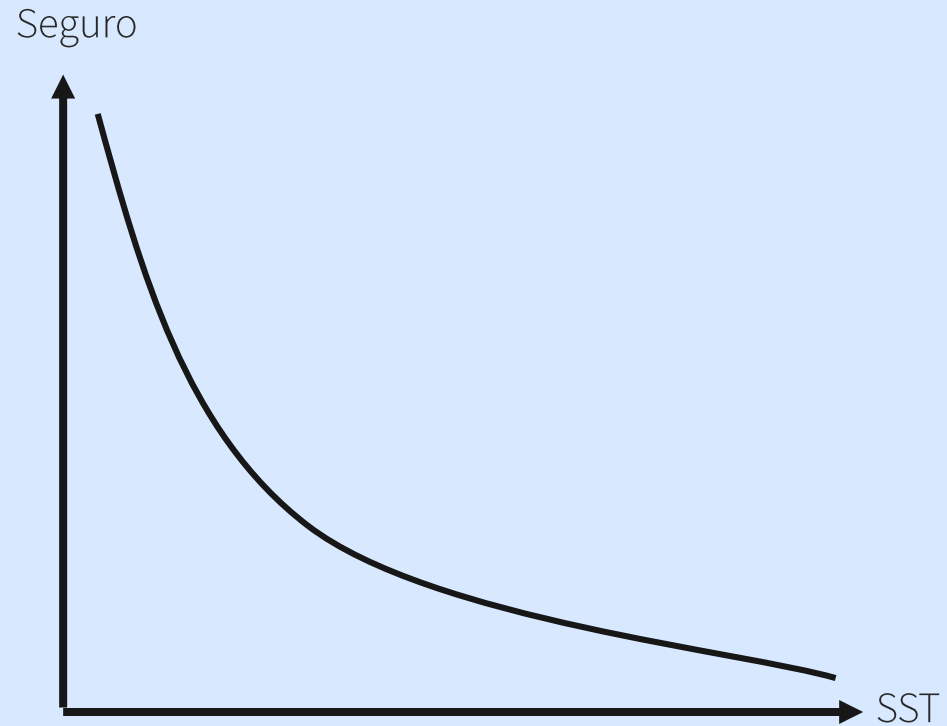
Watson, un ordenador con 2.880 núcleos de procesador y 15 terabytes de RAM, opera a 80 teraflops (80 mil millones de operaciones por segundo).

Watson usa más de 100 algoritmos al mismo tiempo para analizar una pregunta de diferentes formas, generando cientos de posibles soluciones.

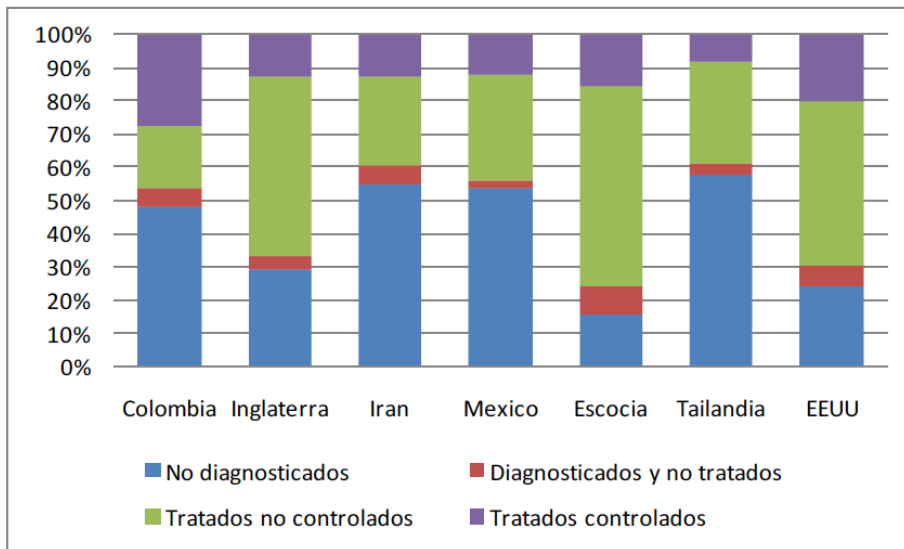
Este ordenador es capaz de analizar inmensas cantidades de datos no estructurados de una forma excepcionalmente rápida. En el prototipo que venció en Jeopardy, analizó un millón de libros, el equivalente a 200 millones de páginas en tres segundos

La contradicción entre prevención y el aseguramiento

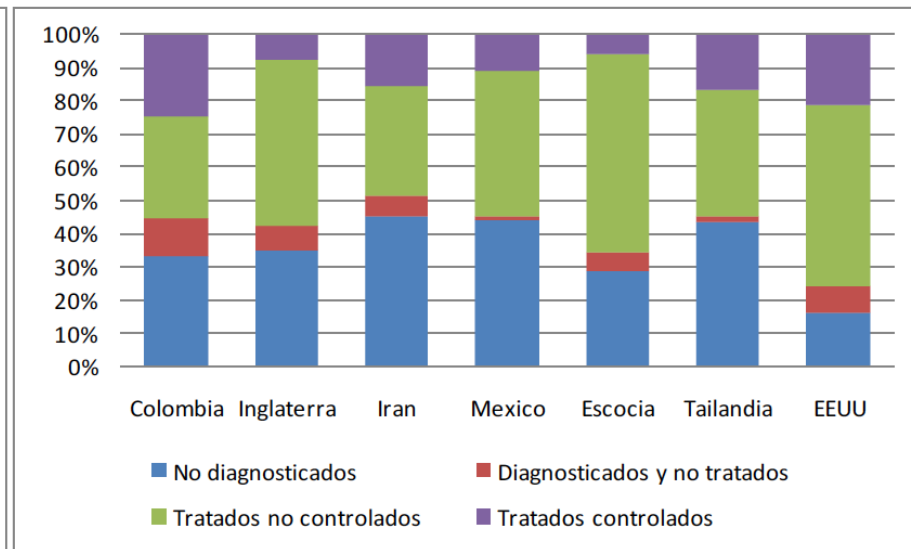
- Más prevención implicaría menos riesgo, menos prima.
- No todo lo que es sujeto de los programas de SST tiene impacto directo en el seguro
- Más SST no siempre implica menos Seguro (ejemplo: actos de terrorismo, catástrofes naturales, cambios legislativos, etc.)
- El “cero” es un objetivo imaginable en la prevención, pero no lo es dentro del aseguramiento



HOMBRES



MUJERES



Fuente: Gaikidou et al (2011)

* Encuestas en muestras representativas nacionales en las que se hizo prueba de glicemia

Y recibieron tratamiento 27,6% de los hombres y 24,4% de las mujeres se encontraron con niveles normales de glicemia, asumiendo que se encontraban controlados. (Gráficos 5 y 6)