



Rick Mears

**Senior Vice President &
Chief Information Officer
Owens & Minor, Inc.**

Riding the Rails Together



On the right track to
“Interoperability” in Healthcare.

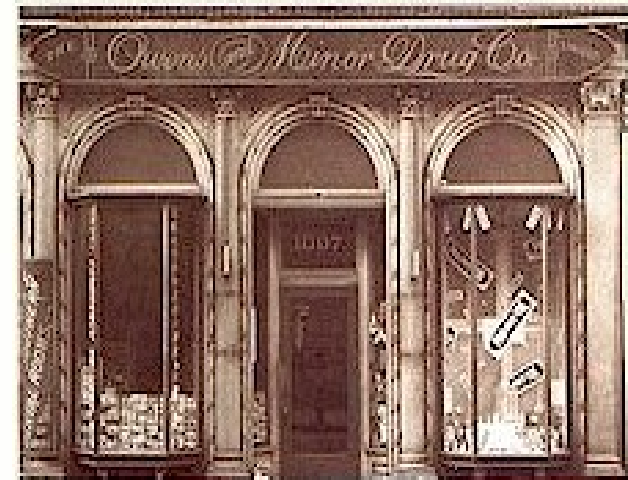


Owens & Minor, Inc.



Company Overview...

- **\$8.6B Revenue**
- **Fortune #283**
- **Founded in 1882**
- **Headquartered in Richmond, VA**
- **Market leader in Sales & Distribution of medical/surgical supplies to Hospitals**
- **50 Distribution Centers nationwide**
- **4,600 healthcare provider customers**
- **1,500 supplier customers**
- **5,000 Employees**
- **Comprehensive range of supply-chain management solutions and services**

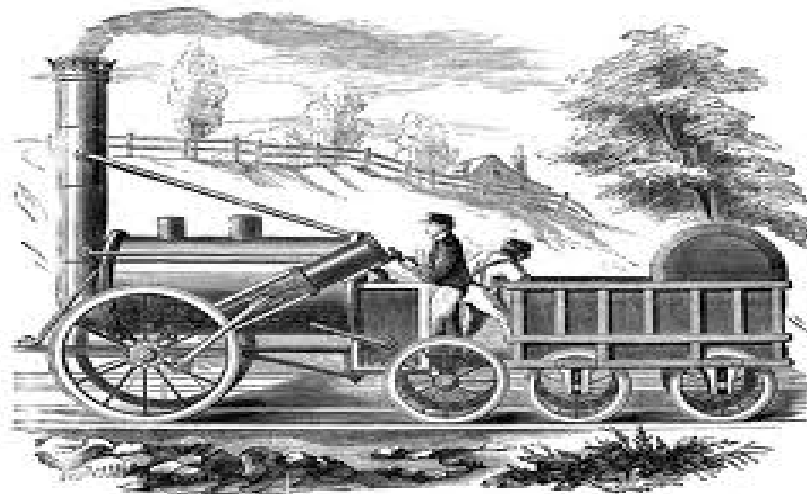


The original retail storefront of Owens & Minor Drug Company was opened in January 1882 in the business district of Richmond, VA.

Riding the Rails Together



- In the early 1800's, daring entrepreneurs experimented with inventions to travel by rail.



Riding the Rails Together

- From the 1830's through the 1850's, many different railroad companies were born...all over the United States...with hundreds of lines serving specific geographies and needs.



Riding the Rails Together

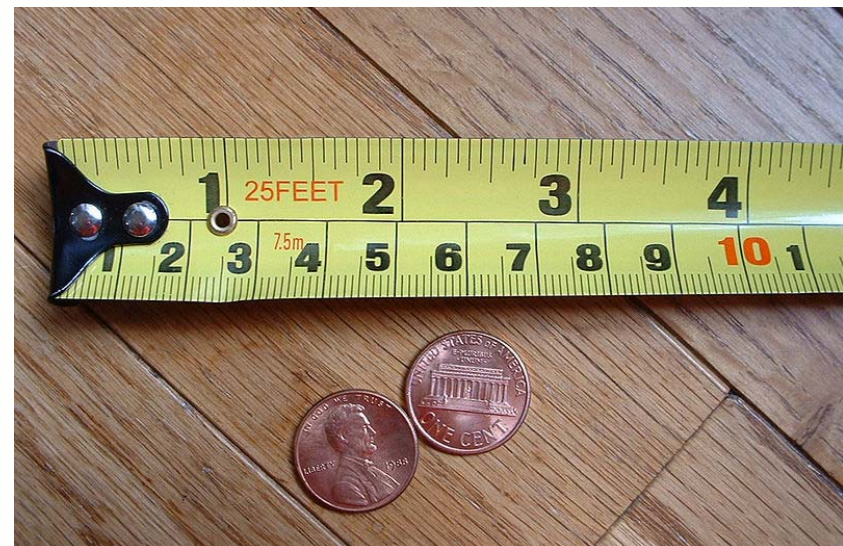
- During the next several decades, individual railroad providers joined together to unite and transform the American continent.



Riding the Rails Together



- Standards for railroad “interoperability” were developed.



Riding the Rails Together



- As a result, innovation went crazy.



Riding the Rails Together



- New market opportunities exploded.
- And new products and services were created.



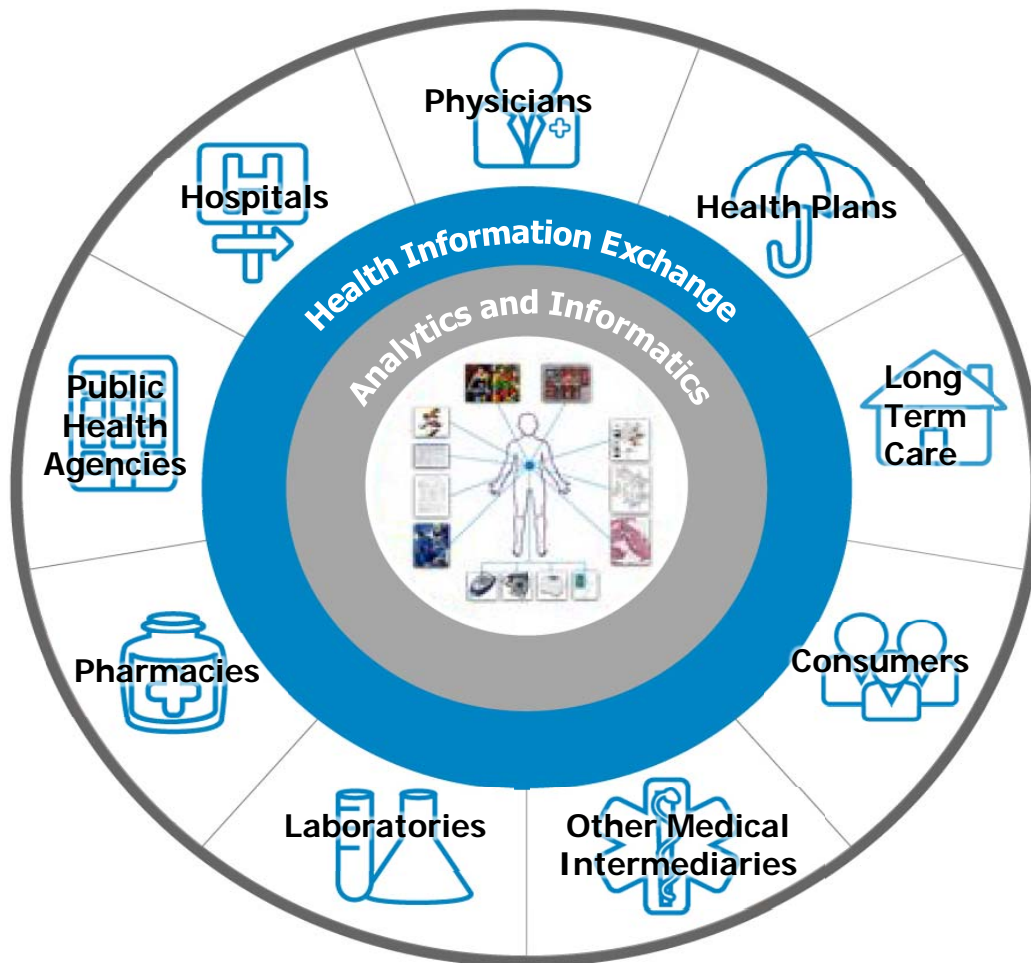
Riding the Rails Together



Do you see any parallels with

Healthcare?

Shared Healthcare Information

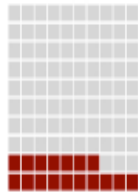


- **Health Information Exchanges (HIE)**
- **Accountable Care Organizations (ACO)**
- **Clinical Integration (CI) Initiatives**
- **Patient Centered Medical Home (PCMH)**

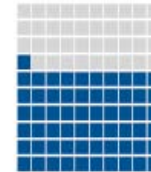
2011 - The Empowered E-Patient



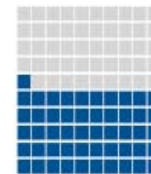
10 Million adults use a cell phone to find health information. ⁽⁴⁾



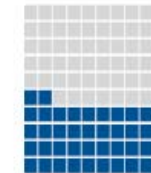
17% Cell phone users have used their phone to look up health or medical information. ⁽²⁾




61% American adults who have gone online to find health information. ⁽²⁾





51% People with chronic conditions who go online to find health information. ⁽²⁾



42% Adults who say they have or someone they know has been helped by following medical advice or health information found on the Internet. ⁽²⁾

 Total U.S. Population (~312 Million)

 **100 million+** patients go online to find information about prescription drugs. ⁽⁴⁾

 **85.6 million** adults admitted they doubted a medical professional's opinion or diagnosis because of information they read on the Internet. ⁽⁵⁾

Data Sources:

1. Google Search, October 2010
2. Pew Internet and American Life Project, 2009, 2010
3. Kantar Media, 2010
4. Manhattan Research, 2009
5. Enspektos, LLC, 2008
6. Path of the Blue Eye Project, 2009



Patient to Physician Interaction

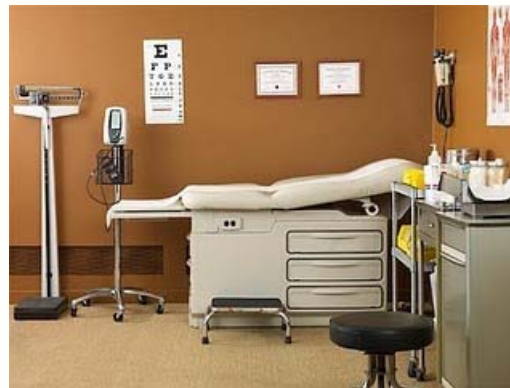


Until 1960



Doctor
visited
the
Patient

1960 - 2010



Patient
visited
the
Doctor

2011....



Patient &
Doctor Visit
Each Other
Online



Technology that enables Interaction



New technology such as Patient Portals and Kiosks allow patients to interact with their EHR information and with their Physicians for:

- **Patient Accounts & Billing**
- **Patient Education**
- **EHR/PHR Information**
- **Prescription Refills, etc.**

Patient Portal



Patient Kiosk



Using two-way video to interact online



Credit: Wired.com

Doctor to Patient

Doctor to Doctor



Credit: Dr. Michael Escabedo, Escobedo Esthetics, Austin, TX



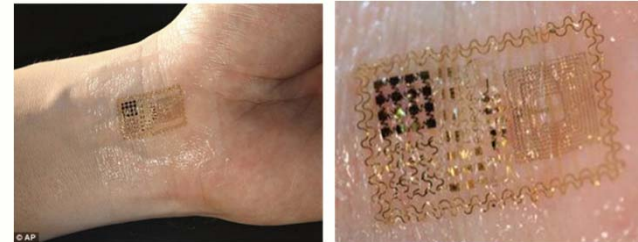
Credit: New York Times 9/27/2011



Future: Getting to Real Time



“Electronic Skin” records: pulse, brain activity, muscle contractions, etc.



professor John A Rogers at University of Illinois Urbana-Champaign

Implantable wireless device: monitors glucose up to 1 year



Photo: Glysens Incorporated

WiFi weight scale: automatically uploads readings



www.withings.com



So, let's talk about GS1...

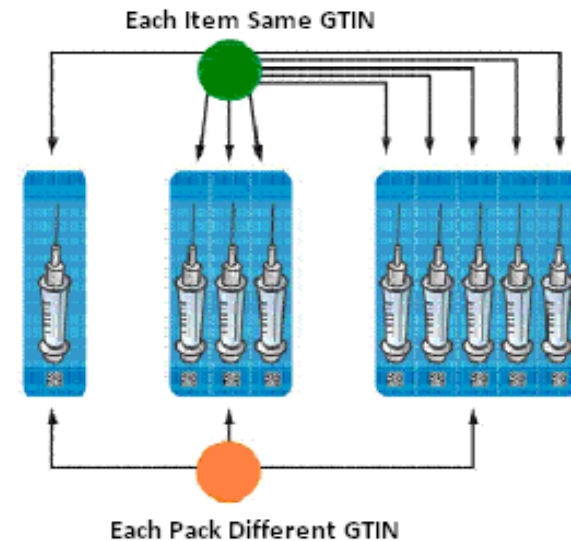
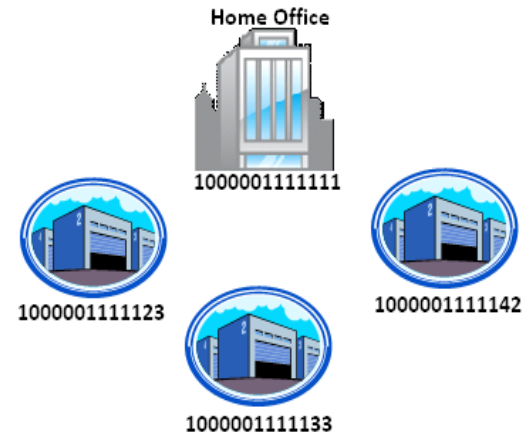


- All you need to know is...
- GLN
- GTIN
- GDSN
- OMG
- Any questions?

GS1 Standards



- **The Global Location Number (GLN)**
 - 13 digit “globally unique” Identification Number, for all locations where e-Commerce of any kind is conducted
 - specific to one, very precise location in the world.
 - Includes a **company prefix** to identify the owner.
- **The Global Trade Item Number (GTIN)**
 - 14 digit “globally unique” Identification Number, used to identify all “trade items”
 - Assigned by the brand owner of the product
 - Unique **GTIN** for every **Unit of Measure (UOM)**
- **Global Data Synchronization Network**
 - GDSN



The GLN Registry



GLN Registry for Healthcare

- It is a system that is hosted by GS1
- It is a database that is indexed by GLN (Global Location Number)
- Database in the “Cloud” that contains all relevant attributes about locations where e-Commerce activities are conducted:
 - Ordering
 - Paying
 - Receiving
 - Using
- Single source of the truth for “Location” information, across the entire Supply Chain



GDSN – it consists of all the GS1-certified Data Pools, connected together

- Each Data Pool is a database of comprehensive and current Item Master information, in the “Cloud”
- Data Pools must be certified by GS1 (e.g. 1Sync, GHX)
- Contains GTIN’s for all Items, at every packaged UOM
- The GTIN is the Index to access the Item Information
- Contains all GS1-required data attributes for every Item
- Single Source of the Truth for all Item information
- In theory, it is the perfect Item Master File
- All the Data Pools are connected together to form the Global Data Synchronization Network (GDSN)

Benefits of GS1



- Reduces order fulfillment errors
 - Incorrect Ship To address
 - Incorrect Unit of Measure
- Creates Product data management efficiency
 - No need for cross referencing product IDs
 - Import updates from data pool (GLN and GTIN)
 - Standardized data attributes across systems
- GLNs and GTINs become the standard across the entire Healthcare Supply Chain
 - Kind of like what happened with the Railroads ☺



GTIN Attributes for Healthcare



- Global Trade Item Number (GTIN)
- Pack Level
- Manufacturer Part Number
- Hierarchy
 - Parent GTIN
 - Child GTIN
 - Child Quantities
- Publisher Global Location Number (GLN)
- Target Market
- Brand Owner (Name and GLN)
- Manufacturer (Name and GLN)
- Functional Name
- Brand Name
- Description
- Bar Code Type
- Net Content
- Classification
 - GPC
 - Other
- Dimensions
 - Height
 - Width
 - Depth
 - Gross Weight
- Indicators
 - Consumable Unit (Y/N)
 - Orderable (Y/N)
 - Invoice (Y/N)
 - Dispatch/Shipping (Y/N)
 - Base Unit (Y/N)
 - Variable Unit (Y/N)
 - Returnable (Y/N)
 - Batch/Lot Numbered (Y/N)
- Dates
 - Start Availability
 - Effective
- Minimum Lifespan from Production
- Healthcare Reusability Information
- Does Product Contain Latex

Now you know all about GS1... 

- GLN
- GTIN
- GDSN
- OMG



Thank you!