



**Management Case Study:
Development of a Successful
Compounded Sterile Product (CSP)
Insourcing Plan**

Lorraine Lee, MHA, BS Pharm
Yale-New Haven Hospital
Howard Cohen, RPh, MS, FASHP
Jerry Siegel, PharmD, FASHP
Safe Medication Management Associates Inc.

Learning Objectives

1. Describe how to develop a plan for the insourcing of Compounded Sterile Products (CSP).
2. Describe the proposed legislation regarding compounding manufacturers and traditional compounders.
3. Describe both safety and regulatory issues regarding the insourcing of Compounded Sterile Products.

History of Outsourcing


Current Environment

The Changing Landscape

Lessons Learned

The Dilemma

Developing the Plan


Do you Currently Outsource Compounded Sterile Products? 

A Yes

B Yes, but considering insourcing

C No

D No, but considering outsourcing

What would be your Primary reason to outsource? 

A Drug shortages

B Reallocation of resources

C Insufficient resources

D Decrease Wastage

Why Would a Health-System Outsource?

- Strategy for providing medications with critical shortages
- Lack of adequate manpower
 - Pharmacists
 - Pharmacy Technicians
- Concern over wastage
 - Beyond Use Dating (BUD)
- Safety
 - Ergonomics
 - Personnel exposure

Typical Costs of Outsourcing at a Large Academic Medical Center

- Annual spend with outsourcing to compounding pharmacy
 - \$1,000,000 (annual cost of preparation *only*)
 - \$750,000 (annual cost of drugs supplied by institution)
- Total annual cost \$1,750,000

- ✓ History of Outsourcing
- Current Environment
- The Changing Landscape
- Lessons Learned
- The Dilemma
- Developing the Plan

“Sterile drugs often contaminated, pharmacists admit” NBC News. January 30, 2013

http://www.huffingtonpost.com/2012/10/13/acc-meeting/is_n_1954167.html

“Clearly something went wrong here.”
 The Washington Post. Oct. 12, 2012

Two compounding pharmacies closed after inspections The Boston Globe. August 20, 2013

http://www.cbsnews.com/8301-204_162-57579363/fda-investigators-find-safety-concerns-at-30-drug-compounding-pharmacies/

Dangers From Compounding Pharmacies Persist
 Tighter Rules on Compounders Slow to Emerge Even as 24 Die From Disease This Year
 The Wall Street Journal. September 9 2013

Recent Issues Identified with Compounding Pharmacies

- Instances of mislabeled products
- Discovery of mold contamination
 - Failures and violations included:
 - Incorrect labeling
 - Inadequate product testing
 - Cleanroom sterility issues
 - Violations of beyond-use-dating
 - Violations with documentation
 - False representation
 - Improper oversight of technicians
 - Breach of duty
 - Failure to comply with state requirements for central prescription handling

“There are certain things that as a Director of Pharmacy and responsible pharmacist you cannot “outsource”. Honesty, Integrity and Responsibility are amongst them.”

Siegel, Cohen, Kennerly *Pharmacy Practice News* August 2013. Vol. 40

- ✓ History of Outsourcing
- ✓ Current Environment
- The Changing Landscape
- Lessons Learned
- The Dilemma
- Developing the Plan

Draft Legislation

S.959 - Pharmaceutical Quality, Security, and Accountability Act –

Introduced by Senators Tom Harkin (D-Iowa), Lamar Alexander (R-Tenn.), Barbara Mikulski (D-Md.), Pat Roberts (R-Kan.), Al Franken (D-Minn.), and Elizabeth Warren (D-Mass.).

STATUS / PROGRESS

Introduced May 15, 2013

Referred to Committee May 15, 2013

Reported by Committee May 22, 2013

Bipartisan committee review by Senate and House, Sept 2013

Senate ... Vote Expected – Fall 2013 session?

House ... ?

Signed by the President ... ?

Pharmaceutical Quality, Security, and Accountability Act

Establishes a clear border between **traditional compounders** and **compounding manufacturers**.

It clarifies a national, uniform set of federal rules for **compounding manufacturers** while preserving the states' primary regulatory role for **traditional compounding pharmacy**.

Compounding Manufacturer

- S.959 Defines Compounding Manufacturer
 - **Compounding Manufacturer.** The draft defines “compounding manufacturer” as an entity:
 - makes **sterile** drug products without receiving or in advance of a prescription **and** introduces those drugs in interstate commerce; **or**
 - repackage[s] a drug using sterile preservative-free single-dose vials or by pooling sterile drugs.

Compounding Manufacturer

- Must register with FDA and will be overseen by the FDA
- Cannot be licensed as pharmacies
- Will be subject to FDA cGMP requirements, although they will be exempt from the cGMP new drug approval requirements and the adequate directions for use requirements
- Marketed FDA-approved drugs may not be compounded except in the case of a drug shortage
- Wholesaling is not allowed for compounded drugs

Traditional Compounders

A facility operating pursuant to **state law** where drug is compounded by a licensed pharmacist in licensed facility (pharmacy)

Compounds a drug upon receipt of a prescription order or in limited quantities before receipt of a prescription if compounding is based on a history of an established relationship between the licensed pharmacist or licensed physician

Traditional Compounders

Can compound drugs for “office use” after receiving an order from a practitioner. However;

- No more than 10% of the total drugs dispensed in any 30 day period may be compounded drugs for “office use”.
- The office use products must be labeled for ‘Office Use Only’ and ‘Not for Resale’, and must state that the product must be used within 14 days from the date of dispensing.
- Traditional compounder must receive all names of patients who received the drug no later than 14 days after it was dispensed and must maintain these records for at least 6 years.

Hospital Exception:

Per S.959 Draft Legislation

A pharmacy located within a “health system” that compounds and ships drugs for dispensing within that health system (which may include interstate shipment) is considered a **traditional compounder**, subject to specified conditions, if it otherwise meets the definition of a traditional compounder.

Connecticut Law

- A sterile compounding pharmacy shall *comply* with sections 20-576-64 to 20-576- 68, inclusive, of the Regulations of Connecticut State Agencies, and the current United States Pharmacopeia, Revised General Chapter 797, Pharmaceutical Compounding-Sterile Preparations. **The United States Pharmacopeia, Revised General Chapter 797, Pharmaceutical Compounding-Sterile Preparations** may be obtained via the Internet at the following location:
<http://www.usp.org/products/797Guidebook/>.

Proposed Categories

	Traditional Compounder	Compounding Manufacturer
Regulatory body	State Board of Pharmacy	FDA
Standard	State law and/or standards i.e. USP <797>	Good Manufacturing Practices (cGMP)
Prescription Requirement	Patient specific (before or after compounding)	None
Reporting requirement	None	List of drugs compounded during the previous six month period to FDA
Registration Fees	None	\$15,000 if >25 employees Plus cost of inspection

Proposed federal legislation will allow health systems to operate as a traditional compounder and compound and ship drugs for dispensing within that health system (which may include interstate shipment).



True or False:

- A True
- B False

✓ History of Outsourcing

• Why did we outsource?

✓ Current Environment

• Sentinel Events

✓ The Changing Landscape

• Proposed legislation

Lessons Learned

• Our responsibility

The Dilemma

Developing the Plan

Lessons Learned

- Consequences of failure are inconceivable
- Contracted services **MUST** meet same standards that your site would adhere to
 - Requires enhanced validation of compounding pharmacy by institution
- Responsibility to ensure safety rests with pharmacy leadership
- Assess feasibility of institutional oversight
- Administrative support is a must
- Support staff at all levels to allow for business continuity

Lessons Learned

- Verification of Vendors required
 - Must have a contract
 - Verification of licensure to practice in your state
 - Oversight by licensed pharmacist
 - Scheduled and unscheduled inspection of facility
 - Verification of recall and notification process
 - Access to testing and quality control

- ✓ History of Outsourcing • Why did we outsource?
- ✓ Current Environment • Sentinel Events
- ✓ The Changing Landscape • Proposed legislation
- ✓ Lessons Learned • Our responsibility
- The Dilemma • Insourcing vs. outsourcing
- Developing the Plan

ASHP Guidelines on Outsourcing CSPs

- Request for proposal, ensure QA specifics in contract
- Conduct site visit (scheduled and unscheduled)
 - Review of training materials
 - Review of personnel files
 - USP Chapter <797> compliance
 - Use of technology
 - Beyond-use dating references
 - Review of labels
 - Observation of practices
- Review Quarterly reports of Vendor QA program
 - Ensure experts review, e.g. epidemiology, infection control, etc.
- Annual onsite evaluation
- Keep current on FDA website (lists inspections completed, FOI requests)

ASHP Guidelines on Outsourcing Sterile Compounding Services . Am J Health-Syst Pharm. 2010; 67:757-65.
<http://www.ashp.org/DocLibrary/BestPractices/MgmtGdl/OutsourcingSterileComp.aspx>

Considerations for Insourcing

- Resource assessment
 - Staffing needs of pharmacist and technical staff to compound, deliver, procure
- Capital needs assessment
 - Space, equipment, supplies, climate monitoring
- Operating Costs
 - Pharmaceuticals, diluents, IV bags, IV prep supplies
- Assess Beyond-Use-Dating (BUD) to CSPs
 - Batch testing, sterility testing
 - Waste management
- Risk and Regulatory assessment
 - USP 797 compliance
 - Federal and state preparation regulations
 - TJC, State Board of Pharmacy, Dept of Public Health

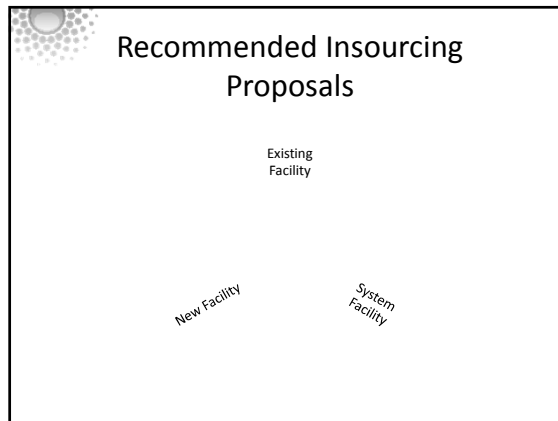
- ✓ History of Outsourcing • Why did we outsource?
- ✓ Current Environment • Sentinel Events
- ✓ The Changing Landscape • Proposed legislation
- ✗ Lessons Learned • Our responsibility
- ✓ The Dilemma • Insourcing vs. outsourcing
- Developing the Plan • The insourcing plan with ROI

Components of an CSP Insourcing Plan

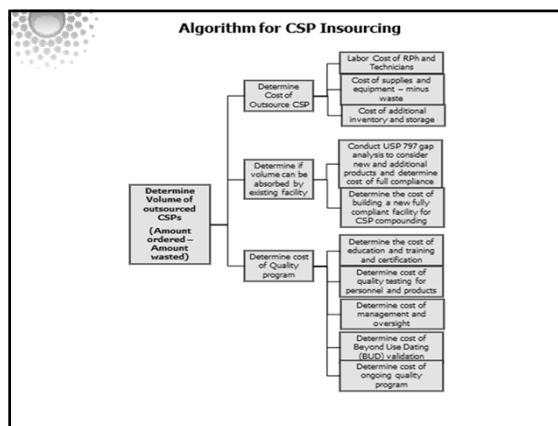
- Risk and Regulatory Checklist (USP 797)
- Quality and Volume Metrics
- Monitoring Plan
- Policies and Standard Operating Procedures
- Automation and EMR interfaces
- Staffing effectiveness analysis
- Procurement capabilities
- Staff training and competencies
- Capital and Operating costs

<USP> 797 External Gap Analysis Performed

	Campus 1	Campus 2
Overall Compliance	70%	83%
Areas of Concern		
• Airflow differential monitoring	✓	
• Environmental sampling	✓	✓
• Hazardous Drug sampling	✓	
• Cleaning procedures	✓	
• Temperature and humidity monitoring		✓
• Management of incubation		✓
• Equipment calibration		✓
• Facility management		✓
• Management of single and multi-dose vials		✓



- ### Considerations
- Evaluation of current clean rooms
 - Capacity to handle additional drug items?
 - Capacity to handle addition volumes for system partners?
 - Compliance with USP<797> standards?
 - Determine feasibility of new cleanroom
 - Capital Cost to build – (one time cost)
 - Partner with Facilities Design and Construction to identify location and develop budget
 - Facility requirements—space required
 - Positive pressure (500 sq ft)
 - Supplies (200 sq ft)
 - Ante Room (200 sq ft)
 - Pharmacist Workspace (300 sq ft)



- ### ROI – Resource Evaluation
- Example to estimate Technician need:
 - Average time to prepare one dose = 2 min
 - Total # Doses/annually: 208,002
 - Total time requirement: 416,004 min (6,934 hrs)
 - Technicians required = 3.3 FTE + replacement factor (12%) = 3.7 (4.0 FTE)
 - Estimated salary cost
 - Technicians (\$X/hr) + benefits

- ### ROI - Implementation Costs
- EMR drug build, testing and interface
 - Pharmacy IV Work Management system build and testing
 - Review of Beyond Use Dating (BUD)
 - Review and update of current P&P's
 - Training and logistical costs

ROI - Savings Opportunities


- Elimination of current Outsourced compounding fees
- Inventory and formulary management
 - Reduction in waste
 - Reduction in volume resulting from product available as premixed from manufacturing
 - Improved utilization, FIFO, par management
 - Reduction of medical waste stream (lbs)
 - Staffing efficiency from centralized service

- ✓ History of Outsourcing
 - Why did we outsource?
- ✓ Current Environment
 - Reaction to the issues
- ✓ The Changing Landscape
 - Current proposed legislation
- Lessons Learned
 - Our responsibility
- ✓ The Dilemma
 - Insourcing vs. outsourcing
- ✓ Developing the Plan
 - The insourcing plan with ROI

Conclusion

- Draft legislation is intended to reflect current practice and safety
 - Major changes are expected in the near future...
- Sterile compounding is a high-risk activity that requires constant vigilance
 - Outsourced CSPs require quality surveillance
- Drug shortages increase the need for compounding
- Real people receive CSPs: they are loved ones who require our best efforts!

Recent concerns regarding safety have led many hospitals to consider the insourcing of CSP's.




True or False:

A True

B False

The increase in drug shortages is one reason why a health system may consider the outsourcing of its CSP's.



True or False:

A True

B False