mountain-pacific quality health
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Team Up to Measure Up

eCQI Exercise

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Antibiotic/Antimicrobial Resistance Facts

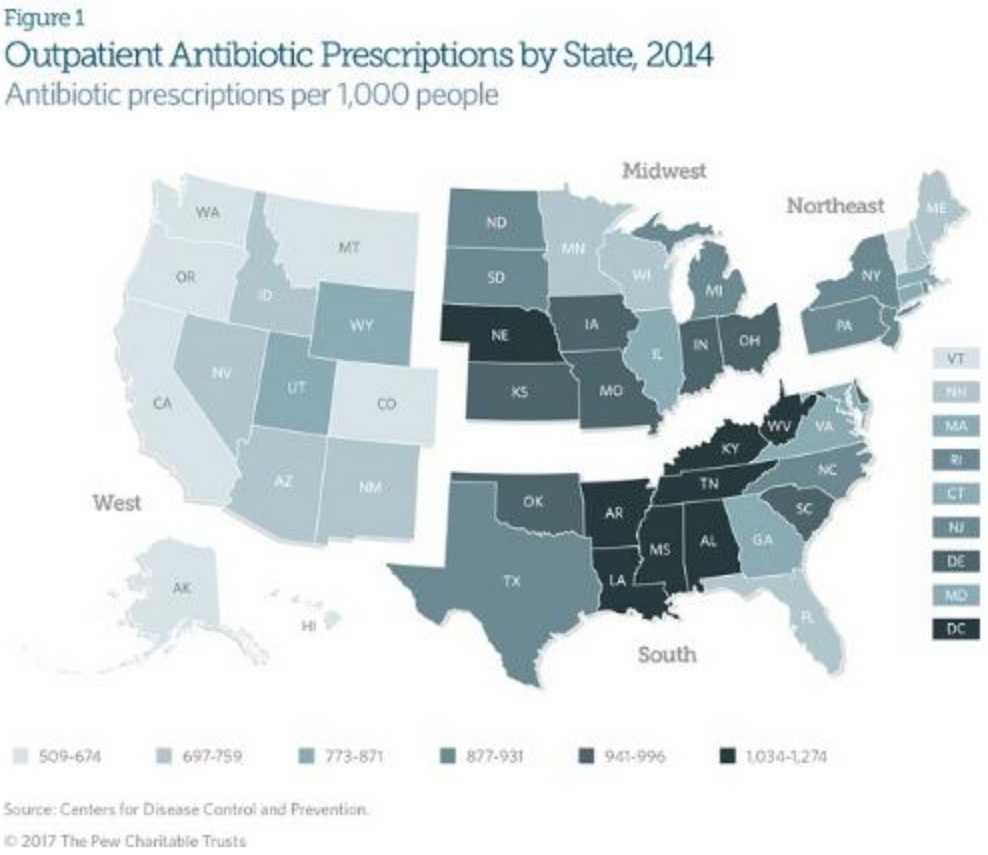
- Each year in the United States, at least 2 million people become infected with bacteria that are resistant to antibiotics and at least 23,000 people die each year as a direct result of these infections.
  - 6 % decline since 2006, but remains high by international standards
- Antibiotics are the most common cause of emergency department visits for **adverse drug events in children under 18 years of age.**
- U.S. wrote over 266 million antibiotic prescriptions in 2014
  - 835 antibiotic perscriptions for every 1000 people
  - > 2 ½ times Sweden's rate of 328 prescriptions per 1000 people

Antibiotic/Antimicrobial Resistance Facts

- In May 2016, the Centers for Disease Control and Prevention (CDC), in collaboration with Pew Charitable Trusts and others, released new data;
  - At least 30 percent of all prescriptions written in doctors' offices and emergency rooms are unnecessary.
  - Nearly 75% are for acute respiratory conditions
- Over 50% of hospital patients receive antibiotics
- 30-50% of all antibiotics prescribed in U.S. acute care hospitals are either unnecessary or inappropriate
- Improving Data
  - Data is still lacking -not reported from some outpatient care settings
  - Antibiotic use can be tracked through National Healthcare Safety Network (NHSN), but currently voluntary

Antibiotic Volume of Use

- Prescribing varies by State and is somewhat regional
- Trends vary widely by provider type. From 2011-2014
  - Rates fell by 15% for Primary Care Providers
  - Rates rose 41% for NPs and PA's
- Possible reasons:
  - Caseload shift
  - Type of population served – regional variations
  - Education and Guidance



A Brief from the PEW Charitable Trusts – March 2017, *Trends in U.S. Antibiotic Use*

Antibiotic Stewardship Program

- "Coordinated interventions designed to improve and measure the appropriate use of antimicrobials by promoting the selection of the optimal antimicrobial drug regimen, dose, duration of therapy and route of administration"
- Improving the use of antibiotics is an important patient safety and public health issue as well as a national priority.

Core Elements of ASP

Hospital – Inpatient

1. Leadership Commitment
2. Accountability
3. Drug Expertise
4. Actions to support Optimal Antibiotic Use
5. **Tracking: Monitoring Antibiotic Prescribing, Use and Resistance**
6. Reporting Information to Staff on Improving Antibiotic Use and Resistance
7. Education

Clinic/EP – Outpatient

1. Commitment
2. Action for Policy and Practice
3. **Tracking and Reporting**
4. Education and Expertise

https://www.cdc.gov/getsmart/healthcare/pdfs/checklist.pdf

Application of eCQI

What is the problem to solve?

- Concentrate on Inpatient Antibiotic Stewardship Program
- 30-50% of Antibiotic use is either unnecessary or inappropriate
- Closely linked to bacterial resistance and Clostridium difficile infections (CDI). Certain resistance phenotypes and CDI are commonly tracked within hospital stewardship programs and key metrics.
  - Days of Therapy (DOT)
  - Daily defined dose (DDD)
  - Standardized antibiotic administration ratio (SAAR)
- **The right antibiotic, the right dose, the right time and the right duration.**
- Where should focus be? Age Group, Condition, Certain Antibiotic What is Target?

Antibiotic use measures

Measure antibiotic use as either days of therapy (DOT) or defined daily dose (DDD). DOT is an aggregate sum of days for which any amount of a specific antimicrobial agent is administered or dispensed to a particular patient (numerator) divided by a standardized denominator (e.g., patient days, days present, or admissions).[64,89] If a patient is receiving two antibiotics for 10 days, the DOT numerator would be 20. An alternative measure of antibiotic use is defined daily dose (DDD). This metric estimates antibiotic use in hospitals by aggregating the total number of grams of each antibiotic purchased, dispensed, or administered during a period of interest divided by the World Health Organization–assigned DDD.[90] DDDs are often available in facilities with pharmacy systems that cannot calculate DOTs. Compared to DOT, DDD estimates are not appropriate for children, are problematic for patients with reduced drug excretion such as renal impairment, and are less accurate for between-facility benchmarking.[91] However, DDDs can be a useful measure of progress when tracked using a consistent methodology over time.[92–95] In addition to measuring overall hospital antibiotic use, antibiotic stewardship programs should also focus analyses on specific antibiotic(s) and hospital locations where stewardship actions are implemented. For example, the assessment of an intervention to improve the treatment of community-acquired pneumonia (CAP) would be expected to impact the use of antibiotics most commonly used to treat CAP on medical wards, rather than surgical wards.

The standardized antimicrobial administration ratio (SAAR) is a metric for comparing observed to predicted days of antimicrobial therapy. It is constructed using indirect standardization where predicted antimicrobial use days are based on nationally aggregated AU data.

eCQI Tasks

- Identify Project Scope and Team
- Create and prioritize Change Backlog
- Create 1st Sprint Backlog
- Perform/complete Sprint= PDSA cycle(s)
- Perform sprint review and update Change Backlog
- Create 2nd sprint backlog
- Continue through cycle until goals are met or changed

Project Plan

Two types of Plans

- High level project scope, goal, team and changes identified to reach outcomes
- PDSA/Sprint level plan for each improvement cycle

Activity One: Setting Goals

- Use **Project Scope Change Backlog Template**
  - Antibiotics used Appropriately – *How to measure?*
  - Volume should go down – *By how much?*
- Determine Project Scope
- Define a SMART Goal that will affect the outcome of your measure:
  - Specific
  - Measurable
  - Attainable
  - Relevant
  - Time-bound
- Project Constraints: anything that restricts or dictates the actions of the project team (typically; scope, budget, schedule and quality)

eCQI PROJECT SCOPE/ CHANGE BACKLOG - Template

Project Aim: (what are we trying to accomplish)
Goal: (make sure goal is SMART)

Project Constraints: (what are the boundaries for this project)
Budget: Schedule: Quality: Other: (Policies, Regulations, Senior Management requirements)

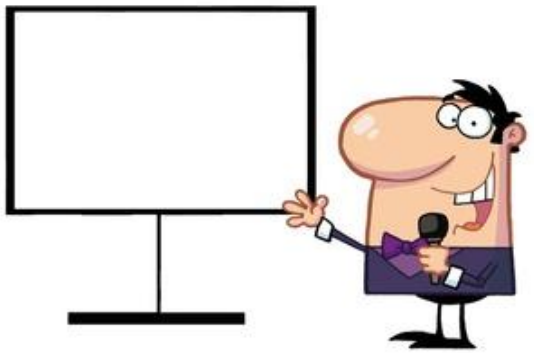
Evaluation Measure (use standardized data, easily obtainable if possible - examples include PQRS, NQF, CMS, IQR and or UDS measures)

Measure	Description	Data Source	Target Performance	Current Performance	Current Performance Date

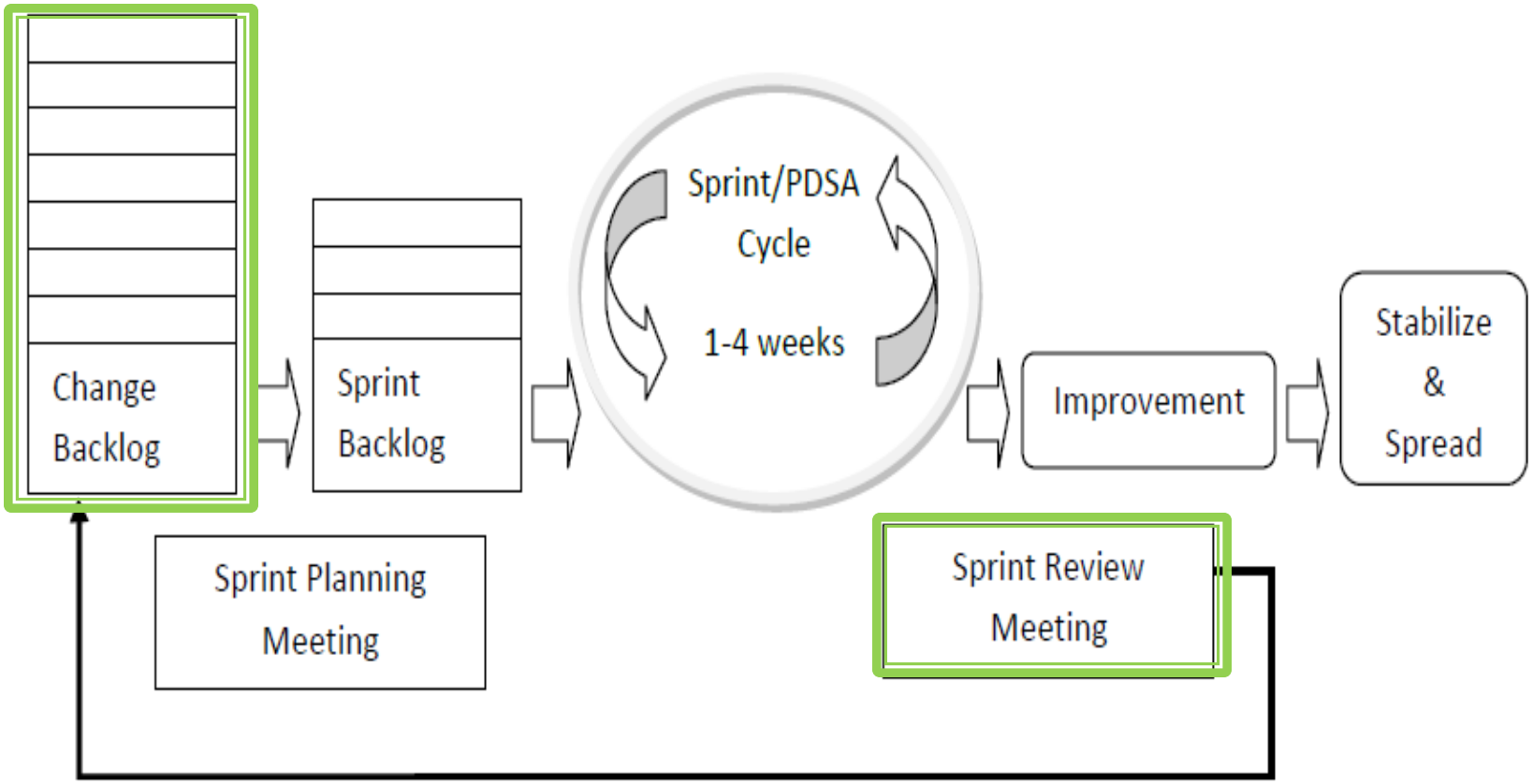
Project Team			
Name	**Title/Department**	**Role**	**Responsibilities**

Post-Activity Discussion

- Questions that came up during the activity?
- What was the most difficult part?
- What was the easy part?
- Round Robin review of Scope and SMART Goals



Streamlined eCQI Process Model



Identify Possible Changes

- Answer this question: “What changes can we make that will result in an improvement” to the project goal selected
- Each department brainstorm ideas for possible changes that will ultimately improve the project goal/outcome measure
- Create a Change List or “Backlog”

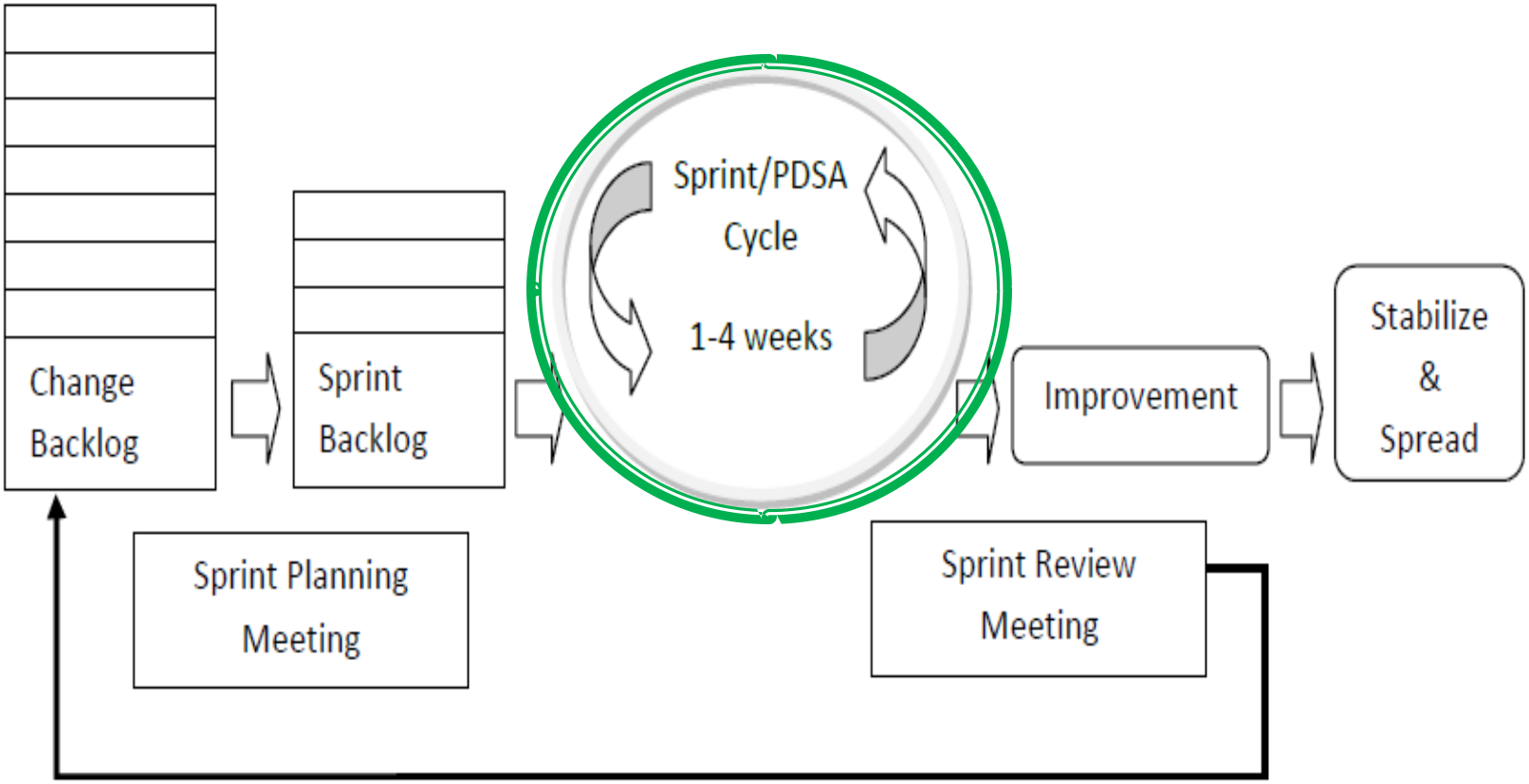
Possible Changes - Backlog

Possible Change (process measures)	Priority ranking (low, medium, high)	Estimated Sprint Assignment	Notes

Identify a Sprint/PDSA Plan

- Identify a measureable goal for the sprint
- Use standard data measures, easily accessible and repeatable
- Establish baseline data, if one is not already available (make step one of plan if needed)
  - Determine a target goal for improvement
- Tasks to keep in mind for PDSA plan:
  - Reviewing electronic, data entry and physical workflows
  - Leveraging EHR functionality whenever possible
  - Implementing clinical best practices to support improvement

Streamlined eCQI Process Model



Date: **Sprint/PDSA Cycle #**

Outcome Measure: (Project Goal – from Project Scope/Change Backlog Template)

Sprint/PDSA Cycle Aim: (make a SMART goal)

Evaluation Measure for this Aim: (use standardized data, easily obtainable if possible - examples include PQRS, NQF, CMS, IQR and or UDS measures)					
Measure	**Description**	**Data Source**	**Target Performance**	**Current Performance**	**Current Performance Date**

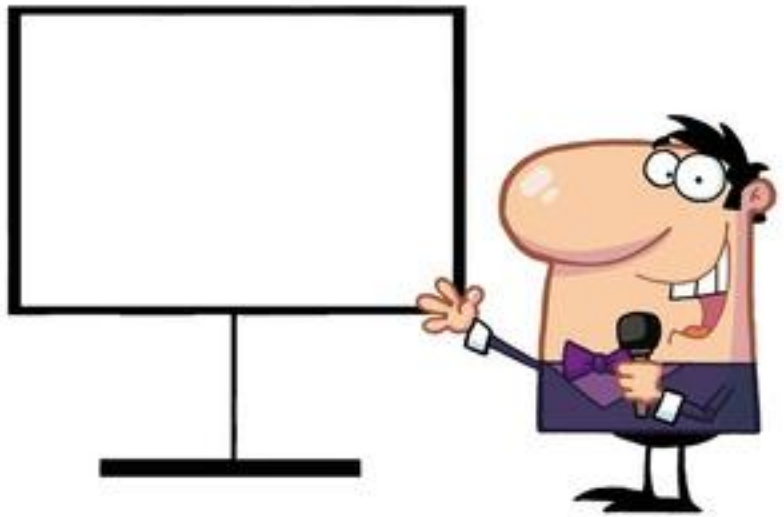
Sprint/PDSA Cycle Team			
Name	**Title/Department**	**Role**	**Responsibilities**

Plan

List the tasks needed to set up this test of change	Person responsible	When to be done	Notes
Task 1:			
Task 2:			
Task 3:			
Task 4:			
Task 5:			
Task 6: (add more rows if needed)			

Report Out – Project Spring/PDSA

- Questions that came up during the activity?
- What was the most difficult part?
- What was the easy part?
- Round Robin review of and Sprint Activity, Measure, Tasks, Time Frame, Roles

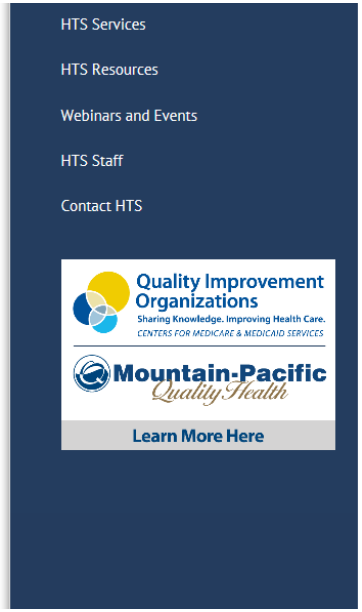


Antimicrobial Resources

- Center for Disease Control – Core Elements of Hospital Antibacterial Stewardship https://www.cdc.gov/getsmart/healthcare/implementation/core-elements.html
- National Quality Forum Playbook – Core Element 5 – Tracking and Monitoring p.19-20

http://www.qualityforum.org/Publications/2016/05/National_Quality_Partners_Playbook__Antibiotic_Stewardship_in_Acute_Care.aspx

- PEW Charitable Trusts – Trends in U.S. Antibiotic Use- A Brief http://www.pewtrusts.org/en/research-and-analysis/issue-briefs/2017/03/trends-in-us-antibiotic-use
- Jumpstart Program Guide and Workbook
  - Montana ABS Collaborative is using the Jumpstart Program
  - http://www.doh.wa.gov/Portals/1/Documents/5600/JumpstartStewardshipWorkbook.pdf
  - National Quality Forum, NHSN Antimicrobial Use Measure



ABS Collaborative Resources

Montana Antimicrobial Stewardship Collaborative

ABS Collaborative Links

- CDC ABS Overview
- CDC ABS Inpatient
- CDC ABS Outpatient
- All HTS Resources
- Contact Us

The Montana Antimicrobial Stewardship (ABS) Collaborative is a group effort to create a statewide Antimicrobial Stewardship Program (ASP) implementation plan. Our goal is to; collaborate, assist and offer resources, expertise and tools available through the multiple programs into a combined state wide ASP implementation plan for use by MT inpatient and outpatient facilities. The MT ABS Collaborative will be using the Jumpstart Stewardship antimicrobial stewardship implementation guide, created for the Washington Department of Health, as a roadmap.

MT ABS Collaborative Members:

- Mountain-Pacific: RHIC, QIO and ICAR programs
- Montana Hospital Association: HIIN, FLEX and STRIVE programs
- Montana Department of Public Health and Human Services: Communicable Disease and Epidemiology program
- University of Montana: Skaggs School of

MT ABS Collaborative Resources:

Education:

Expertise:

- MAD-ID – Antimicrobial stewardship training programs
- Society of Infectious Disease Pharmacists (SIDP) ASP certificate program for pharmacists

Data Tracking and Reporting:

- NQF 2720 Antimicrobial Use Measure
- NQF 2720 NHSN detailed specification for data tracking and NHSN submission

Misc:

- CDC Inpatient ASP Assessment/Checklist
- CDC Clinic ASP Assessment/Checklist
- CDC Outpatient ASP Assessment/Checklist
- Minnesota One Health ASP website
- Greater New York Hospital Association ASP website
- American Hospital Association ASP website
- Society for Healthcare Epidemiology of America (SHEA) ASP Implementation Tools and Resources

http://mpqhf.com/corporate/health-and-technology-services/resources/abs-collaborative-resources/