



"A collaborative project to
develop a universal framework for
encoding and disseminating electronic clinical guidelines"

The SAGE Project

Standards-Based Sharable Active Guideline Environment



III. SAGE: Looking Forward

The SAGE Project

Standards-Based **S**harable **A**ctive **G**uideline **E**nvironment



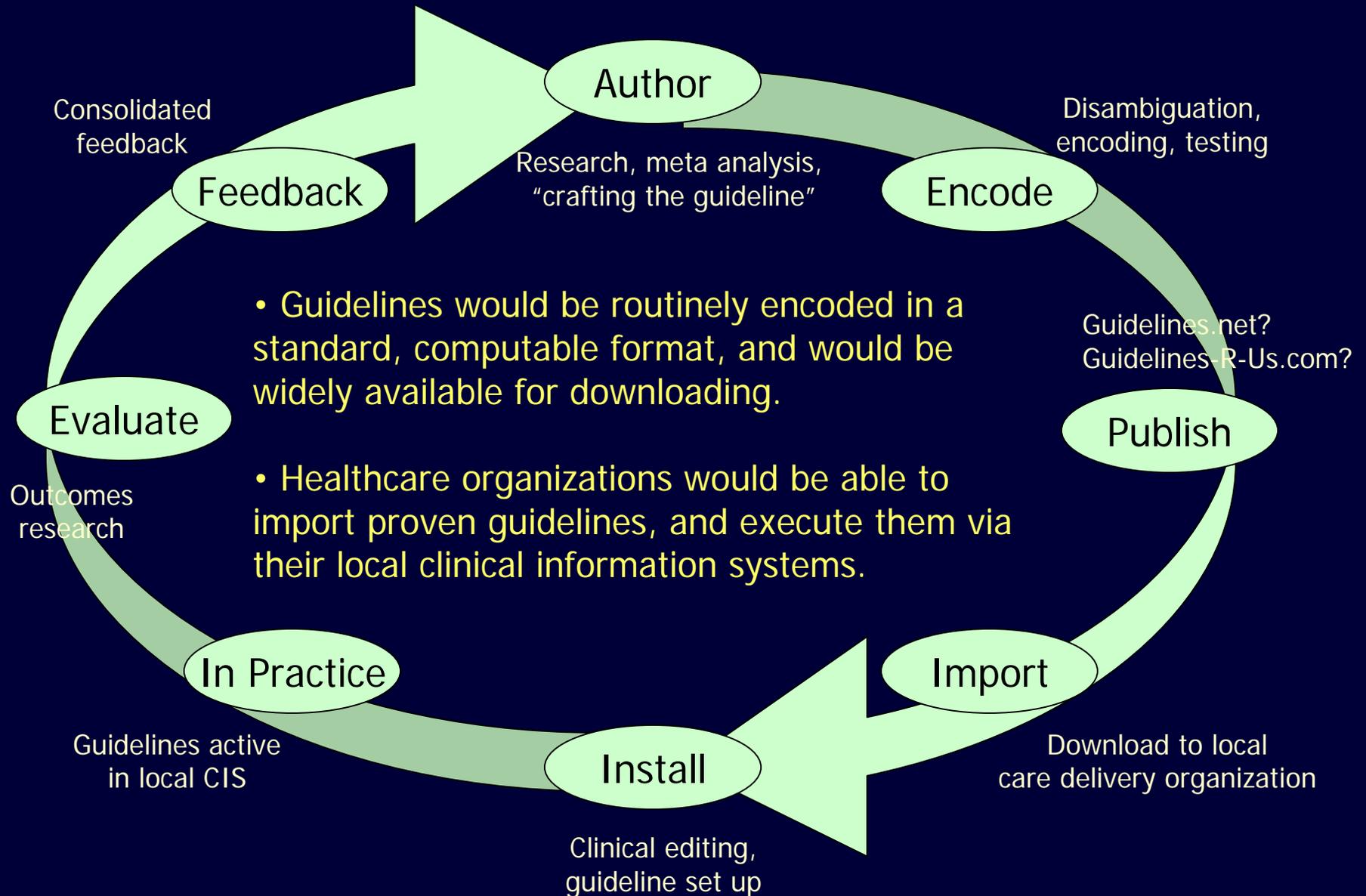
Nick Beard, MD

Vice President, Health Informatics
IDX Systems, Seattle

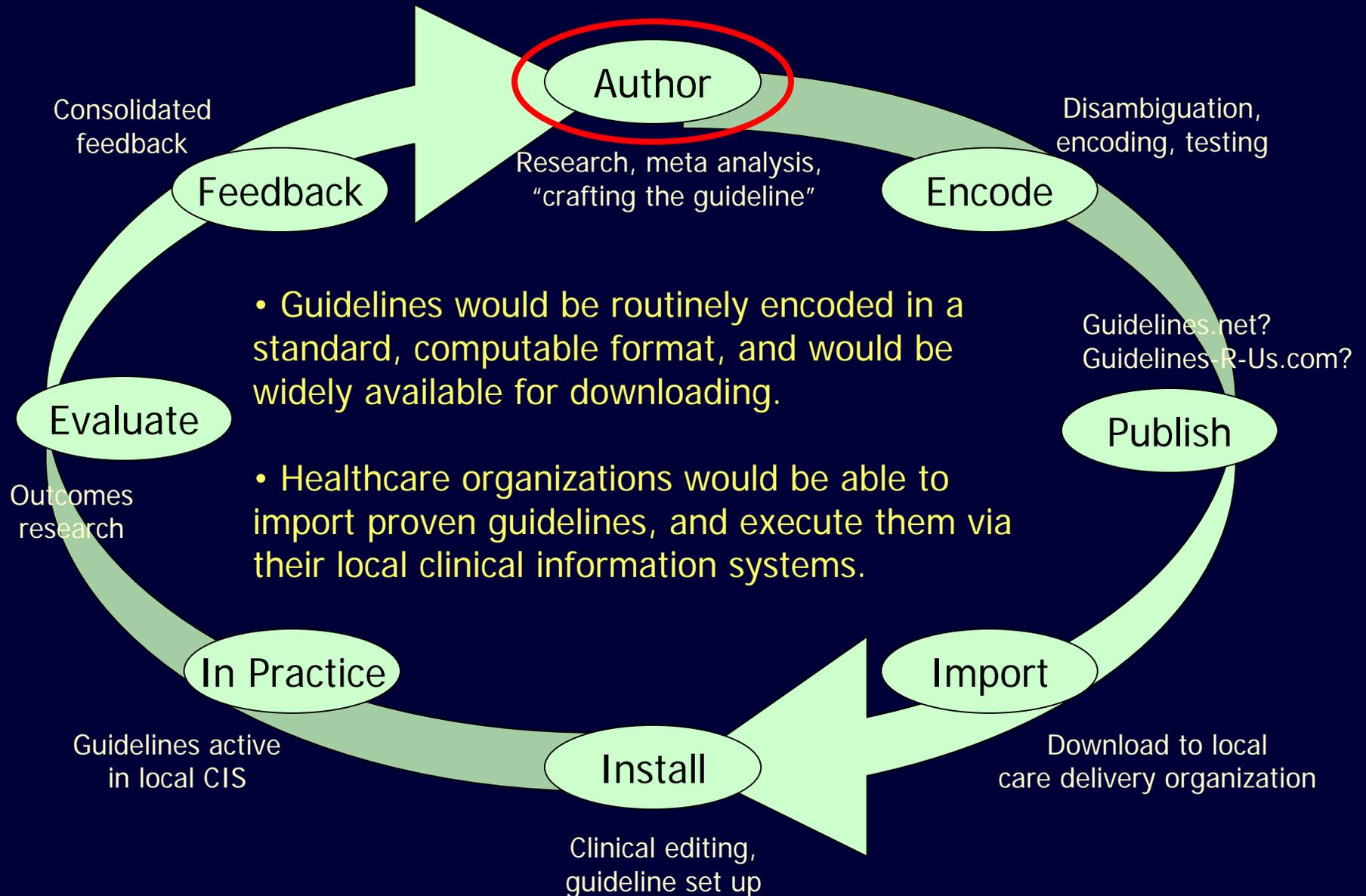
Nick_Beard@idx.com

- ⊕ The Lifecycle of a Guideline
- ⊕ Plans
- ⊕ Implications

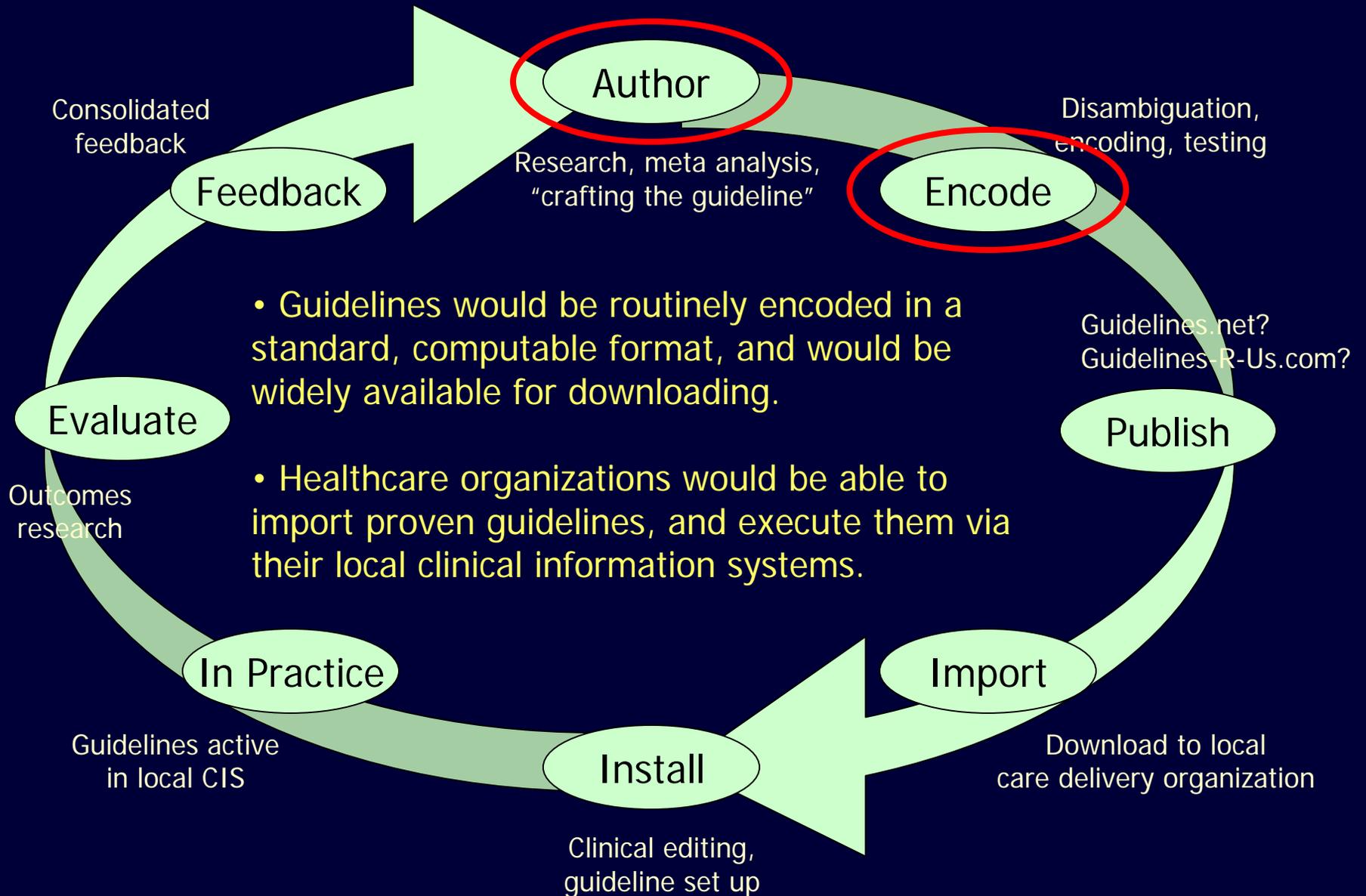
The SAGE Guideline Lifecycle



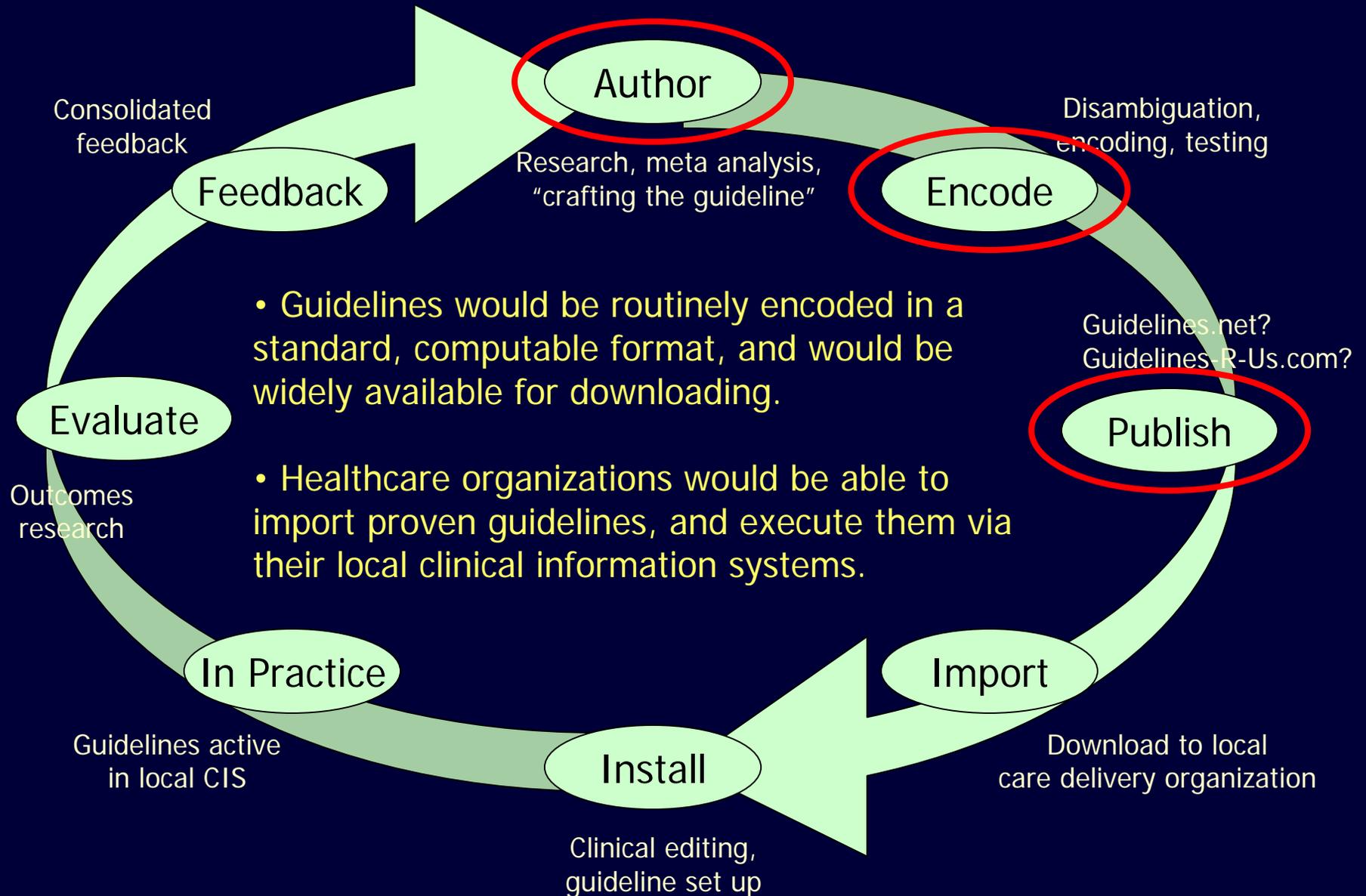
The SAGE Guideline Lifecycle



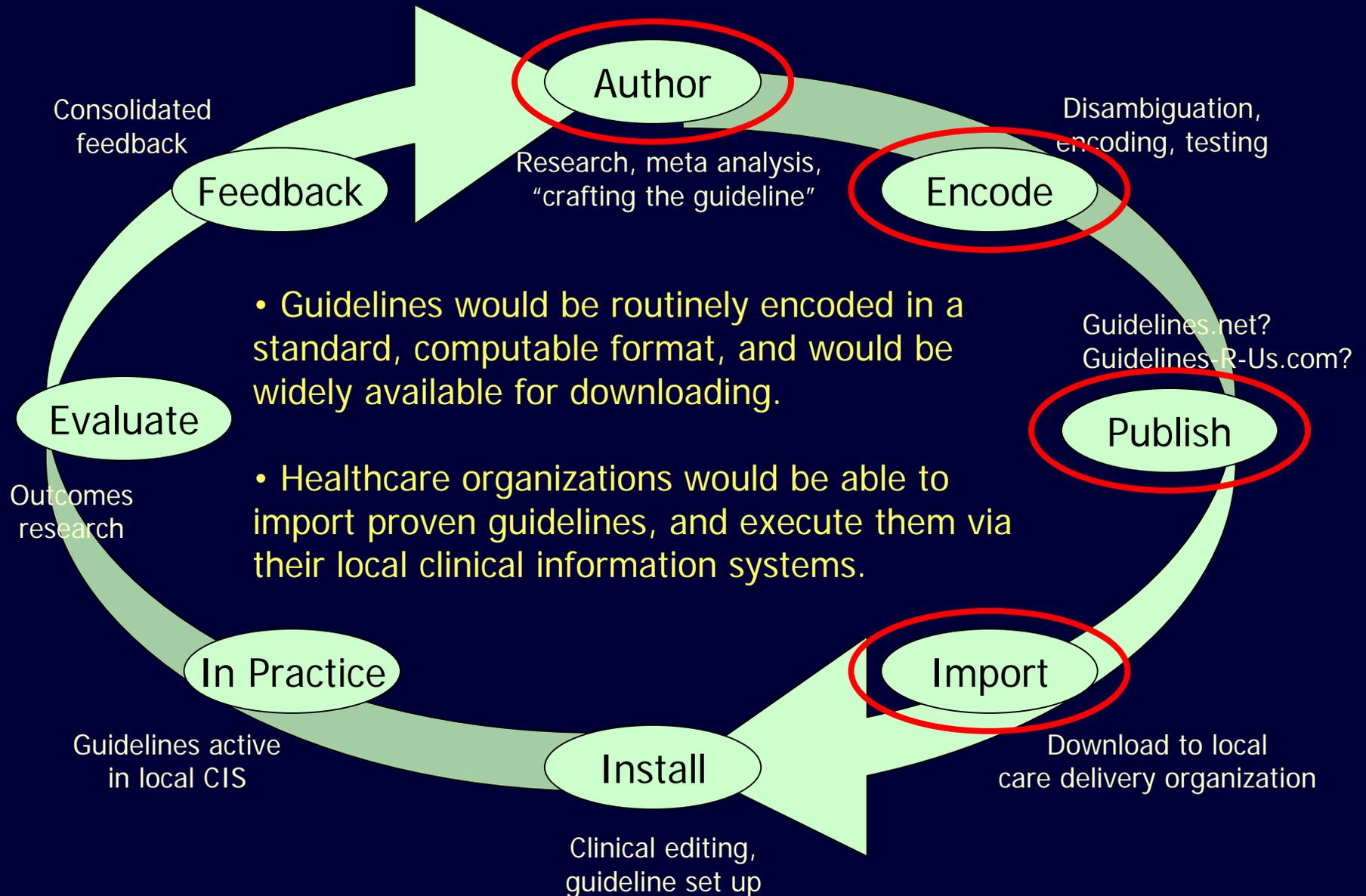
The SAGE Guideline Lifecycle



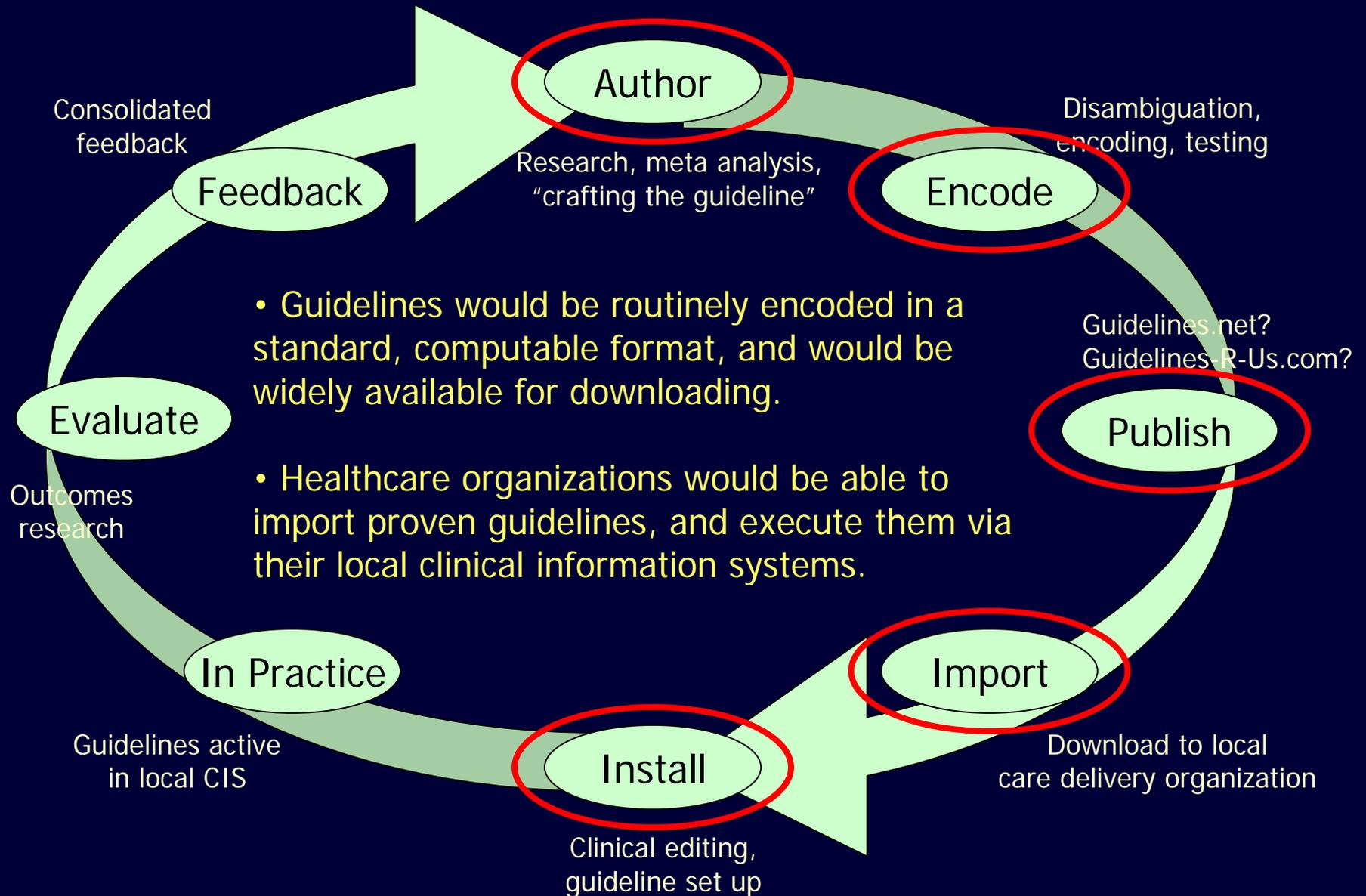
The SAGE Guideline Lifecycle



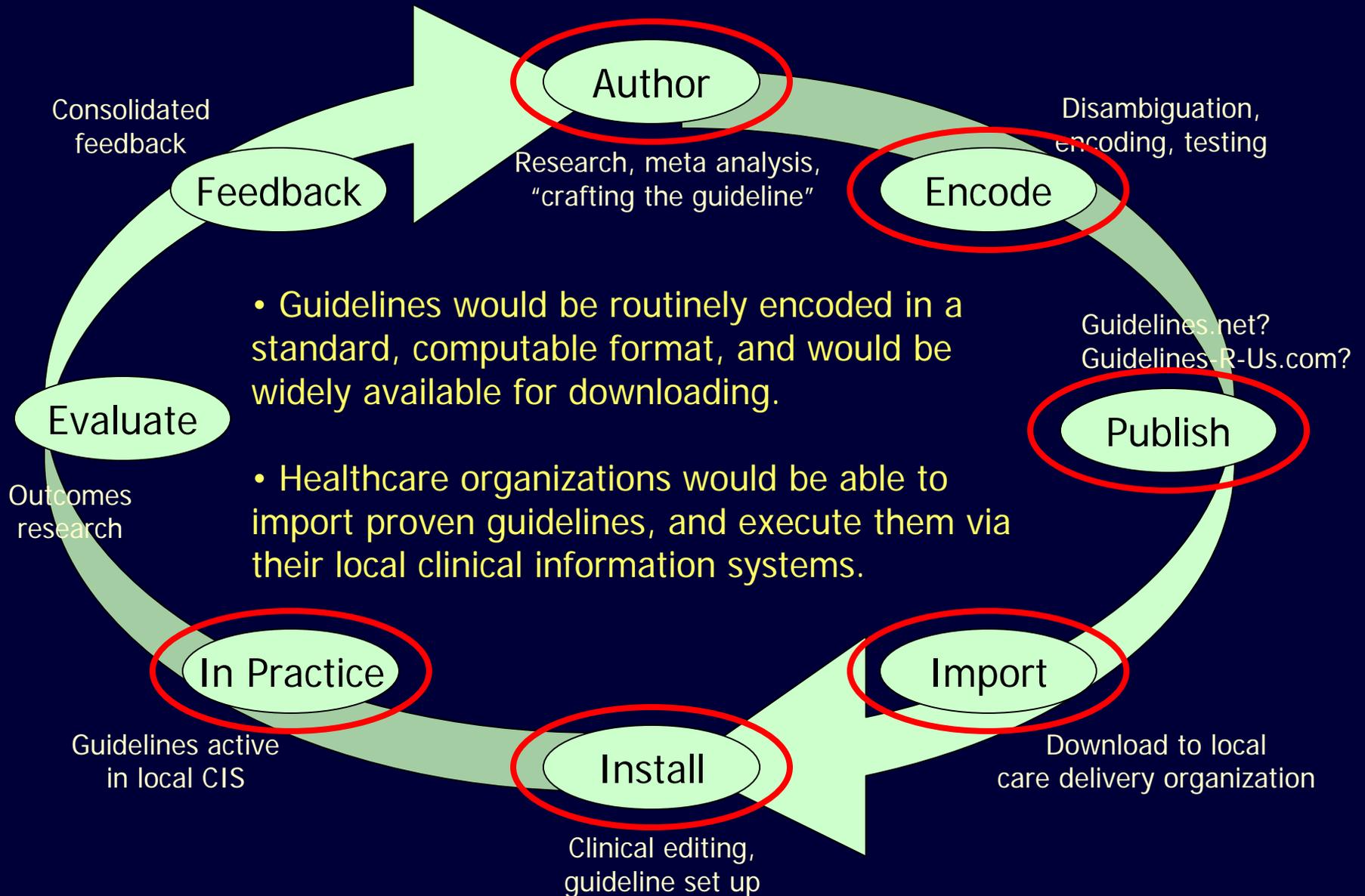
The SAGE Guideline Lifecycle



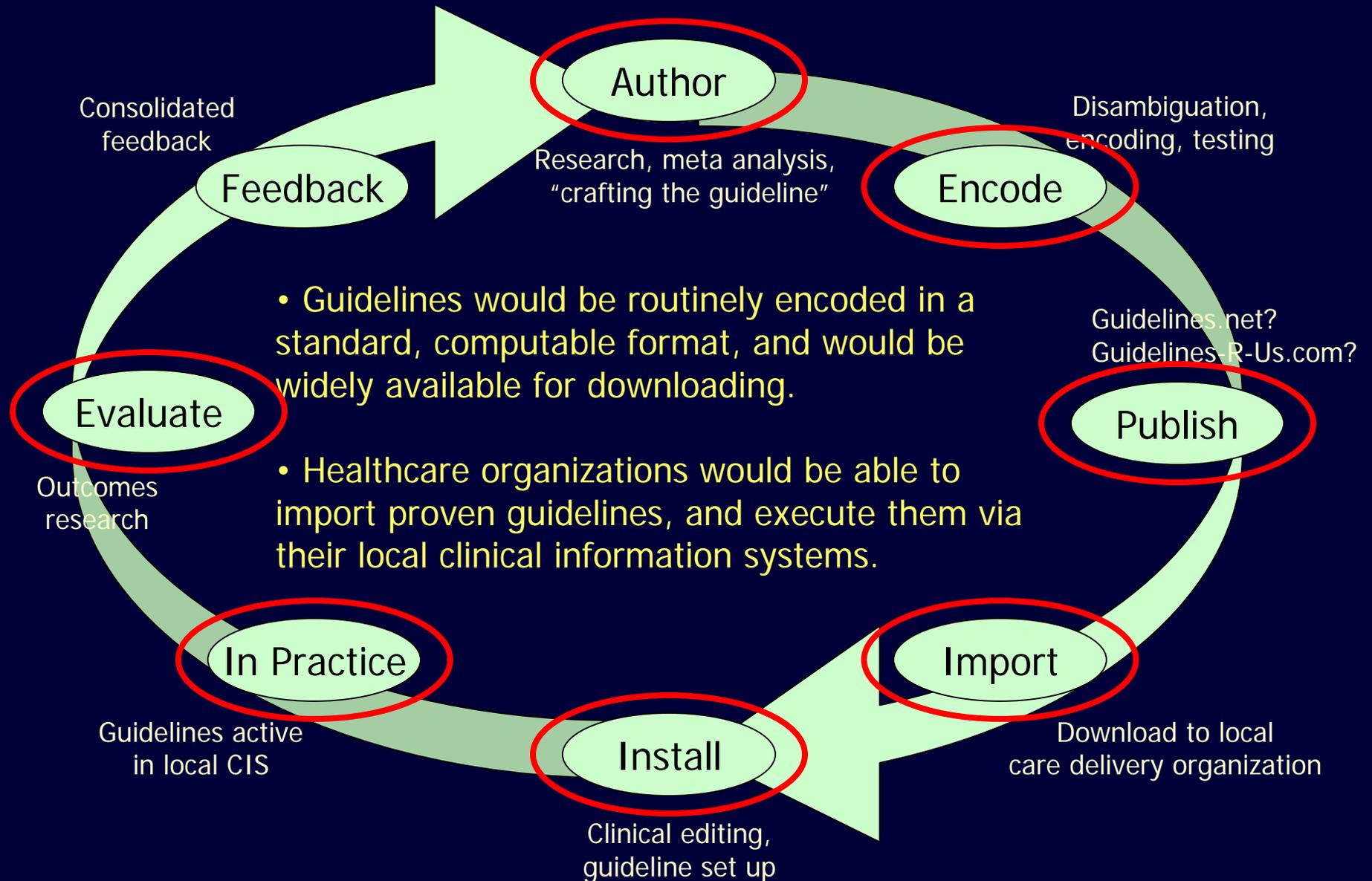
The SAGE Guideline Lifecycle



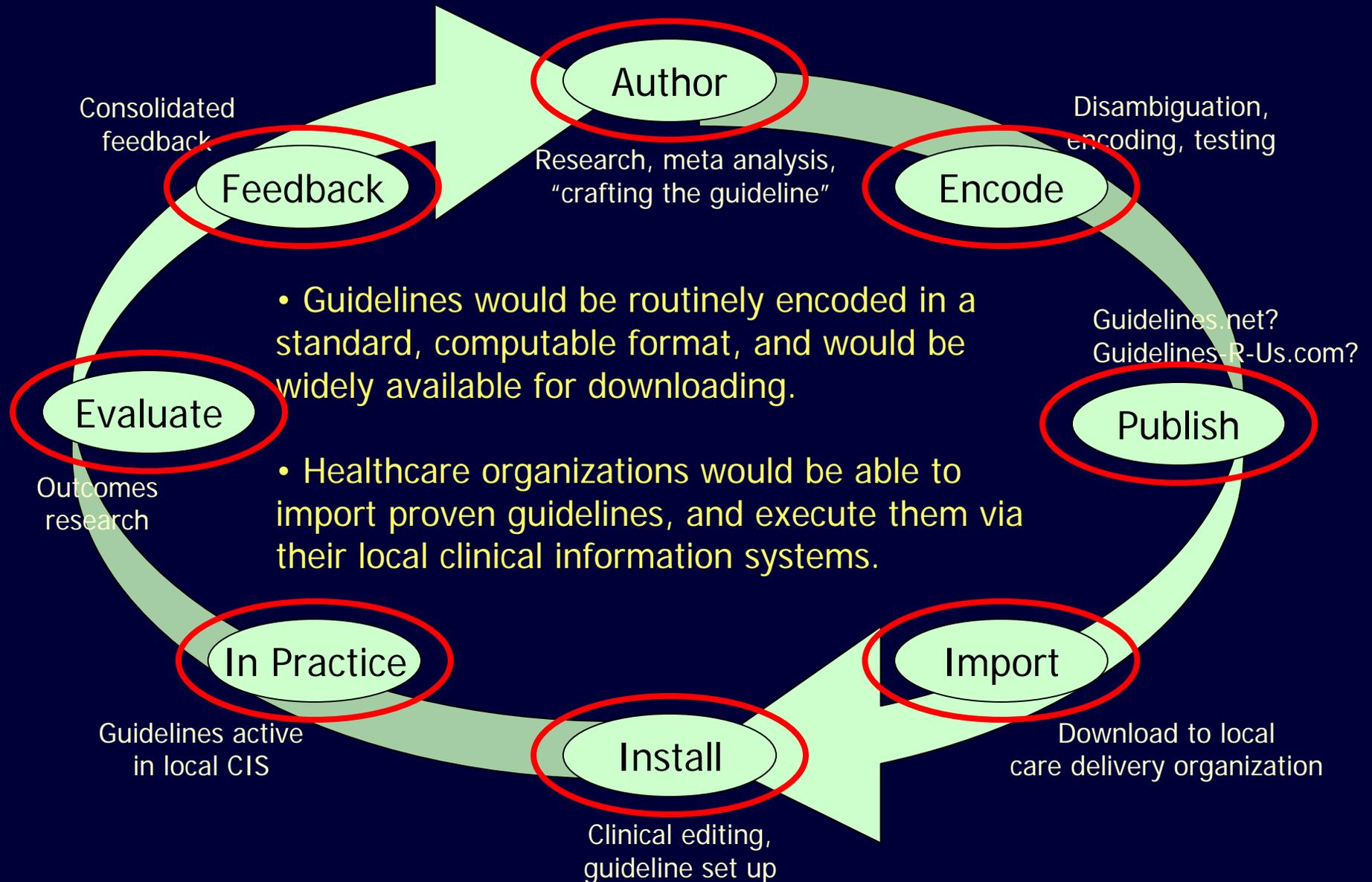
The SAGE Guideline Lifecycle



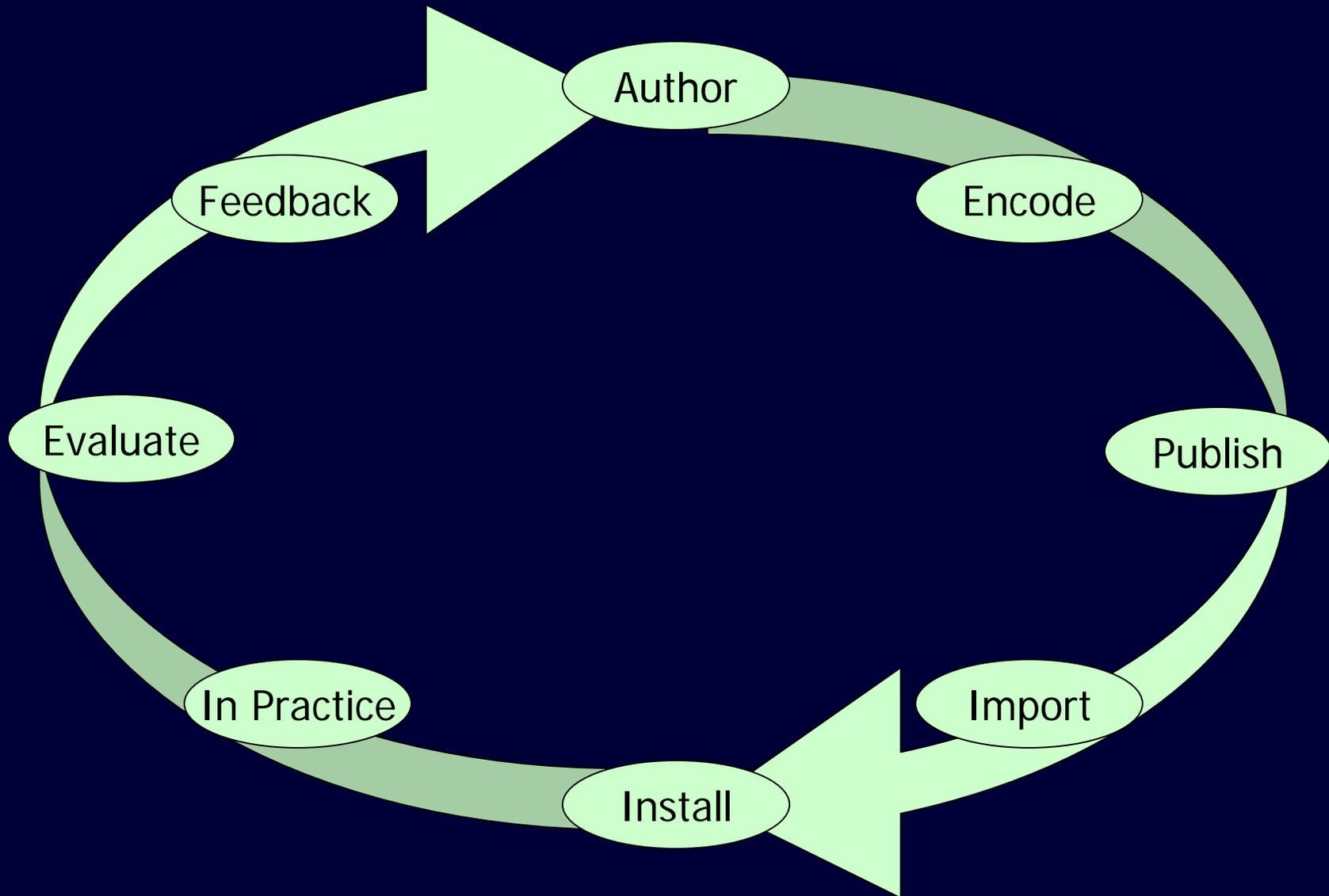
The SAGE Guideline Lifecycle



The SAGE Guideline Lifecycle



The SAGE Guideline Lifecycle



SAGE Exemplar Guidelines

| Guideline | Clinical Domain |
|-------------------------------------|---|
| Immunizations | Routine health maintenance, in both outpatient and inpatient |
| Diabetes Mellitus | Chronic disease monitoring and treatment. Acute exacerbation of chronic disease. Chronic disease as a comorbidity. |
| Community Acquired Pneumonia | Emergency room evaluation and diagnosis. Outpatient treatment of acute disease. Inpatient and ICU treatment of acute disease. Follow-up of acute disease. |
| Total Joint Replacement | Surgical guideline. Comprehensive pre-op workup, inpatient plan of care, and post-op outpatient management |

Imagining SAGE in Action (a look into the future)

- SAGE infrastructure is now in place ...
- Guideline has been downloaded and installed ...
- SAGE guideline has been activated ...
- What might care providers experience ?

Now entering the
“PowerPoint-ware zone” . . .



WEASLEY, Ronald #1

MRN: 03 987 222
 DOB: 8-6-1962
 SSN: 358-97-6587

Sex: M
 Age: 41 Years
 Phone: (789) 657-1587

Care Support Viewers/Labs Allergies/Immuniz Orders/Meds Problem List/Bill Flowsheets Mgmt Functions

- Home
- Back
- CSV

- Help
- Settings
- Pause

Log Off

Care Support Maintenance

Care Support Library

| Select | Guideline |
|---------------------------------------|-----------|
| No guidelines available at this time. | |

Activate Reference

Enrolled Care Support

| Select | Guideline | Date | Status |
|-----------------------|---------------------|-----------|--------------|
| <input type="radio"/> | Diabetes Mellitus | 9-7-2003 | Active |
| <input type="radio"/> | Preventive Services | 8-25-2003 | Discontinued |

Discontinue Temp Hold Modify Goals

Problem List

| Problem Description | ICD9 |
|---------------------------|--------|
| Ganglion Cyst | 727.43 |
| Diabetes Mellitus Type II | 250.0 |

Update Visits

InBox All Mine Patient

| Notifications | Count | Info |
|---------------|-------|------|
| | | |
| | | |
| | | |
| | | |

Resolve Create Msg Refresh

For each patient, clinicians can view a list of appropriate guidelines, and choose to enroll a patient for a guideline.



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Care Support Viewers/Labs Allergies/Immuniz Orders/Meds Problem List/Bill Flowsheets Mgmt Functions

Home
Back
CSV

Help
Settings
Pause

Log Off

Order Entry Main Screen

| Problem Description | ICD9 |
|---------------------|--------|
| Ganglion Cyst | 727.43 |
| | |
| | |
| | |
| | |

Update Visits

| Unissued Orders | Assoc. Problems |
|---|-----------------|
| Care Support Orders | Diabetes |
| <input checked="" type="checkbox"/> GlyHgb | |
| <input checked="" type="checkbox"/> Lipid Panel | |
| <input checked="" type="checkbox"/> Nutrition Consult | |
| <input checked="" type="checkbox"/> ASA 81mg | |
| <input checked="" type="checkbox"/> Microalbumin | |
| <input checked="" type="checkbox"/> Ophthalmology Consult | |

Submit Edit Order Delete

MSR Medications Search Personal Department Institution Order Log

Radiology Laboratory

SAGE can automatically create pending orders, by executing guideline logic on current patient information

Surgical Sp Select Order Cancel



WEASLEY, Ronald #3

MRN: 01 657 157
 DOB: 6-27-1908
 SSN: 555-88-9874

Sex: M
 Age: 95 Years
 Phone: (555) 125-2608

SAGE technology can also integrate guideline recommendations directly into the care workflow.

Mgmt Functions ▾

- Home
- Back
- CSV
- Help
- Settings
- Pause
- Log Off

Care Support

| Selected | Item | Info | Status | 10-7-2003 | 9-10-2002 | 11-25-2001 | 09-25-2000 | 07-24-1999 |
|-------------------------------------|-------------------|-------------------|--------|-----------|-----------|------------|------------|------------|
| Assessments | | | | | | | | |
| <input checked="" type="checkbox"/> | Imm Screening | | Due | | Done | Done | Done | Done |
| <input checked="" type="checkbox"/> | Foot Exam | i | Due | | Done | Done | Done | |
| <input checked="" type="checkbox"/> | Retinal Exam | i | Due | | Done | | Done | Done |
| <input type="checkbox"/> | Tobacco Use | | | No | No | No | No | No |
| <input type="checkbox"/> | Blood Pressure | i | | 105/80 | 130/82 | 115/70 | 120/60 | 140/90 |
| Tests | | | | | | | | |
| <input checked="" type="checkbox"/> | HbA1c | i | Due | | 7.0% | 6.8% | 7.2% | 7.6% |
| <input checked="" type="checkbox"/> | Creatinine | | Due | | 1.6 | 1.6 | 1. | |
| <input checked="" type="checkbox"/> | Total Cholesterol | | Due | | 200 | 180 | 16 | |
| <input checked="" type="checkbox"/> | Triglycerides | | Due | | 110 | 130 | 10 | |
| <input checked="" type="checkbox"/> | HDL | | Due | | 40 | 43 | 42 | |
| <input checked="" type="checkbox"/> | LDL | i | Due | | 95 | 99 | 10 | |
| <input type="checkbox"/> | Microalbumin | i | | | | | | |
| Medications | | | | | | | | |
| <input type="checkbox"/> | ASA | | | | 81 mg | 81 mg | 81 mg | 81 mg |
| <input type="checkbox"/> | NPH Insulin | | | | 12 U | 16 U | 18 U | 20 U |
| <input type="checkbox"/> | Lisinopril | | | | 10 mg | 10 mg | 10 mg | 10 mg |
| Immunizations | | | | | | | | |
| <input checked="" type="checkbox"/> | Influenzae | i | Due | | Done | Done | Done | |
| <input type="checkbox"/> | Pneumococcal | i | | | Done | | | |
| Education | | | | | | | | |
| <input type="checkbox"/> | Diabetes | | | | | | | |
| <input type="checkbox"/> | Nutrition | | | | | | | |

And provide access to guideline reference information

Marie STOCK

MRN: 01005875
DOB: 08/08/1936

Sex: F
Age: 67 Years

Select Patient

Care Support Flowsheet

SAGE technology can also integrate guideline recommendations directly into the care workflow.

View All

Immunization

| Selected Item | Ref Value | | Info | Status | Chart Now | 9-10-02 | 11-25-01 |
|---------------|-----------|------|------|--------|-----------|---------|----------|
| | Nml | Goal | | | 10-17-03 | | |

General Info

| | | | | | | | |
|-------------|------------------------------|--|--|-----|--|--------|--------|
| Height (cm) | | | | Due | | 174 | 174 |
| Weight (Kg) | | | | Due | | 65 | 67 |
| BP (mmHg) | 120/80 | | | Due | | 120/80 | 138/80 |
| HR | Male: 50-90 Female: 55-95 | | | Due | | 76 | 68 |
| Resp | 15-20 | | | Due | | 14 | 16 |
| Temp (F) | 96.5-99.5 | | | Due | | 97 | 99 |

Immunization

Information Required

Vaccinations

| | | | | | | | |
|--------------------------|--------------|--|----------|-----|--|--|--|
| <input type="checkbox"/> | Influenzae | | i | Due | | | |
| <input type="checkbox"/> | Pneumococcal | | i | | | | |

And provide access to guideline reference information

Diabetes Mellitus

Information Required

| | | | | | | | |
|--------------------------|-----------------------------|--|----------|-----|--|----|----|
| <input type="checkbox"/> | Tobacco Use? | | i | Due | | No | No |
| <input type="checkbox"/> | Woman planning pregnancy? | | | | | | |
| <input type="checkbox"/> | Recent severe hypoglycemia? | | | Due | | No | No |

The **SAGE** Project: Implications for Dissemination of Medical Knowledge



Tomorrow:

- Centralized development and encoding of guidelines by health experts
- Standard best-practice guidelines distributed widely and rapidly into multiple delivery systems
- Clinician abilities will be augmented with medical knowledge at the point of care

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Thank You!



www.sageproject.net